Ten Years of Intervention

External Evaluation of *Oportunidades* 2008

in Rural Areas (1997-2007)

Executive Synthesis

External Evaluation of *Oportunidades* 2008.
1997-2007: 10 Years of Intervention in Rural Areas
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Preface

The recent strategy for improving public security in Mexico has comprised actions of possible relevance, such as: increased punitive measures against transgressors, military operations in strategic cities and the detention of individuals associated with organized crime. Conversely, scientific research on the subject appears to have been relegated to an inferior position in terms of priority investments.

As a result of intense day-to-day efforts, only secondary importance has been attributed to gathering information, analyzing data and applying the scientific method to produce better tools for making operative decisions; or at least it would seem so according to the information that is made public by the authorities. Pertinent information, evaluation and research would allow identifying which actions are exerting an impact and which are not.

It is true that research can be costly and does not always reflect immediate results. It is also true, however, that results can be improved in the medium and long term by producing better information and by analyzing public policies. Actions that are not based on relevant information, analyses or progress indicators will scarcely produce the expected results. Only what is measured can be improved.

Since day one and throughout its history, the Opportunities Human Development Program has clearly illustrated the benefits of investing in information and scientific analysis. Those who work in the Program are mainly in charge of the difficult day-to-day operation of an initiative which provides service to five million families in Mexico. However, despite its urgent daily activities, the Program has had the foresight to collect information for internal and external analyses as a basis for making decisions that ensure the achievement of its objectives.

Almost ten years of Program evaluation and research attest to important achievements in rural areas, namely: greater school completion and progress rates among secondary and high school girls and boys, increased weight and sizes among children under 2 years of age, and more effective risk management by adolescents and young adults.

Data analysis also indicates that: the Program has achieved less of an impact in urban than in rural areas, the use of food supplements has not always been practiced adequately and, clearly, the quality of education and health services has been deficient. The Federal --and especially the local-- authorities should take immediate action to improve the latter. The purpose of the Opportunities Program, which involves the acquisition of greater basic capacities by poor families, is restricted unless the quality of the educational and health services is raised.

Data, external evaluation and research on the Program do not deny that it faces a number of challenges. In fact, research has been insufficient so far to forecast specific long-term achievements in several fields. Nonetheless, Opportunities has a wealth of internal and external information that can serve to make better decisions regarding its future. It would be beneficial for other government budget programs to adopt the practice of scientific research in their work. Poverty alleviation and even public safety initiatives in Mexico would no doubt achieve better results.

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Introduction

Oportunidades, *10 years later*

The Human Development Program Oportunidades represents a major achievement in Mexican social policy because of its ability to modify the relationship between the State and marginalized development sectors, as well as for its use of rigorous evaluation methods.

Towards the end of the 1990's, the previous Education, Health and Nutrition Program [Programa de Educación, Salud y Alimentación (Progresa)] began implementing a large-scale initiative that provided incentives to low-income citizens for invest in the human capital of their children in the hopes of breaking the intergeneration transmission of poverty. Through the cash transfers, which are linked to the completion of the co-responsibilities of beneficiaries (school attendance and preventative health services, among others), and in the context of the concrete actions associated with the strategic components of the Program, Mexico began to shift from traditionalist policies focused on the present to focusing more on the future -- with less emphasis on actual poverty and instead focusing more on capacity building for future generations. It was not easily accomplished, nor was it easy to implement.

Oportunidades has received significant media and social attention given its magnitude and precedent. This media attention, however, has not always been positive. Oportunidades has been criticized for about its implementation, its design, and its conceptual framework. However, the emphasis the Program continually placed on evaluation has allowed it to generate evidence that addresses the concerns raised in the criticisms. Further, the evidence that socioeconomic status persists between generations supports the need for the development of strategies to break the poverty transmission cycle, supporting the idea that strengthening human capital for children today will allow them to have more opportunities as adults.

The effective translation of the investments made into increased human capital, which should translate into a greater expected permanent income, is the central aspect of the evaluation, and should show if this mechanism operates effectively in practice.

The Program's openness to evaluation was based on the importance of being able to provide clear evidence of the Program's results. The confidence in the proposed model made the designers promote its continuation over a six-year period. This gamble paid off, and the positive results of the Program have not only been a central element for its continuation, but have also provided the motivation for its significant expansion in 2002

Designed for a rural context in 1997, Oportunidades was expanded to urban zones in 2001, and by 2004 was operating in every county in the country, serving 5 million families with cash transfers for nutrition, a health services package (including education for self-care) and school scholarships for third graders up to seniors in High School.

After a decade of operation, the achievements of Oportunidades have been well documented in scientific literature, both in the form of evaluation reports and in academic journal articles and books, such as doctoral theses. Oportunidades has served as a model or starting point for similar efforts in a variety of countries, and the evaluation results have become a public good, informing the implementation of future efforts.

THE REMAINING CHALLENGES OF THE PROGRAM AND ITS EVALUATION AGENDA

It is clear that Oportunidades still has challenges to overcome. In an analysis conducted by Yaschine, Urquieta and Hernández, they identified a series of challenges grouped into three different dimensions: analytical, methodological, and institutional.*

From the analytical point of view and after ten years of programming, the principle challenge of Oportunidades is the identification of the long-term effects that verify that Oportunidades is in route to achieving its ultimate goal of contributing to the interruption of the transmission of poverty. Also, they identified the need to evaluate the quality of services offered to the beneficiary population, since the Program's effects are measured by the concrete actions in health centers and schools. Therefore, it is critical to know the structural and process quality of the services by inquiring about the characteristics, practices, mechanisms, and dynamics of the services in order to explore if these things can lead to different effects. On the other hand, they highlighted the need to analyze the possible heterogeneous effects in distinct groups of the population, in particular, to focus on what happens to people from distinct ethnic groups who experience greater social exclusion.

In the methodological dimension, they identified the need to integrate the analytical approaches – quantatative and qualitative – in a more effective way in order to generate more useful results and recommendations for the Program's decision-making, and thus enhance its effects on the populations it serves. It was also noted the desirability of designing the tools to estimate effects the in the absence of an experimental design.

Regarding international aspects, they suggested the need to frame the work of the external evaluation within the guidelines of the National Council of Social Development Policy Evaluation (CONEVAL, Consejo Nacional de Evaluación de la Política de Desarrollo Social), and with the new regulations that have strengthened the presences of evaluation in institutional life in Mexico.

THE EXTERNAL EVALUATION 2007-2008: THE MAIN APPROACH TO ADDRESSING THE CHALLENGES

The activities implemented for the qualitative, quantitative, impact, and process evaluations of Oportunidades between 2007 and 2008 sought to identify the Program's shortcomings and to generate evidence of its results ten years after its initiation by examining the evidence from varying viewpoints, seeking to deepen the heterogeneities and by addressing service quality issues.

The 2007-2008 evaluation is part of a context in which a large proportion of rural youth have migrated from their hometowns, presenting significant challenges to the evaluation work. Qualitative study approaches could have been more successfully used to interview migrants who are temporarily located outside of their hometowns. In the quantitative studies, by the very nature of the Encel 2007, the absences of these youth was a major limitation. The analysis will be supplemented later with follow up data with young migrants towards the end of 2008.

The analysis presented in this series of books offers the first answers to the identified challenges and are the product of extensive work by a large, multidisciplinary and inter-institutional group of experts that we have had the fortune to coordinate.

Our interest in showing, understanding, and explaining the gender and ethnic differences in the use and impact of Oportunidades is part of the diachronic and process analysis. That is, we are interested in knowing the changes that have been generated and consolidated over time that can be attributed to Oportunidades, taking into account such changes are part of dynamic and changing social scenario. The changes that happen throughout the life of individuals and their families have been part of our thinking process and represent important analytical challenges to research that seeks to appraise the complex relationship between individual time, family time, and social or historical time.

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* Iliana Yaschine, José Urquieta y Bernardo Hernández. Agenda de evaluación integral del Programa Oportunidades 2007- 2008 Versión final. 2008. Mimeo.

Each book comprises of a group of documents with a common thread. Volume I presents the education and work related results for young beneficiaries and ex- beneficiaries, both indigenous and non, such as education, nutrition, and cognitive and scholastic development of young children that joined the program 10 years ago. Additionally, this volume provides an analysis of risk behaviors and how these behaviors affect the results of the education, work, and health indicators. The documents in this volume track the past ten years of Oportunidades from different and complementary perspectives, and are addressed in a comprehensive manner.

Volume II groups the documents related to health and nutrition. This volume addresses service quality, service utilization by Oportunidades beneficiaries, and the impact results for health and nutrition. The section on health service quality presents a picture of the structural and process quality of health services and the potential implications. It also offers an analysis of the therapeutic and reproductive routes through the system where the reader can clearly see the relationship between familiar, institutional, and community factors in seeking health care.

Volume III addresses the challenge of quality education services showing first, the analysis of the gaps that exist in the academic outcomes of the Oportunidades beneficiary population, and second, the analysis of the problems of schools in rural Mexican communities

Finally, Volume IV addresses the operation and process of the Program, illustrating the challenges that the Mexican heterogeneity imposes on the implementation of such a large and complicated program like Oportunidades. Also, this volume includes an analysis of the new energy component.

The authors of the 14 documents willingly submitted the documents to a rigorous peer review process with the academic rigor a program of this magnitude warrants. This process also included the presentation of the analyses in a seminar attended by the authors, reviewers, and other key stakeholders whose opinions helped to strengthen and clarify the analysis and interpretations made. The four volumes provide a set of analysis that stem from the need to know, describe, and explain the changes that the Program over the past ten years has sought to generate in poor households in the country.

This collective effort hopes to strengthen the Oportunidades Program through the study of its different components and mechanism, its results, and the identification of areas where it can and should improve. Like all evidence, the fruits of our collective effort are contained within these volumes as a public good available to everyone.

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Long-Term Effects of *Oportunidades* on Rural Infant and Toddler Development, Education and Nutrition After Almost a Decade of Exposure to the Program

Jere R. Behrman, Lia Fernald, Paul Gertler, Lynnette M. Neufeld and Susan Parker*

A central question for the *Oportunidades* program and for public policy in general is whether policies can help break the intergenerational transmission of poverty by enriching the human capital of children so that their options as adults are better than those of their parents. Historically, judging by intergenerational correlations regarding educational attainment, intergenerational mobility has been quite low in Latin America in general and even lower in Mexico than in most Latin American countries.

There are many policies that might weaken the intergenerational transmission of poverty, which range from macro policies to human resource policies to labor and capital market policies. One promising subset of these policies is improved nutrition and care early in life. Previous research in other contexts indicates that what happens in an individual's early life (that is, under 36 months of age) has a substantial impact on his or her educational attainment, nutritional status, child development and subsequent options over the life cycle. Previous *Oportunidades* evaluations have supported these observations, but they only followed infants and toddlers exposed to *Oportunidades* for at most a few years. This paper focuses on the original rural *Oportunidades* experimental evaluation design and the 2007 Rural Evaluation Survey (ENCEL) to investigate the extent of the impact of living in families with up to 20 months of program benefits during early childhood on indicators of education, nutrition and child development up to a decade later. The results inform whether or not aspects of *Oportunidades* related to infants and toddlers are consistent with the pursuit of the central long-term goal to improve education, nutrition and child development –and thereby long-term economic welfare– of children from poor rural families and to what extent these effects are heterogeneous, because they depend on various dimensions of family background.

The General Objective of the paper is to provide critical information on how well *Oportunidades* achieves one of its central objectives, that is, enriching the human capital of poor rural children who have been exposed to the program in early life. The Specific Objectives and Principal Questions include assessing the impact of early-life (that is, less than 36 months of age) exposure to *Oportunidades* when the children are 7-11 years old with regard to:

1) Education as measured by the rate of grade progression, grades attained and reported ability to read and write.
2) Nutrition as indicated by height, height-for-age Z-score (HAZ), body mass index Z-score (BMIZ), body mass index probability overweight (BMIP>85) and anemia.

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* The authors are listed in alphabetic order. The corresponding author is Jere R. Behrman jbehrman@econ.upenn.edu. This paper was written as part of the external evaluation of *Oportunidades* for 2007-2008 with the various co-authors participating under contracts to the Instituto Nacional de Salud Pública (INSP), which has undertaken the evaluation. The paper builds in substantial part on Behrman and Parker (Behrman, J. R., & Parker, S. W. (2008). Longer-Run Effects After Almost a Decade on Child Development, Education and Nutrition of Exposure of Infants and Toddlers to *Oportunidades* in 1998-9: Education. Philadelphia, PA and Mexico City: University of Pennsylvania and CIDE/Spectron, mimeo), Fernald, et al.[1] and Neufeld et al.[2] The authors thank commentators on earlier versions, including anonymous reviewers from INSP, *Oportunidades* and the Ministry of Health as well as Orazio P. Attanasio.

3) Child cognitive, language and behavioral development using indicators for:
   - Cognitive and language development as measured by the Weschsler Abbreviated Scales of Intelligence (WASI) tests.
   - Behavioral development problems using the Strengths and Difficulties Questionnaire (SDQ).

The paper first reviews evidence on intergenerational mobility, the effectiveness of early-life interventions elsewhere in developing countries and previous relevant results regarding *Oportunidades* initiatives. It then presents the 2007 ENCEL and 2002 and 2005 Mexican Family Life Survey (MxFLS) data used in this analysis and the methods and techniques employed to estimate the program's impacts.

The results for the three sets of indicators are then presented. The analysis of the 2007 ENCEL shows a significant positive effect about nine years after exposure to *Oportunidades* on children who were under 36 months when the program's started in 1998, as these children experience reduced behavioral problems by about 0.15 standard deviations and improved language development by about 0.10 standard deviations.

At the same time, we find no evidence in the 2007 ENCEL for a number of other indicators of human capital related to cognitive ability, nutritional status or educational attainment. Indeed, from the perspective of the recent literature, the significant effects are surprisingly and disappointingly few. Also, some of the effects found in earlier studies for this same evaluation sample, such as increases in preschool child height of a centimeter or more, are not visible in 2007, when the children are about nine years older than when the program started.. The program's impact on stunting instead appears to have faded. However, the analysis of the MxFLS data shows some positive impacts, with reductions in the prevalence of anemia and overweight and increases in height and cognitive ability (the latter for 2002).

This combination of evidence of specific positive significant effects together with reduced evidence for relatively broad significant effects raises questions about the mechanisms for the significant effects that are found and the implications of the lack of significant estimates for a number of outcomes. The possible mechanisms as well as relevant literature regarding the most robust positive effects found in this study, specifically the reduction in behavioral problems and the improvements in language and verbal skills, are discussed. Possible limitations of the analysis are considered, including (1) too limited a period of differential exposure (up to 20 months), (2) measurement of certain determinants (e.g., related to intelligence) that might not be very responsive to the program, (3) selective attrition, (4) use of behavioral data from the MxFLS and associated limitations of the estimation method to make comparisons with those data, (5) a general lack of observations on mediating pathways that may prove informative, and (6) general start-up problems that might bias estimated effects downward. Finally the implications for *Oportunidades* in terms of program modifications and future investigations are considered.

SWOT Analysis

STRENGTHS: ATTRIBUTES OF THE OPORTUNIDADES PROGRAM THAT ARE HELPFUL IN ACHIEVING THE OBJECTIVES OF THE PROGRAM

PRIORITY	DESCRIPTION	ANALYSIS SOURCE
S1	Significant impact on schooling attainment in the short- and medium-term.	ENCEL 1998, 2003
S2	Significant but small impact on initial childhood growth in short-term analyses.	ENCEL 1998, 2000
S3	Significant reduction in behavioral problems in medium- and long-term analyses.	ENCEL 2003, 2007
S4	Significant initial increase in language performance and cognitive ability.	ENCEL 2007 MxFLS 2002
S5	Willingness and interest of the Oportunidades program to test potential programmatic improvements.	ENCEL 1998- 2007

WEAKNESSES: ATTRIBUTES OF THE OPORTUNIDADES PROGRAM THAT ARE HARMFUL TO ACHIEVING THE OBJECTIVES OF THE PROGRAM

W1	No impact of program on cognitive achievement.	ENCEL 2003
W2	Limited impacts of the program on height-for-age or prevalence of stunting.	ENCEL 2007
W3	No sustained impact of program on cognitive ability or most schooling indicators for this age group.	ENCEL 2007, MxFLS 2005
W4	Limited impacts of program on prevalence of anemia in ENCEL, though there is some evidence according to the MxFLS.	ENCEL 2007. MxFLS 2002-5

OPPORTUNITIES: EXTERNAL CONDITIONS THAT ARE HELPFUL IN ACHIEVING OPORTUNIDADES'S OBJECTIVES

O1	Political interest, will and commitment to reduce the intergenerational transmission of poverty	
O2	Supportive and consistent funding stream to provide support for evaluating the program.	
O3	Interest and support for the rigorous evaluation of the Oportunidades program from the government and from the political and scientific community in Mexico and internationally.	
O4	Support for potential links with other government programs (e.g., CONAFE) to integrate programs with Oportunidades.	

THREATS: EXTERNAL CONDITIONS THAT COULD DAMAGE OPORTUNIDADES'S OBJECTIVES

T1	Great variation in prevalence of stunting and overweight/obesity across states, making it very difficult to develop a "one-size-fits-all" approach to nutritional concerns.	
T2	Fairly high prevalence of anemia in school-age children, which contributes to low performance on cognitive tests and low achievement at school, regardless of intervention group.	
T3	Persistently high prevalence of stunting for school-age children, particularly in remote, indigenous areas.	
T4	Very low performance on cognitive and language tests when compared with international norms.	

STRATEGY TYPE**	RECOMMENDATION (WITH RESPONSIBLE SECTOR IN PARENTHESES)
S-O	1) Continue Oportunidades program with sustained emphasis on improving outcomes for children growing up in poverty (Oportunidades). 2) Continue evaluating Oportunidades program rigorously with an emphasis on pathways by which the program works in order to determine which parts of program are most effective in achieving objectives and subsequently strengthen those areas (Oportunidades). 3) Test as many potential programmatic improvements as possible in order to strengthen the potential of Oportunidades (Oportunidades, other partnering agencies).
W-O	1) Develop a programmatic focus on early-life stimulation through testing models developed by CONAFE (SSA, Oportunidades). 2) Continue testing strategies for iron supplementation in order to determine the best method for reducing iron-deficiency anemia (Oportunidades). 3) Introduce performance-based incentives for students and teachers (SEP, Oportunidades).
S-T	1) Strengthen the nutritional component of the program through education, monitoring and the type of complement distributed in order to improve nutritional status and reduce micronutrient malnutrition in children less than two years old (SSA, Oportunidades). 2) Intensify efforts to increase the benefits of Oportunidades in regions of the country in which stunting and/or anemia are particularly high (Oportunidades). 3) Screen for anemia and supplementation in school-age children. particularly in areas of the country with high prevalence (SSA, SEP). 4) Promote healthy eating and activity patterns in school, particularly in those areas of the country with a high prevalence of overweight problems or obesity (SEP).
W-T	1) Examine ways that Oportunidades can address the issue of very low performance on cognition and language tests, particularly in remote and indigenous regions. 2) Improve the targeting of the program to focus on families and children in greatest need.

**Overview of strategic possibilities for future action

INTERNAL ANALYSIS

		STRENGTHS	WEAKNESSES
EXTERNAL ANALYSIS	**OPPORTUNITIES**	S-O strategies pursue opportunities that are a good fit for Oportunidades's strengths.	W-O strategies overcome weaknesses to pursue opportunities.
	THREATS	S-T strategies identify ways that Oportunidades can use its strengths to reduce vulnerabilities to external threats.	W-T strategies establish a "defensive plan" to prevent Oportunidades's weaknesses from making the program susceptible to external threats.

An Impact Evaluation of *Oportunidades* on Rural Employment, Wages and Intergenerational Occupational Mobility

Eduardo Rodríguez Oreggia and Samuel Freije Rodríguez

Introduction

It could be said that the objective of the *Oportunidades Program* is to break the cycle of intergenerational poverty through the improvement of nutrition, health, and education for families who are beneficiaries of this program. It could also be argued that improving conditions related to nutrition, health, and education could later lead to improved productivity on the part of the beneficiaries through their finding better work, thus increasing the wellbeing of their homes.

Even though the program does not have among its direct objectives the aim of having an influence on employment, salaries, and the type of occupations that the beneficiaries fill, it is difficult to think of breaking the cycle of intergenerational poverty without considering how the youth perform in the labor market after either being exposed to the program or not, and also how they do in comparison to their parents.

The general context of the 2008 evaluations is limited to trying to determine whether the design and operation of *Oportunidades* over a long period of time have contributed to breaking the intergenerational transmission of poverty. Within this general context, this study specifically seeks to determine whether for youths between the ages of 14 and 24 there is an effect on their insertion into the labor market: first, by comparing the effect on those youths who have been exposed for different lengths of time to the benefits of the Program with the experience of those who have not had any exposure to it, and afterwards by looking at these youths with regard to the labor situation that their heads of household experienced at a similar age.

Two main hypotheses are proposed in this analysis. First of all, this analysis seeks to determine if the length of time that one is exposed to the *Oportunidades* Program is reflected in certain labor conditions experienced by the beneficiaries, such as their being employed in the labor market and their level of labor income. In addition, this analysis seeks to determine if the benefits of the Program have managed to influence the intergenerational transmission of poverty through the integration of the children of beneficiary households into a better labor situation than their parents experienced – measured in terms of their having formal work, their level of income, and whether they hold more highly skilled positions.

Methods

This study draws its sample from young workers between 14 to 24 years of age from the 2007 ENCEL, in municipalities that have been affiliated with *Oportunidades* for several years. This section includes a set of detailed questions concerning the labor activities of the youths, as well as a series of questions on the labor activities of the parents when the children the youngsters were 15 years old.

Afterwards, this analysis determines the impact of being a beneficiary over short (less than 3 years), medium (3 to 6 years), or long timeframes (more than 6 years) on the monthly wages of the youths, as well as on their employment in the labor market. Additionally, this analysis determines if there is an effect of exposure to the benefits of the program over time by comparing the labor situation of the youths to that of their parents in terms of income levels and employment in formal work or work with social security benefits, as well as in terms of a range of lower and higher occupational qualifications.

Results

The first approach suggests that the *Oportunidades* Program could have positive effects on introduction into the workforce insofar as it increases the beneficiaries' education, because in general, individuals with more education tend to have a higher probability of employment and high salaries.

Based on this consideration, first a description of the labor characteristics of the youths is made, and then a comparison is drawn with a similar youth group in the same states surveyed, with information drawn from the *Encuesta Nacional de Ocupaciones y Empleo* (ENOE: National Survey of Occupations and Employment). Based on this comparison, it is suggested that the surveyed youths in the villages that are beneficiaries of *Oportunidades,* and who are the object of this study, are found to be in a position less favorable than that of their peers in rural zones in general.

Afterwards, the results show that a claim cannot be made that the Program has any additional effect on employment in the labor market. However, what does emerge is an additional positive effect of the Program on male long-term beneficiaries: they earn higher incomes if they have finished their primary and secondary education. And finally, in terms of the children's improvement in relation to the experience of their parents, it is not found that there is any important effect of the Program on salaries, obtaining formal work, or finding more highly qualified jobs.

Here it should be stressed that the results do not identify "additional" effects. This means that the Program achieves its effects on the beneficiaries' labor performance through education, health and nutrition. In this sense, the Program has positive effects on labor insertion insofar as it increases the education of the beneficiaries, because individuals with higher education enjoy a higher probability of employment and higher salaries. The absence of significant "additional" impacts of any type indicates that education acquired through *Oportunidades* positions the beneficiaries with reference to the labor market on an equal footing with other youths who have had the same level of education in the surveyed municipalities.

Furthermore, it should be pointed out that the lack of "additional" impacts on labor advancement may be caused by the following circumstances: (i) the control groups are very small due to the expansion of coverage that the Program has had after the original design of the sample, which makes it methodologically difficult to identify the effects; (ii) the people observed in the ENCEL 2007 sample (that is, those who did not migrate) continue living in villages that are highly or extremely highly marginalized, and therefore their employment opportunities are considerably limited; and (iii) *Oportunidades* does not have a direct effect on labor demand, for example, through the creation of new companies or infrastructural improvements in the municipalities covered.

Discussion

It is important to point out that the sample size utilized corresponds only to youths who have remained in the villages that benefited from the Program and that approximately 64 percent of the youths who should have been polled have migrated since 2003. This introduces a limitation, that this study does not capture the impacts on the majority of the young beneficiaries, who are probably employed in other labor markets with a different economic context than the villages included in the sample. The results of a preliminary investigation with the available data also do not show additional effects of the Program on whether the youths tend to migrate in a greater extent. With

the purpose of achieving a more complete and integral vision of the topic of labor that considers the high migration of youths, in 2008 the study was designed to identify whether there are differences in labor performance between youth who have migrated and those who have remained in their place of origin, as well as to document the possible differences between the labor conditions of those who were beneficiaries and those who were not beneficiaries. The information-gathering phase was concluded and it is expected that the first results will be available in 2009.

It is also important to note that the *Oportunidades* Program does not have mechanisms for the direct improvement of the beneficiaries' performance in the labor market. The impact on labor variables can occur through other mechanisms, such as those related to education and health, which can improve the productivity of the youths if the conditions of labor permit it. Nevertheless, it also must be emphasized that the local labor market is affected in part by factors that are outside the reach of the Program, such as local economic development and regulations or fiscal and labor policies that without a doubt have an effect on labor supply and demand and possibly on the quality of the work that exists.

SWOT Analysis

STRENGTHS AND OPPORTUNITIES

PRIORITY	DESCRIPTION	SOURCE OF ANALYSIS
FO1	The Program has positive effects on job insertion because it augments the beneficiaries' education, since in general individuals with higher education levels enjoy a higher probability of being employed and getting higher salaries.	This evaluation
FO2	The young beneficiaries who received support for at least six years through primary and secondary education saw higher salaries by 12% and 14% respectively, as compared with non-beneficiaries.	This evaluation
FO3	The absence of significant negative marginal effects indicates that education acquired through Oportunidades places the beneficiaries on a level playing field in the labor market with other youngsters from the same villages with the same educational level who are not beneficiaries.	This evaluation

WEAKNESSES AND THREATS

PRIORITY	DESCRIPTION	SOURCE OF ANALYSIS
DA1	In the case of women, the salary of beneficiaries is lower than that of non-beneficiaries on any educational level in municipalities with intermediate exposure to the program.	This evaluation
DA2	The absence of statistically significant upward marginal effects on employment and occupational mobility should not be interpreted as a failure of the program. On the contrary, the Program has positive effects on job insertion insofar as it increases the beneficiaries' education. The absence of additional effects may be due to: i) the lack of labor demand in the surveyed municipalities or ii) the fact that the Program is not designed to increase labor demand in the beneficiary municipalities.	This evaluation
DA3	The lack of additional effects may be associated with methodological questions; for example, the current control groups are too small due to the large expansion in coverage that the Program has undergone since the sample was designed (1998.)	This evaluation

DA4	Approximately 64 percent of the youth surveyed in 2003 were not located in 2007 because they had migrated. This introduces the limitation that the study cannot capture the Program's effect on the majority of young beneficiaries, who are very likely employed in other places with economic contexts that differ from those in their municipalities of origin.	This evaluation

RECOMMENDATIONS

PRIORITY	RELATION	RECOMMENDATION	AGENCY RESPONSIBLE
R1	FO1, FO2 DA1, DA2	To continue with the health- and education-related efforts where there are positive effects and that will influence labor productivity improvements in the future. To consider the possibility of creating specific training and job placement programs for youngsters who finish secondary school, especially women.	Oportunidades Program Labor Secretariat and Social Provision Secretariat, together with Oportunidades.
R2	DA2	To consider the possibility of coordinating the Program with other programs designed to improve economic activity in the villages, so that labor demand improves.	Social Development Secretariat, Finance Secretariat, Economy Secretariat and Oportunidades.
R3	DA3, DA4	To undertake a study that permits one to determine whether there are differences in the job performance of young beneficiaries who migrate and young beneficiaries who do not migrate, as well as between the migrants who were beneficiaries and the migrants who were not.	Oportunidades Program

Life After *Oportunidades*: Rural Program Impact After 10 Years of Implementation

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Questions and Objectives

The main objective of this technical paper is to determine what impact the *Oportunidades* Program had on the integration of former program grant holders into the workforce and the types of occupations undertaken, as well as, its effect on fertility patterns. 'Impact' is understood here as any modification to the living conditions of the domestic groups that benefited from being either directly or indirectly associated with the program. The main hypothesis that guided our research was that the *Oportunidades* Program has had a direct impact on the school trajectories of former beneficiaries, prolonging their exposure to formal education. Given that there is a clear correlation between the level of an individual's education and the range of employment opportunities available to them (both within and outside the micro-regions studied), not to mention the effect education has on marriage and fertility patterns, which, as a result, tend to be markedly different from those of previous generations, if the analyzed data supports the hypothesis, we can assert that the *Oportunidades* Program is contributing to the achievement of its ultimate objective to break the cycle of intergenerational poverty. The transmission of poverty from one generation to another is characterized by various factors, such as children leaving school prematurely; child labor; low-waged, insecure employment; and a general scarcity of opportunities to fulfill basic needs, combined with the tendency to have children and form domestic unions (married or otherwise) at an early age – elements that lead to the creation of households or family units with the same profile as their households of origin.

Therefore, this analysis has three main aims: 1) To understand the strategies and processes designed and implemented by *Oportunidades*, determining how they affected job prospects and the integration of present and former program grant holders into the workforce, focusing on those beneficiaries who had the longest exposure to the program and those who were in third or fourth grade of primary school when their households were selected as beneficiaries. It is of particular interest to ascertain if the lives of current and former grant holders are characterized by extended schooling, delayed conjugal unions, lower fertility rates, and access to less traditional and better-paid employment when compared to their non-beneficiary counterparts (who come from similar households in 1998, when the program beneficiaries were first enrolled in the program). 2) To reflect upon the connection between improved health services and education for the "pioneer" population of *Oportunidades* and their resulting impact. This study expands upon the results of the ethnographic research into the quality of the program's services, as outlined in the regional analytical documents (previously delivered to *Oportunidades* as preliminary input), taking the analysis to a different level, and addresses the impact of the services (over a lifetime) on the observed capabilities of individuals (their fitness for work, for example). 3) To describe and explain the heterogeneous impact of the program on the indigenous and non-indigenous population under study with regard to their level of schooling, work achievements, and the deferment of cohabitation or marriage and childbearing.

Methodology

Twelve ethnically diverse, rural micro-regions were selected from four Mexican states (two in the northwest, Sonora and Chihuahua, and two in the south, Oaxaca and Chiapas). The intention was to study indigenous and non-indigenous or *mestizo** beneficiary households that had been exposed to the program for long periods of time (those who had been incorporated during the first phase of the *Oportunidades* Program, then known as PROGRESA) and similar households that had never been incorporated (non-beneficiaries).

Ethnographic fieldwork was carried out in each of the twelve micro-regions (three in each state), and included first-hand observations of the service-providing centers (clinics, health centers, schools), workplaces, public events (meetings where aid was provided, town assemblies, market days) and the households themselves. We interviewed the heads of the registration and care centers, the *Oportunidades* representatives, members of the program, doctors and nurses, teachers and school principals, and local authorities and leaders. An analytical sample was designed, focusing on four types of households: indigenous beneficiaries, *mestizo* beneficiaries, indigenous non-beneficiaries and *mestizo* non-beneficiaries, to obtain data on 16 domestic groups in each micro-region (four of each of the subtypes), resulting in 48 domestic groups for each scenario (formed by the three micro-regions in each state). This sample distribution would give a total of 192 case studies comprising all of the different sub-types. To form the analytical sample, case studies were composed of a number of open and structured interviews with members of each household (not only one interview), participant observation, and other cross-reference data collection techniques throughout the fieldwork period (14 weeks). The theoretical analytical sample was formed in the following way:

Theoretical analytical household sample:

Table 1
Theoretical analytical household sample

OPORTUNIDADES STATUS	ETHNICITY	CHIAPAS	CHIHUAHUA	OAXACA	SONORA	TOTAL
Beneficiaries	Indigenous	12	12	12	12	48
Beneficiaries	Mestizo	12	12	12	12	48
Non-beneficiaries	Indigenous	12	12	12	12	48
Non-beneficiaries	Mestizo	12	12	12	12	48
TOTAL		48	48	48	48	192

Beneficiary households and non-beneficiary households were selected according to an important criterion that aimed to provide case studies for both individuals who had been exposed to the program for a long time (households that had at least one child in either third or fourth grade of primary school when incorporated in 1998) and their peers – of the same age and socio-economic conditions – who had never been program beneficiaries. We also selected households that were at different stages of their domestic cycle, so that half of the households in each sub-type had first-born children in third or fourth grade at the time of their initial inclusion in the program while the other half had last-born children of the same age. This division had the purpose of testing our hypothesis by comparing the privileges provided to children who had been born last with those of first-borns, who frequently drop out of school to work. The goal was to examine households in the ethnographic present that had distinct socio-demographic characteristics that would permit the observation of different domestic routines, "therapeutic itineraries" and self-care practices employed by households to cope with the various health and practical issues associated with their particular stage of the domestic cycle (chronic-degenerative ailments in households with elderly members, prenatal and childcare in the case of younger households).

* Though variations exist, the word "*mestizo*" is used in Mexico to refer to the non-indigenous population in indigenous areas. This text uses it in this sense.

Although the studied micro-regions demonstrate ethnically diverse scenarios, indigenous families and *mestizo families* exist in apparent equality of conditions with respect to their potential access to services.

The theoretical analytical sample provided a fundamental guide in the selection of the household case studies and was actually fully implemented in the Chihuahua and Sonora micro-regions (less so fully implemented in the latter); however, it had to be adapted in Oaxaca and Chiapas because, in some of the micro-regions in these states, the existing non-indigenous population is formed by teachers and families of a different socio-economic profile to the one required for comparison (not poor). In these cases, given the important role of the mother in the socialization of the offspring, non-indigenous households were chosen in which the mother was non-indigenous (though married to a native of the micro-region). Likewise, there were problems finding non-beneficiary households that corresponded to the socio-economic profile necessary (poor non-beneficiary cases were not found) owing to the wide coverage of the program. In such cases, the quota of non-beneficiary households was not fulfilled, and so we maximized the difference in the *exposure-to-the-program* variable by selecting beneficiary households that were incorporated at the end of 2007 and had only received benefits for two months at the time of the fieldwork.

Final composition of the household analytical sample:

Table 2
Final composition of the household analytical sample:

OPORTUNIDADES STATUS	ETHNICITY	CHIAPAS	CHIHUAHUA	OAXACA	SONORA	TOTAL
Beneficiaries	Indigenous	24	12	11	13	60
Beneficiaries	Mestizo	8	12	10	14	44
Non-beneficiaries	Indigenous	7	12	14	11	44
Non-beneficiaries	Mestizo	6	12	7	10	35
TOTAL		45	48	42	48	183

As mentioned previously, the studied micro-regions in Oaxaca and Chiapas presented the greatest difficulty in finding suitable households for our analytical sample owing to two factors: the high concentration of the indigenous population (these communities are more *purely indigenous* than those of the north) and the wide coverage of the *Oportunidades* Program.

A database was built with the data from all the beneficiary and non-beneficiary household case studies from the twelve micro-regions in the four states. Priority was given to the analysis of non-grant holders and children from beneficiary households who were grant holders or former grant holders of both sexes between the ages of 15 and 25, because these are the groups of most interest to the study in the long term (the ones with more exposure to the program as grant holders and children of main beneficiaries)

Results

OPPORTUNITY STRUCTURE

The ethnographic research on which this analysis was based provided ample evidence to establish that rural areas whose population has a high proportion of indigenous inhabitants, exhibit characteristics that hinder the operation of the *Oportunidades* Program. These regions are generally remote areas with poor infrastructure where almost no outside professionals would want to live out of choice and practice their profession. Health and education services, therefore, are rendered by doctors and teachers who deem their stay in these poor communities as temporary, something they must endure to obtain a better position in other regions that will offer more comfort and prestige. Our analysis also revealed that indigenous people experience more difficulties than *mestizos* in maintaining their status as beneficiaries within the *Oportunidades* Program, and that the quality of health and education services they receive are far from optimum and undoubtedly inadequate.[1-4] Despite this reality and even considering the coverage problems we detected among the *Rarámuri* and *Pima* communities in the Sierra Tarahumara, which contrasts with

the adequate and very broad coverage found in the Sonora, Oaxaca and Chiapas micro-regions, the presence and operation of the *Oportunidades* Program in rural Mexico represents a milestone in the history of these areas, and the lives of families and youths who have received benefits through grants or scholarships.

The impact a social program such as *Oportunidades* has on the welfare, skills and capabilities of its beneficiaries to perform in the labor market cannot be measured if the dynamics of the opportunity structures (understood as the set of options or employment opportunities, goods and services to which people have access) are not taken into account. A brief overview of the opportunity structures of the regions in the study is provided below, offering a simulated description that gives priority to the jobs that can be found inside the micro-regions, and the health and education services that the inhabitants – including former *Oportunidades* grant holders – can access. The most important resource poor families have is the labor of their family members, and the transformation of such a resource into a real asset for their own welfare depends on both the labor markets to which they have access and the skills they have gained throughout their lifetime in terms of health and access to health services (it is necessary to be healthy to be able to work), education and vocational training. Thus, any changes to a household's economy and the potential of individuals to enjoy good health and have access to education and employment options are shaped by the social, economic and political environment that structures their opportunities (to get a job, to have a good or bad crop, to be seen and cured by a doctor in the case of sickness, and so forth). Opportunity structures are taken into account because the real and viable options that individuals have to obtain services and perform economic activities (to earn a living) are not randomly distributed; on the contrary, they are established and defined by a series of social, economic and political factors;[5-8] for example, the integral relationship that exists between access to employment within the public sector and certain goods and services (of a certain quality). On the other hand, there is a link between informal employment in urban areas and (non) access to public health services, while the subsistence economies of indigenous peasant households are benefited by the access they have to *Unidades Médicas Rurales* (Rural Medical Units) and community schools or indigenous education institutions, such as the ones described in the ethnographic regional analytical documents.[1-4] The privileged access of some individuals to services of quality, in comparison to others who have no choice other than to attend schools and clinics of poor performance, does not happen by chance but is part of our society's development, which continues to be affected (and possibly increasingly so) by the inequalities fostered and reconsolidated by society itself.

Besides the labor market, the State plays an important role in structuring opportunities. The *Oportunidades* Program has intervened in the relationship between individuals (and families) and the structure of opportunities, not only by increasing the monetary resources available to beneficiary families, enabling them to have access to a broader range of goods and facilities, but also by promoting an unprecedented increase in their demand of public services through the implementation of conditional cash transfers and benefits that encourage the (regular) use of health clinics and educational facilities. In theory, as beneficiaries, households that are part of the *Oportunidades* Program have access to regular and frequent healthcare and education; however, even after 10 years, neither the schools nor the health systems in place have been able to adapt and offer quality services in response to such increases in demand.

The micro-regions studied are different from each other in many ways. The local employment opportunities are relatively more abundant in the northern micro-regions (especially in Sonora), excluding activities linked to drug trafficking (a subject we did not evaluate in the research). Both Sonora and its neighboring state, Sinaloa, offer employment in commercial agriculture; however, in the state of Sonora, the *Guarijía* micro-region shares many of the characteristics of the Sierra Tarahumara; among others, these characteristics include the relative social isolation that the mountainous environment creates, the subsistence farming of land unsuitable for agriculture, producing limited quantities of poor quality crops, and above all, the narrow range of paid employment options. On the other hand, we found the *Yaqui* and *Mayo* micro-regions in Sonora offered employment in the *maquila* industry (manufacture and assembly of imported components usually for export), services linked to agriculture, and the construction industry in the state capital and other up-and-coming cities. The *Rarámuri* are faced with very few employment opportunities, and many inhabitants migrate to the state capital of Chihuahua to work in the construction industry (the men) or in domestic service (the women). The southern micro-regions exhibit a far more precarious outlook than the Sonora

(*Mayo* and *Yaqui*) micro-regions with respect to employment. We believe this employment issue is related to the low levels of emigration in the Sonora region contrasted with the heavy migration to alternative national destinies and the United States experienced by the regions under study from the states of Chiapas and Oaxaca.

In all four research scenarios, we found that subsistence farming is an activity in clear decline. The analysis performed by *el Consejo Nacional de Evaluación de la Política de Desarrollo Social* (The National Council for the Evaluation of Social Policy), CONEVAL, proposes that the changes observed in the income of rural households is owing to the increasing frequency of paid employment and to the cash transfers of the *Oportunidades* Program. The ethnographic material we have gathered also supports this position. In contexts characterized by a crisis in subsistence farming, the benefits of the *Oportunidades* Program and paid employment (such as agricultural day laborers or "urban" jobs within or outside of the country - remittances) become the pillars of survival, buttressing the subsistence of the poor indigenous and *mestizo* inhabitants of rural areas.

Within this context, it is not surprising that young former grant holders and non-grant holders who have continued their schooling to a higher level – senior high school (*Educación Media Superior*, EMS) or at least completed junior high school (secondary) – have to leave these regions to find suitable employment, a necessity that is even more evident among the indigenous population. For a large percentage of young *mestizos*, access to small businesses owned by family members or acquaintances is an option, while the only choice for indigenous job seekers is to migrate permanently or to return to their communities, or similar ones, as teachers, educational and health representatives, or agricultural developers. The few that remain in their home communities understandably show little career progression; they return to traditional activities such as subsistence farming and agricultural day labor.

In the studied micro-regions, young people with higher levels of schooling, especially in Chiapas and Oaxaca, join the ranks of migrant workers. Former grant-holders, as well as non-beneficiaries who were unable to continue their education, tend to remain in their towns and villages or origin. Typically, the "better-educated" ones leave to live and work in the United States, followed by those who migrate to the cities and areas that attract tourism in other states. The less-schooled youths (those who abandoned the education system during primary school or in the early years of junior high school) are the ones who remain in their home communities to live and work. The routes undertaken, the destinations and the occupations of those youths who do leave clearly follow well-established patterns, as described in literature on human migration. For example, it is usually family members, primarily, or some mentor, charity institution or other acquaintance that have encouraged these youths to emigrate, provided lodging, and helped them get a job in their new surroundings. Therefore, pre-existent networks determine the destinations of migrants. It is important to note that, in many ways, these youths are *new* migrants (with a different profile to preceding ones). Therefore, the existing networks do not necessarily respond to the characteristics of the new influx of migrants who have a different range of skills, education and experiences than those who went before them. For instance, many relatively successful migrants from Oaxaca work with their relatives in informal or family businesses in Mexico City and the United States. Even though their school-acquired skills are welcomed, these are not jobs that can provide the benefits that correspond to their level of schooling. Although the national employment dynamic is not good, we harbor some optimism that a number of these "pioneer" migrant workers with high-school or college qualifications (some of whom already have better jobs) will pave the way, building new bridges and networks, for other young people to follow in their footsteps. However, this process remains to be seen.

In addition to the grim outlook of the labor market, the supply (and quality) of health and education services is an issue. The list of schools and health centers included in the overview of the opportunity structures suggests there is relative coverage. However, there are serious deficiencies in the provision of these services in all of the studied micro-regions, and, although there are differences among the regions, the outlook revealed by our ethnographic research is one of severe inadequacy and lack of quality. The inhabitants of our twelve micro-regions in the four states examined have access to schools at all the basic levels (from pre-school to junior high school, although to a lesser extent in the *Pima* and *Guarijía* micro-regions) and to senior high schools in the larger towns or cities. In addition, although these micro-regions are covered by 'first-level' clinics that provide basic healthcare, similarly to what happens with the coverage of senior high schools, the 'second-level' hospitals are in small cities that are usually

even further away than the towns with EMS schools. Services are scarcer in some micro-regions than others, as is the case of the *Pima* micro-region in the border territory between Chihuahua and Sonora, and the *Guarijía* in the Sonora. However, coverage of services is relatively adequate in the other micro-regions. Adequate coverage does not mean, however, that they are quality services.

The completed ethnographic reports, which include what we have called the *ethnography of the classroom* and the *ethnography of the clinics,* plus interviews with teachers, doctors and nurses, and the examination of the case studies of different types of households, produced evidence of the problems that affect the quality of healthcare and the provision of education: insufficient or damaged infrastructure, lack of personnel, doctor and teacher absenteeism, and insufficient materials in schools, clinics and health centers. There are many places, especially in the *Pima* and *Tarahumara* micro-regions, which do not have schools or health centers. As we know, having access to health and educational services is a requirement of the *Oportunidades* Program, so that beneficiaries can comply with their co-responsibilities. For this reason, we only conducted fieldwork in places that met these prerequisites and not in more isolated regions where schools or clinics were not relatively close by. However, even in places that enjoy the privilege of having schools and healthcare centers, the type of service provided does not guarantee that education and healthcare needs are being met.*

This report and other evaluations of the *Oportunidades* Program show that its greatest impact (educational achievements of children and youths, household income, capacity to improve housing, and other changes in the condition of the family units' well-being) occurs in domestic scenarios where advantageous factors meet: the capacity of parents to generate income to which the monetary aid of the program is added, good health of family members (breadwinner(s), children and teenagers are not prone to sickness), remittances from family members who have emigrated, close proximity to health and education service providers, among others. We have called these domestic situations *accumulation of advantages scenarios*, where health is an indispensable pre-requisite to be able to work and study. On the contrary, bouts of sickness erode the family economy owing to the expenses incurred when searching for private healthcare (as a consequence of the limitations of the public clinics and health centers) and because illness frequently incapacitates the very individuals that usually work.[8-10] Consequently, we suggest that the scenarios most conducive to the accumulation of advantages also include extra-domestic factors (besides others of a domestic and familial nature), among which, the capacity of health centers to resolve health issues and the provision of quality education services are central.

Analysis

We compared the educational achievements of young grant holders and former grant holders (beneficiary children) with those of their parents and non-beneficiary peers. We also compared the occupational achievements of beneficiaries, both male and female, with youths from the same generation who never received the program's benefits (their peers). The database includes variables for the parents, as well as for the children and other family members who were between 15 and 25 years old when the study began. These variables are: state, region, town, number of household members, sex, first name, age, kinship (if father or mother, son or daughter or someone from the same generation of youths), program status, ethnicity, language, place of residence, marital status, schooling (in years, corresponding to the maximum achieved: 0=illiterate or never attended school, 1= first year of primary school, 6=completed primary school; 9=junior high school (7^{th} - 9^{th} grade); 12=senior high school, etc.), primary occupation, secondary occupation, detailed description of occupations; age at the birth of first child (females only). The database for the analytical sample, based on the group of youths for whom the program's potential impact on education and occupation was deemed to be greater, consists of 793 individuals (498 indigenous and 295 *mestizo*; 469 beneficiaries and 324 non-beneficiaries) who belong to 183 households, with an average of 4.33 members

* The technical health and education documents offer a detailed analysis on the quality of these services.[2,9]

Table 3
Data Base: Number of individuals who were included

DATA BASE: NUMBER OF INDIVIDUALS WHO WERE INCLUDED

ETHNICITY	STATE	BENEFICIARY	NON-BENEFICIARY	TOTAL
Indigenous	Chiapas	110	51	161
	Chihuahua	50	55	105
	Oaxaca	54	56	110
	Sonora	70	52	122
		284	214	498
Mestizo	Chiapas	33	25	58
	Chihuahua	46	15	61
	Oaxaca	47	25	72
	Sonora	59	45	104
Total		185	110	295
Final total		469	324	793

per household. This database does not include data on all the household members; it only includes the parents and the children (or other members of the children's generation) who were aged between 15 and 25 years old in 1998, when the study began. Their older and younger siblings and other people living in the household who do not belong to the cohort under analysis were excluded from the database.

RESULTS OF IMPACT

The results of the impact, shown here in numbers (averages), are derived from the careful analysis of the entire database; that is to say, they are averages calculated for all the states and micro-regions under evaluation. Although this analysis conceals the differences that exist, not only between states but from one micro-region to another, it constitutes a worthy exercise as a means of obtaining a more general overview of the *Oportunidades* Program's impact on the micro-regions under study here, which are characterized by the coexistence of different rural ethnic groups with a high degree of social disadvantages and a beneficiary population that has had a long exposure to the *Oportunidades* Program.

IMPACT ON EDUCATION

The analysis shows a remarkable impact on the schooling of grant holders exposed to the *Oportunidades* Program. The greatest increase has occurred among indigenous beneficiaries, especially among girls. Young indigenous females who are or were grant holders are among those individuals who continued to attend school and completed higher levels of education. The generational gap in schooling has increased in all cases, but the most important impact occurs among the indigenous population, with the greatest impact among mothers and daughters. Since the initial implementation of the *Oportunidades* Program in marginalized rural communities, the intergenerational schooling mobility has increased by two years. That is, advancement went from three years to five years. Intergenerational schooling mobility represents an increase or rise in the schooling levels of the children when compared to their parents.

According to the analysis of the parents' generation, two types of inequalities were evident: ethnicity and gender. In the children's generation, the gender gap has reversed, and the ethnic gap has almost closed in the case of the men (although it still slightly favors *mestizo* men over indigenous men) but reversed in favor of indigenous females (indigenous beneficiary daughters reach higher schooling levels than *mestizo* daughters). These developments reflect the work of the *Oportunidades* Program in its aim to decrease gender and ethnic inequality.

It should be noted, however, that these results underestimate the full impact of the program on schooling because a significant proportion of the current and former scholarship beneficiaries are still studying (26.6% of indigenous men, 28% of indigenous females, 22.9% of *mestizo* men, and almost 33% of *mestizo* females); therefore, the average achievements in schooling will be higher on average than those reported here.

It is necessary to clarify that educational achievement refers to the schooling levels or grades completed by an individual, that is, years and grades actually studied rather than knowledge accumulated as part of learning processes and the development of human capital. Even though the *Oportunidades* Program reduces the ethnic gap with respect to schooling levels by encouraging full and continued attendance in school (which results in the decline, and in some cases a *reversal,* of the ethnic and gender gap in terms of schooling levels), it does not have an impact on the quality of the education grant holders receive. For example, there are great disparities between unitary and bilingual primary schools and so-called *telesecundarias* (high school teaching delivered by satellite TV) to which children and youths have access in the micro-regions (characterized by serious deficiencies in infrastructure and teaching quality, and teacher absenteeism), and the non-bilingual primary schools and the technical high schools found in the municipal capitals or larger towns. A school's failure to fulfil the requirements of the study programs and to meet their obligations and duties restricts the potential contribution of the *Oportunidades* Program to help young people foster an increasingly more essential portfolio of skills and abilities by increasing the length of time children spend in formal education.[11]

The impact on schooling of prolonged exposure to the *Oportunidades* Program is shaped by a number of factors, among which the following stand out: 1) the coverage of the educational services (close proximity to schools of different educational levels has a positive effect on prolonged schooling, especially for females); 2) the cultural quality and relevance of the education provided; 3) parents' capacity to act as economic providers and income generators (death of the father or the main provider is a factor that can negatively affect the schooling of beneficiaries); 4) the existence of productive assets and financial income (for example, remittances from older siblings who have emigrated) eases the payment of transportation, particularly in the case of young senior high school students who frequently have to commute long distances to attend schools; 5) the birth order of individuals in the household (being the last-born of the household is a factor that leads to greater attendance and attainment at school); 6) good health (no illnesses); and 7) sex of the individual (being a woman, given the different obligations of men and females in the household economy and the fact that teenage females are not seen as household income generators, is a factor that favors schooling attainment).

IMPACT ON REPRODUCTIVE PATTERNS

It is not possible to discuss with any exactitude the changes in the age at which females bear their first child because the majority of daughters have yet to become mothers. The analysis shows that more than a quarter (26.3%) of indigenous daughters who are former program beneficiaries have already had their first child; however, 73.7% have not. Among indigenous non-beneficiary females, the percentage of those who are already mothers is higher (32.4%) than that of beneficiary females. Additionally, the proportion of those who have not yet started their reproductive cycle is lower among non-beneficiaries when compared with their indigenous, beneficiary female peers (67.6%). In contrast, daughters of *mestizo* beneficiaries and non-beneficiaries who have already started their reproductive cycle represent a greater percentage when compared with indigenous females in the same situation. However, in the case of *mestizo* females, the proportion of those who have already started their reproductive cycle is greater among beneficiaries (42.3%) than among those who were not beneficiaries (35.7%). Thus, 57.7% of *mestizo* beneficiaries are not yet mothers, while the percentage increases to 64.3% among mestizo non-beneficiaries.

The analysis shows a logical pattern. The impact on fertility is greater among indigenous females than among *mestizo* females, which coincides with the greater impact of education among the former. Therefore, longer school careers affect (or are associated with) the deferment of the start of the reproductive cycle.

In the Tarahumara (and, generally, in rural contexts with a high percentage of indigenous population), adolescence is a very short phase in the lifecycle of *mestizos*, as well as indigenous inhabitants; and only in areas where the schooling of children and youths has become more widespread and institutionalized has it been extended. It is also important to note that early domestic unions or premature marriages (following a model that is firmly rooted in tradition and culture) and the start of the reproductive cycle do not necessarily constitute obstacles to the continuation of an individual's school career.[1] Some women in the database of this generation (three) have continued their studies despite being mothers and having had their first union. These women are joined by others (although, undoubtedly very few) who were not included in the database but were included in the ethnographic study of the Sierra Tarahumara. Despite having had a child, and thanks to their parents' support, they have resorted to different strategies to continue with their education. In other words, the age at which they bore their first child does not necessarily indicate that they are imitating their mothers' pattern. A significant percentage of former female beneficiaries in all of the regions studied, typically those with less schooling, are undoubtedly already in traditional unions with peasant farmers, day workers and other men of their own or neighboring towns. However, the great number of young women who had not had children at the time of the study makes it possible to conclude that the average age when beneficiaries will have their first child will be considerably higher than that of their mothers' generation (who on average had their first child at the age of 19).

There are other factors that explain pregnancy at an early age. One of them, which we consider crucial, is the relatively little success that birth control policies have had on adolescent females, in contrast with the widespread use of a range of birth control methods by women aged between 30 and 40 years old. Research into the reproductive patterns of the females in our analytical sample prove that practically none of the women of reproductive age (whether in the mothers' generation or the daughters') undergo birth control practices before having their first child. It is common practice to space out the periods between births but not to delay the first pregnancy. Moreover, the workshops provided for young people as part of the New Healthcare Model do not provide sufficient accurate and effective information on the advantages and steps that need to be taken to avoid early pregnancy (or HIV-AIDS transmission). Rather, these youth groups become meeting grounds that often lead to the creation of new couples and handle erroneous information about birth control and HIV transmission.

IMPACT ON OCCUPATION

One of the most remarkable impacts of the *Oportunidades* Program is that members of the children's generation declare studying as their main occupation. One of the goals of the program has been precisely to help delay the age of entrance into the labor market through the extension of educational trajectories. *Oportunidades* does not want 15 year-old youths to be employed or working on productive activities on family land. In view of this aim, we refer to the high percentage of sons and daughters (current and former beneficiaries) stating that studying is their main occupation as an impact worthy of consideration, so the program continues focusing its efforts on these achievements to extend both this and other objectives. Among young people of both sexes exposed to the program, there is a significant percentage of beneficiaries who are continuing their educational trajectory beyond basic and middle levels of school, particularly indigenous males (26.6%) and females (28%), and *mestizo* females (32.7%). It is surprising yet pleasing to note that of this group of youths, particularly indigenous and *mestizo* females, between the ages of 15 and 25, who are still in education, a number are currently enrolled in college courses. Out of a total of 205 former beneficiaries (not counting the current beneficiaries), 15.6% are still in school, and 8.29% of them are currently taking college courses. A small proportion of former beneficiaries (2%) are instructors for the National Council on Education Development, CONAFE (having completed high school), and it is likely that they will join the college cohort in the near future. Even though college students are still few in number when considering the high number of former beneficiaries of the program, this small number is still encouraging. The great majority, nevertheless, do not progress beyond secondary or senior high school, though it is still significant that these young people remain in school, even without the *Oportunidades* benefits.

To analyze the occupational achievements of former beneficiary children with those of individuals who were never beneficiaries, a hierarchy or occupational scale was built according to the jobs they currently hold. Classification is based on occupation data, regularity of the occupation, benefits (in the case of urban businesses), and the type of business. Fundamentally, the hierarchy focuses on qualifications, which is what the *Oportunidades* Program seeks to foster through its actions. However, the classification we assigned to each job varies according to how secure the employment is, and the formality or informality of the sector in which the job takes place. The classification is intentionally "detailed" at the lower and middle levels of the occupational scale to discern small differences between current and former beneficiaries who come from poor, peasant farming or day laboring families. Its intention is to describe the value interviewees assign to their occupations. As the following graphic demonstrates, the occupational hierarchy consists of eight levels: 1) farmhands or agricultural day workers, in which we have included "pickers"; 2) builders' assistants, workers who spray fertilizers and pesticides, fumigators and agricultural laborers working in irrigation who have greater recognition, are better paid, and require at least basic literacy to be able to understand instructions for the handling of chemical materials and machinery; domestic female help (maids); 3) employees at market stands, kitchen helpers at restaurants, gardeners in family businesses in the United States, seamstresses, employees at tortilla-making shops, nannies, unqualified workers, and farmhands who are included a step above fertilizer sprayers because their job is more regular; 4) peasant farmers who own land (they own their own means of production),* informal commerce employees with a salary, people who sell home-made food, home-store owners, door-to-door cosmetic salesgirls, tree cutters and butchers; 5) tradesmen (masons, mechanics, jewelers), skilled workers, and commercial and formal services employees with benefits; 6) master masons and foremen on construction sites, plumbers and other service contractors, supervisors of commercial establishments with employees and overseers; these jobs require skill, the ability to manage the work of others, and basic bookkeeping; 7) established small businesses owners and people performing technical professions (teachers); and 8) professionals.

OCCUPATIONAL HIERARCHY

Occupational tiers were constructed using these classifications. Categories from 1 to 3 formed the first tier or the lowest occupational step; categories 4 and 5 formed the middle layer; and categories 6 and 7 were added to the pyramid subsequently. This last addition responded to the need to facilitate the analysis of a database, which, despite having over 700 individuals (huge in terms of anthropological samples), is still a very small database for statistical analysis purposes.

THE ANALYSIS

The analysis provided the following results: The occupations of the indigenous population of this generation of sons and daughters who were not exposed to the *Oportunidades* Program are concentrated in the lowest tier of the occupational hierarchy, with a noteworthy presence of non-beneficiary males (83.6% of indigenous non-beneficiary males and 80.7% of indigenous non-beneficiary females fall within this occupational tier). While the majority of the indigenous population exposed to the program also fall within the same tier, there are, however, a lot fewer, especially in the case of beneficiary females (51.7% and 46.4% of indigenous beneficiary males and females, respectively). It is possible that the most notable occupational variation is concentrated in the middle layer (categories 4 and 5), with a significant presence of indigenous beneficiary males, and, in particular, indigenous beneficiary females (35.8% and 39.2% of beneficiary males and females, in contrast to 14% and 15.4% of the non-beneficiary males and females, respectively). Finally, it is also the indigenous beneficiary females who have the greatest representation in

* Given the impoverishment of the land and the ever more frequent droughts, floods and other types of *natural* disasters (actually, caused by man), agricultural production is increasingly less profitable.

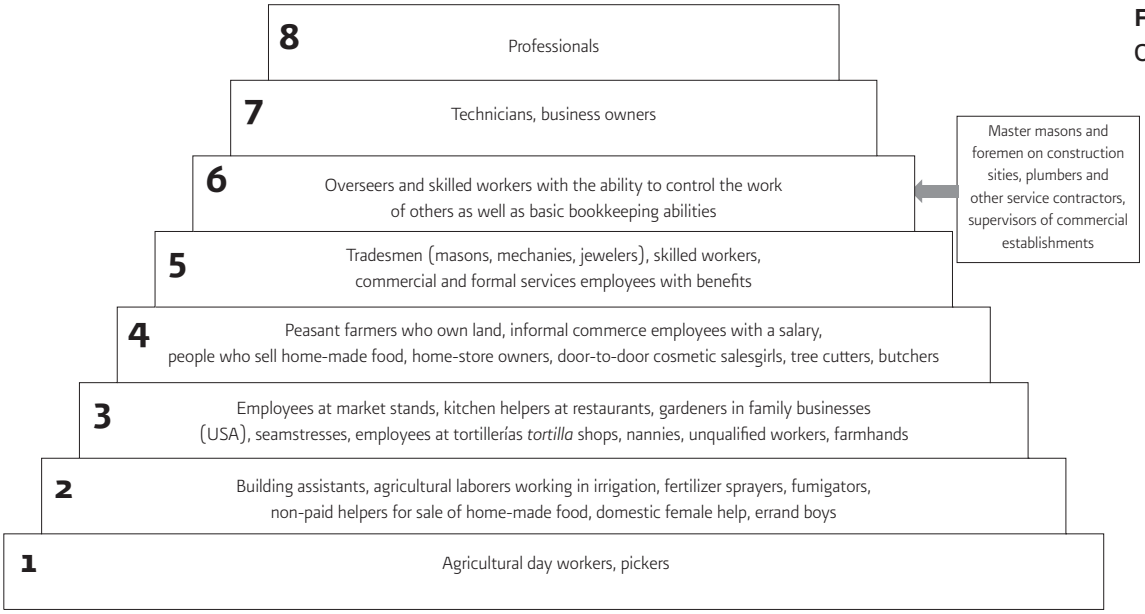

Figure 1
Occupational hierarchy

the top layer (categories 6 and 7), a little over 14 out of every 100 beneficiary females (and a little over 7 of every 100 beneficiary males, in contrast to just 3.8% and 2.3% of non-beneficiary females and males, respectively). By itself, this phenomenon could appear to be a very small presence, but when comparing beneficiary females with their non-beneficiary peers, a significant increase in the presence of the former can be appreciated.

Mestizo children exhibit a different and less obvious pattern. Regardless of their status, and being amongst those who have the highest levels of schooling, mestizo beneficiary males are concentrated in the lowest rung. However, the proportion of beneficiary females in levels two and three are remarkable, albeit not the same for their male counterparts. We may conclude that, in the case of *mestizo* males, schooling has less influence on their occupational achievement than in the case of females.

Despite the efforts of the *Oportunidades* Program, the expected impact on labor has not occurred, given the scarce employment options and the very limited local opportunity structure. In regions that already have a history of international migration, former beneficiaries are looking for employment alternatives in the United States. However, candidates planning to immigrate to the United States delay their departure for some years as a result of their extended stay in school.

The factors associated with the favorable modifications to the occupational hierarchy are similar to those of achievements in schooling (there are obvious connections), although their order of importance is not the same. For example, as young adults, it is no longer decisive to have a healthy father and mother who are economic providers, despite this being a major factor that influences the path of individuals throughout their school careers. Among the factors associated with occupational change or achievements, the importance of birth order (first-born versus last-born) stands out. While the first-born usually starts to work from a very early age in the economy of peasant families (work in the corn field), the latter-born siblings often delay the beginning of their work life. In other words, the productive participation of individuals, especially males, and the age at which economic obligations are adopted are strongly shaped by their position in the family's domestic cycle. Younger siblings usually start their working life at a later age, attending school and thus increasing their schooling level, and potential qualifications. Early involvement in the economy of a peasant family is not usually a temporary occupation that will provide unhindered access to other occupational categories later in life. Rather, those students who drop out of school at the age of 14 (or before) to become economic providers or co-providers of their parental household through the investment of their

labor in subsistence work or as paid agricultural day workers, remain in that category, do not re-enter school, and tend to marry at an early age, acquiring economic responsibilities early on in life to support the households where they grew up.

Furthermore, family networks often play a major role in young people's access to occupations other than those normally found in their hometowns, as family members, experienced in other types of employment, usually through migration to other regions and cities, or the United States, aid their younger kin to find work. For instance, the young men who have migrated to Mexico City from the *Mazateco* region are supported by the networks established by fellow villagers and relatives who immigrated years before; the same happens with young *Chiapanecos* who want to move to Playa del Carmen and other tourist centers or regions, or with young *Rarámuri* of both sexes who have moved to Chihuahua City as college students and undertake remunerated activities at the same time as their studies. Once in the city, these young people work in the service industry, in commerce and in manufacturing, not only using their social networks but also the skills acquired in school. Even though the quality of the education received in schools is often not as one would expect from the different scholarly levels and grades, the reality is that simply knowing how to read and write, basic arithmetic and being familiar with computers (no matter how basic) represent skills that have opened doors for former beneficiaries, especially those who have completed the higher levels of schooling. These skills help them to gain access to occupations that they would not have found in their home communities nor have been able to perform without the afore-mentioned skills.

Discussion, Conclusions and Recommendations

After 10 years of operation, it is evident that the *Oportunidades* Program has had a remarkable impact on 1) educational achievements, 2) reproduction patterns, and 3) the integration of most former beneficiaries (when compared with non-beneficiaries) into the middle and higher tiers of the occupational hierarchy, especially in the case of indigenous men and women, and *mestizo* women. The levels of schooling attained by beneficiaries, and the fact that more than a quarter of the sons and daughters in our database declared that studying was their main occupation are, by themselves, extremely positive results that need to be taken into account, to ensure that the federal government continues to channel resources and energy into the *Oportunidades* Program to allow it to carry on with such practices.

The *Oportunidades* Program has contributed to the modification of two social processes of extraordinary value for a society such as Mexico's: The analysis of the data, gathered with extreme care by four teams of anthropologists in four states in the country through the application of ethnographic techniques and guided by a strict methodological strategy, shows that the program has stimulated a decrease in ethnic and gender inequality, at least regarding access to education and relatively high (or intermediate) levels of the occupational hierarchy.

The gender gap in terms of schooling has been reversed among the generation of sons and daughters of indigenous populations, with females exhibiting a differential in their favor. The ethnic schooling gap in favor of *mestizos* or non-indigenous individuals, with its origins in Mexican history that dates back to the Spanish conquest, has finally been significantly narrowed, almost to the point of imperceptibility, among the male population exposed to the *Oportunidades* Program, and it has been reversed in the case of indigenous females. These changes are not observed among the non-beneficiary population. For those who have never been exposed to the program, ethnic inequality (indigenous males versus *mestizo* males; indigenous females versus *mestizo* females, in favor of *mestizos*) and, to a lesser extent, gender inequality, still exist (among *mestizo* males and females) in terms of the levels of schooling achieved.

The main conclusion is that the *Oportunidades* Program has many reasons to continue its activities in support of Mexico's poor families. The analysis presented here shows very positive results regarding the achievements accomplished.

Nevertheless, there is still a long way to go. The program must improve its operative mechanisms to provide better service and care for the indigenous population, reduce the number of suspensions due to bureaucratic rea-

sons, and ensure that children and young people attending schools (fulfilling their co-responsibility) continue to receive their scholarships. There are many stories of youths who lost their grants for reasons they or their parents never understood. The transition from junior high school to senior high school is now even more complicated, and many of the most successful cases in the program would not be considering a college or university career if not for the support of family networks or other programs (CONAFE and other scholarship programs). For this reason, we suggest that *Jóvenes con Oportunidades*, PJO/JO (Youths with *Oportunidades*) be turned into a real incentive and valuable tool to ease that step.

The main threat to the attainment of the central objective of the *Oportunidades* Program (to break the cycle of intergenerational transmission of poverty) is the shortage of jobs in the studied micro-regions owing to underdeveloped and less dynamic labor markets. As we have mentioned, it is not surprising that young former beneficiaries and non-beneficiaries who have attained unprecedented levels of schooling have already left these regions. In contrast, those youths who remain in their hometowns have very little job success, which is understandable given the poor local employment opportunities. They work in traditional occupations, in subsistence farming and as day laborers. In all four studied micro-regions, the parents' generation is a local one, while the children's generation is characterized by their *exodus*. At least half of the young former beneficiaries in the micro-regions of Chiapas and Oaxaca are no longer in their home communities. Relatives or other members of the family network provide lodging and assist the newcomers in finding a job. Even though many are employed in informal businesses, often family ones, the skills acquired in school (reading, writing and basic arithmetic) have certainly helped them.

The achievements presented here would be magnified if the efforts of the *Oportunidades* Program were complemented and thus augmented by social and political commitment: if the sectors of the government responsible for health and education matched the efforts of the program. If the quality of teaching and learning in state schools were to improve, the benefits for millions of children would be much greater, and the level of schooling achieved by beneficiaries (current and former) would be of even greater value. If we were able to augment the number of current and former beneficiaries who successfully complete higher schooling levels and were to reduce the number of failed participants who drop out because of an illness at home (which remained unresolved because of the poor service capacity of government-run rural medical centers) we would really have a highly successful social policy. At this time, however, we limit ourselves to stating that the *Oportunidades* Program has achieved an unexpected and positive impact on the rural community in general, and on the indigenous rural population in particular.

Even though the *Oportunidades* Program has contributed to the processes that are necessary to break the intergenerational transmission of poverty, to which this analysis bears witness, this objective will only become a reality if the relevant institutions in the public sector take the necessary measures to create more and better jobs, and to provide better quality health and education services.

SWOT Analysis

SUBJECT	STRENGTHS AND OPPORTUNITIES/WEAKNESSES OR THREATS	RECOMMENDATION
	STRENGTHS AND OPPORTUNITIES	
Education	The analysis shows a remarkable impact on the schooling levels of individuals exposed to the Oportunidades Program as scholarship holders.	The program must insure that its actions will allow the impact to be sustained or improved. It is suggested that the (JO) Jóvenes con Oportunidades component be expedited to encourage all current grant holders. There is still much misinformation regarding JO, and requirements are so complicated that only a few can access the benefits.
Education	The greatest increase has been among indigenous beneficiaries, especially indigenous females	The same recommendation applies in this case, but in addition, it is important to point out that differential grants have been a crucial component in the current assessment (by the parents) of girls and youths. Maintain the differential and try to ensure that JO benefits are equally accessible to young people of both sexes.
Education - Intergenerational Schooling Mobility	Since the Oportunidades Program began in marginalized rural communities, the intergenerational schooling mobility increased by two more years. In other words, advancement increased from three to five years.	
Decrease of Ethnic and Gender Inequality	For the children's generation, the gender gap has reversed, and the ethnic gap has closed in the case of males (still slightly in favor of mestizo males versus indigenous males); it has reversed in favor of the indigenous population (indigenous beneficiary daughters have attained higher schooling levels than those of mestizo daughters). This data means that the Oportunidades program has contributed to the decrease of gender and ethnic inequality.	
Student boarding hostels and School Transportation	The distance between the schools and the households is a factor that particularly affects female attendance and longevity in school (when the distance is short). In Sonora, there are some positive local council initiatives to provide buses to transport students from villages to their nearest school (often in a large town or municipal capital). Student hostels have provided a solution (a factor in favor of schooling) that, without "bringing the school close to home," in fact "brings the home (hostel) closer to the school."	These initiatives, such as local councils providing transportation for students, particularly those attending junior high school and senior high school, (schooling levels with the least coverage), should multiply because they enable children and young people, especially females, to study. Student hostels and boarding houses for indigenous students must remain (even more should be opened) especially in regions characterized by disperse population settlements.
PRONABES and CONAFE Scholarships	Programs and scholarships such as PRONABES (National Program for Higher Education Grants) and CONAFE appear in the trajectory of the most successful youths (with longer schooling trajectories and wishing to undertake college and university courses). For these young people from poor households, these scholarships are very valuable.	Continue and expand programs like PRONABES and CONAFE.
	THREATS	
Quality of Education	In order to build a portfolio of skills and credentials of any value, it is necessary to have better-quality education services (with fewer infrastructure deficiencies and teacher absences, better trained teachers, and a curriculum or syllabus adapted for the indigenous environment). The provision of education in its current form in these micro-regions means that the development of skills and knowledge is limited.	Government bodies responsible for education (SEP and state institutions) should take urgent steps to improve teacher training and the educational content of the teaching curriculum (and the way in which these are provided and delivered). It is also imperative to turn teacher absenteeism into daily and responsible attendance with the aim of educating subsequent generations.

Coverage of Education Services	One of the factors explaining the longer school careers of the Oportunidades beneficiaries is the short distance between schools and homes (it greatly facilitates attendance in general, especially for females). While primary school coverage is widespread, it starts to decrease as the schooling level increases, so there is a shortage of junior high schools and above all, senior high schools.	Government bodies responsible for education (SEP and state institutions) should use the infrastructure of empty primary schools as junior high and senior high schools, providing them with teachers and teaching materials that correspond to the aforementioned school levels. Alternatively, if the above were not desirable or possible, provide a wider coverage of junior high and senior high school services through the implementation of new schools.
Transition from School to College and University	The transition from senior high school to college is extremely complicated (a "bottleneck") owing to room and boarding costs in cities where universities and colleges are located, transportation from the hometowns to the city, cost of urban transportation, cost of materials, admission exam, etc. Were it not for family support and in many cases, the support from CONAFE and other scholarship programs, many of those who are now the program's most successful cases would not be pursuing a university career. Current evidence shows that the PJO component, now known as JO, has not been very effective. There are more young people who cannot access their Oportunidades funds than those who can.	We suggest that the Jóvenes con Oportunidades component be transformed into an effective stimulus and means of easing the transition.
Health and Sickness: Impact on Schooling	Illness in poor households, affecting either the father, mother or, of course, the child or the young student, is a reality that works against the success of the program's objectives (regarding the development of skills: illness of the main breadwinner or mother, added to the poor services offered by health centers, often leads to school desertion).	Government bodies responsible for education (SEP and state institutions) should increase the number of doctors in rural clinics; stop rural clinics from losing doctors for long or short periods; continue with prevention policies; improve supply of medicines and patient diagnostic equipment (sphygmomanometers, blood sugar measurement equipment); and design and promote diets adapted to the products that can be obtained by the local rural population and launch a massive campaign against the consumption of unhealthy, non-nutritional foods (not only tobacco and alcohol, but junk food as well).
SUBJECT	**STRENGTHS AND OPPORTUNITIES/ WEAKNESSES OR THREATS**	**RECOMMENDATION**
	STRENGTHS AND OPPORTUNITIES	
Reproductive patterns	The majority of daughters have yet to become mothers. However, the analysis shows that an important proportion (26.3%) of indigenous former beneficiary women have already had their first child, but the percentage of those indigenous beneficiaries who have not yet had children is higher (73.7%).	n/a
Reproductive patterns	The available evidence, especially regarding the Sierra Tarahumara, shows that for young indigenous females, the birth of their first child does not imply the abandonment of their studies, possibly to keep the scholarship granted by the Oportunidades Program (given the importance that such income has on the household's economy).	Even though we did not find schools in the Sierra Tarahumara that do not allow attendance of pregnant students (it has happened within the context of previous assessments, although not the current one), the practice of continuing to study (despite motherhood) should be promoted; so it is a very positive sign that schools have a flexible policy (admitting pregnant students) because bearing a child does not incapacitate women continue with their schooling.

WEAKNESSES		
Reproductive patterns	Mestizo beneficiary and non-beneficiary females of the daughters' generation who have already started their reproductive cycle represent a greater percentage when compared to indigenous females in the same situation. However, in the case of mestizo females, the number of those who have already started their reproductive cycle is higher among beneficiaries than for non-beneficiaries: 42.3% of mestizo beneficiaries females are already mothers, while among mestizo non-beneficiary females the percentage of mothers is 35.7% (57.7% of mestizo beneficiary females are not yet mothers, while the percentage increases to 64.3% among mestizo non-beneficiary females).	Promote the advantages of postponing the start of the reproductive cycle in self-healthcare workshops. The workshops should be provided by trained personnel who can give ample and precise information about the implications of parenthood at an early age and birth control methods (without leaving information loopholes, and presenting adequate and accurate information so that young people do not "learn by experience"). Promote, in conjunction government bodies responsible for health, the provision of birth control methods for the general population and young people in particular.
Reproductive Patterns	The workshops being provided for young people as part of the New Healthcare Model do not provide enough, accurate or efficient information about the precautions that young people should take to avoid early pregnancy or transmission of HIV-AIDS or other sexually transmitted diseases. The leaders of the workshops' are often absent (or do not show up), leaving young people alone, forcing them to teach themselves. The result is inadequate handling of information, which proliferates inaccurate assumptions about illnesses, their transmission and their preventive care.	The workshops should be provided by trained personnel who can give ample and accurate information about the implications of parenthood at an early age and birth control methods (without leaving gaps of information, and presenting adequate and precise advice so that young people do not have to teach themselves. Promote, alongside government bodies responsible for health, the provision of birth control methods for the general population and young people in particular.
THREATS		
Reproductive Patterns	The use of birth control among adolescents does not exist. It is never used before the birth of the first child.	It is necessary that the government bodies responsible for health make a greater effort (including effective strategies) to promote the use of birth control among young people. Birth control is used by adult women when they no longer wish to have any more children but not by young people and never before having the first child.
Reproductive Patterns	The birth order of individuals influences the deferment of domestic unions and marriages and the individual's own reproductive cycle (procreation household). The evidence in Chiapas demonstrated that last-born current and former beneficiaries who enjoy the privilege of not having to bear or help bear the burden of the household's economy, remain in school the longest and postpone unions and the start of their reproductive cycles more than first-borns. Older siblings often abandon their schooling prematurely to begin their role as economic providers at an early age, which is associated with the pattern of forming early unions.	

SUBJECT	STRENGTHS AND OPPORTUNITIES/WEAKNESSES OR THREATS	RECOMMENDATION
	STRENGTHS	
Occupation	One of the most remarkable strengths of the Oportunidades Program is the number of individuals in the children's generations who declare studying to be their main occupation: over a quarter of young people between the age of 15 and 25 years old study as their main occupation, especially mestizo females and indigenous males and females. As a consequence, the impact of the Oportunidades Program on the levels of schooling achieved will soon be higher than the ones seen here. It is also probable that, with such school certifications/qualifications, they will be able to access better occupations than those they would have been able to if they had not stayed-on at school.	N/a
Occupation	The occupations of indigenous non-beneficiary sons and daughters are concentrated in the lowest tiers of the occupational hierarchy, with a notable presence of non-beneficiary males, while a smaller percentage of the indigenous population who had been exposed to the program are found is in this same tier. This differential is especially prominent in the case of beneficiary women.	
Occupation	The intermediate occupational tier (categories 4 and 5) has a significant presence of indigenous beneficiary males and females, particularly females. Indigenous beneficiary females also have the greatest presence in the highest layer (categories 6 and 7; a little over 14% of all beneficiary females). By itself, this data could appear to represent a rather small presence, but when comparing beneficiary women with their non-beneficiary peers, a significant difference in favor of the former can be appreciated.	
	OPPORTUNITIES	
Work	There is a wide array of subsidies and support packages for agriculture (up to 120,000 million pesos). Agricultural producers from these regions neither know about nor benefit from most of these subsidies. Only el Programa de Apoyos Directos al Campo (Programme for Direct Countryside Support), PROCAMPO, has some limited coverage. La Comisión National para el Desarrollo de los Pueblos Indígenas (The National Council for the Development of Indigenous Villages), CDI, has also provided some productive programs. These resources and direct affiliation to such social programs (with more expedite processing of prerequisites, monitoring of resources, and program evaluations) could complement and help to increase the impact of the Oportunidades Program on employment and the integration of former beneficiaries into the labor market.	It is the responsibility of public policy as a whole to: publicize and promote the existence and availability of resources and productive programs to the general population; publicize the procedures involved in becoming affiliated in a clear and open way (making sure that the publicity reaches rural communities like those studied here); expedite and facilitate the application process; evaluate the impact of these programs to improve their design and operation.

Work, Economic Development	When considering the development of the country as a whole, we must draw attention to the way in which the labor potential represented by thousands of indigenous youths and peasants – most of whom are bilingual, know these communities well, have raised their schooling level thanks to the Oportunidades benefits – has been overlooked and poorly capitalized. Indigenous job seekers must leave their hometowns to be able to make something worthwhile out of their lives. The Oportunidades Program, but more so, the federal government, has the opportunity to convert them into development agents, if a larger share of the subsidies that already exist are channeled into projects focused on the economic improvement of communities that show promise.	Incorporate young, bilingual, former beneficiaries with detailed knowledge of their region and a higher level of schooling into productive projects and programs; turn them into development agents, channeling a larger share of the already existing subsidies towards projects of economic improvement for these peasant regions.
THREATS		
Employment	Labor markets are not very dynamic and offer very few employment opportunities to young people graduating from the program, causing them to leave their hometowns and regions as migrant workers.	

References

1. Sariego J, *et al.* Documento analítico: Estudio etnográfico en Chihuahua, Evaluación cualitativa de impacto del Programa Oportunidades, Largo Plazo, Zonas rurales, 2008, Number 3. México: CIESAS, 2008
2. Agudo A. Documento analítico del estudio etnográfico de Chiapas, Evaluación cualitativa de impacto del Programa Oportunidades, Largo plazo, Zonas rurales, 2008, Number 3. México: CIESAS, 2008.
3. Haro A, *et al.* Documento analítico del estudio etnográfico de Sonora, Evaluación cualitativa de impacto del Programa Oportunidades, Largo plazo, Zonas rurales, 2008, Number 3. México: CIESAS, 2008.
4. González de la Rocha M, Paredes P, Sánchez López G. Documento analítico del estudio etnográfico de Oaxaca, Evaluación cualitativa de impacto del Programa Oportunidades, Largo plazo, Zonas rurales, 2008, Number 3. México: CIESAS, 2008.
5. Moser C. *Confronting Crisis:* A Comparative Study of Household Responses to Poverty and Vulnerability in Four Poor Urban Communities, Environmentally Sustainable Development Studies and Monographs Series No. 8. Washington, DC: World Bank, 1996.
6. Kaztman R, coord. Activos y Estructuras de Oportunidades. Estudios sobre las raíces de la vulnerabilidad social en Uruguay. Montevideo: ECLAC/UNPD, 1999.
7. González de la Rocha M. Private Adjustments: household responses to the erosion of work, United Nations Development Programme (UNDP), UNDP Conference paper series, Volume 6, 2000.
8. González de la Rocha M, coord. Procesos domésticos y vulnerabilidad: perspectivas antropológicas de los hogares con Oportunidades, Mexico City: Publicaciones de la Casa Chata, 2006.
9. Sánchez López G. Salud. In: González de la Rocha M, Paredes P, Sánchez López G. Documento analítico del estudio etnográfico de Oaxaca, Evaluación cualitativa de impacto del Programa Oportunidades, Largo plazo, Zonas rurales, 2008, Number 3. México, CIESAS, 2008.
10. Sánchez López G. Documento técnico sobre salud, Evaluación cualitativa de impacto del Programa Oportunidades, Largo plazo, Zonas rurales, 2008, Number 10. México: CIESAS, 2008.
11. Agudo A. Documento técnico sobre educación, Evaluación cualitativa de impacto del Programa Oportunidades, Largo plazo, Zonas rurales, 2008, Number 11. México: CIESAS, 2008.

Following Young Adults Who Benefitted from *Oportunidades* for Nearly a Decade: Impact of the Program on Rural Education and Achievement

Susan W. Parker and Jere R. Behrman*

A central question for *Oportunidades* and for public policy more generally is whether policies can help break the intergenerational transmission of poverty through enriching the human capital of children so that their options are better when they become adults. Historically, judging by intergenerational correlations in schooling attainment, intergenerational mobility has been quite low in Latin America in general and lower in Mexico than in most Latin American countries.

There are many policies that might weaken the intergenerational transmission of poverty, which range *inter alia* from macro policies to human resource policies to labor and capital market policies. Based on other experiences, one promising subset of these policies is improved education. Previous research in other contexts indicates that improved education has significant impacts on subsequent options over a person's life. Previous *Oportunidades* evaluations have demonstrated that *Oportunidades* has had a significant impact on some important dimensions of education, most commonly, increasing school enrolment rates and schooling attainment, but also in some cases reducing dropout and repetition rates and increasing grade progression rates. On the other hand, studies to date have not found substantial impacts on the cognitive achievement of youth, though this possibility could only be explored with cross-sectional data from 2003 using non experimental methods. Most of the studies to date have been based on fairly short periods of exposure to the program using one or two years, though studies using the 2003 data are based on longer exposure.

The general objective of this study is to evaluate the impacts of *Oportunidades* on rural young adults aged 19 to 22 years who have been exposed to the program for about a decade in 2007 using the ENCEL, with complementary analysis of young adults about 17 to 20 years who had been exposed to the program for about seven years in 2005 using the Mexican Family Life Survey (MxFLS). More specifically, the primary analysis is focused on young adults aged 17 to 22 years in 2007, using the 2007 rural ENCEL, and the extent to which the program affected their education (schooling attainment and performance on tests of cognitive achievement). In addition we include a complementary analysis of the outcomes for young adults aged 17 to 20 years in 2005 based on the 2002 and 2005 MxFLS. For both databases the principal estimation methods used are difference-in-difference matching in order to control for sample attrition and purposeful sequencing of program placement (i.e., with poorer rural communities with populations less than 2,500 receiving the program earlier than less-poor and more-populous rural communities).

The paper first reviews evidence on intergenerational mobility, the effectiveness of policies on improving education elsewhere in developing countries, and earlier relevant results from analyses of *Oportunidades*. It then describes the

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basic 2007 ENCEL used in the analysis, describes the methods used to attempt to estimate the program impacts of interest within this framework and considers models and techniques that are used.

The results are then presented. The analysis of the 2007 ENCEL confirms important increases in grades of schooling achieved for both young male and female adults as a result of the *Oportunidades* program. The impact for females appears to be slightly larger than those for males, although this may reflect more differences in selective migration/response rates by gender, as results are based only on individuals who were personally interviewed in their community of origin. The increases in schooling reflect improvements both in the proportion of those who enter and complete secondary school and enter upper high school. However, there are no significant impacts of the program on improving the proportion of those entering college. This, however, may reflect that the sample only contains non-migrants and that the migrants are likely to have a higher enrolment in college. As part of the 2007-2008 Evaluation Agenda, *Oportunidades* is currently carrying out fieldwork following migrants, which should in the future allow impacts on migrants to be estimated. We also analyze the impacts on schooling, differentiating between indigenous youth and non-indigenous youth. These results show significant and positive impacts of *Oportunidades* on indigenous youth with impacts that are apparently as high as or higher than the non-indigenous youth.

The potential impacts of the program on achievement tests were also analyzed. There are some encouraging positive tendencies in the math achievement results, where difference-in-difference estimators were carried out, although the results were constrained by low sample sizes and in the case of the reading tests, only difference estimators were possible, which is likely to underestimate the true results.

Overall, the results of this paper continue to support the finding that *Oportunidades* has significantly improved the schooling of its beneficiary population, although the results are valid only for the sample of youth remaining in their community of origin. While this might be the group expected to experience the lowest program impacts, the results are clearly positive and reassuring and show that in addition to the program's effects on reducing current poverty, important improvements on schooling and human capital accumulation continue. There are some initial signs that achievement tests also are beginning to show positive and significant impacts from the program. The results presented are less strong on the topic of impacts on achievement tests, but the difference-in-difference estimates, which we consider the much more rigorous estimator, are indicative of positive impacts from the program on achievement in mathematics. A promising and complementary avenue of research is to use the ENLACE test databases, which are now applied yearly in Mexico, in conjunction with information on beneficiary status to analyze the program impacts on achievement.

We also carry out an analysis of the benefits and costs of the program, which clearly show that under a reasonable assumption about the returns to education, the benefits of the program significantly exceed the costs. This analysis implies that the program not only contributes significantly to raising schooling levels in Mexico, but also that the investments made by individuals and the Federal government in this program are likely to be more than compensated for by increases in the individual's income in the future.

At the end of the document, we provide an analysis of the Strengths, Weaknesses, Opportunities and Threats (SWOT) for the *Oportunidades* program in rural areas. Overall, the general results of this study continue to show important positive impacts on schooling as a result of the *Oportunidades* program and important evidence that these impacts occur both for indigenous and non-indigenous youth. Some smaller effects on achievement in the area of math are also found, although a limitation is that none were found for the case of reading comprehension. Some limitations of the analysis include the lack of baseline data for the achievement tests and a large attrition rate, for which we suggest complementary fieldwork.

SWOT Analysis

PRIORITY	DESCRIPTION
STRENGTHS: ATTRIBUTES OF OPORTUNIDADES PROGRAM THAT ARE HELPFUL TO ACHIEVING OBJECTIVES OF PROGRAM	
S1	Significant impact on schooling attainment in short- and medium-run for both boys and girls.
S2	Important positive impacts of the program on schooling of both indigenous and non-indigenous youth.
S3	Evidence of significant impacts of Oportunidades on mathematics achievement.
S4	Larger impact of Oportunidades on schooling for those with longer exposure to the program.
WEAKNESSES: ATTRIBUTES OF OPORTUNIDADES PROGRAM THAT ARE HARMFUL TO ACHIEVING OBJECTIVES OF PROGRAM	
W1	No positive impact of program on achievement tests in reading comprehension, results constrained by cross-sectional nature of achievement tests.
OPPORTUNITIES: EXTERNAL CONDITIONS THAT ARE HELPFUL TO ACHIEVING OPORTUNIDADES'S OBJECTIVES	
O1	Interest and implementation of complementary fieldwork to the ENCEL2007 to locate and interview migrant population and thus provide estimates of the impacts of Oportunidades on migrants. We suggest taking advantage of this fieldwork this fall to apply a short questionnaire on education and work to recover information on youth who did not answer the youth questionnaire in 2007 and thus provide a more representative sample for estimating schooling impacts.
O2	Supportive and consistent funding stream to provide support to the evaluation of the program.
O3	Interest and support for the rigorous evaluation of the Oportunidades program, from the government and from the political and scientific community in Mexico and internationally.
THREATS: EXTERNAL CONDITIONS THAT COULD DAMAGE OPORTUNIDADES'S OBJECTIVES	
T1	Data limitations and difficulties associated with following a large evaluation sample longitudinally.
T2	Low levels of achievement among Oportunidades beneficiary population.
T3	Low school quality in schools where Oportunidades beneficiaries tend to attend.

RECOMMENDATIONS FOR FUTURE ACTION FOR OPORTUNIDADES

STRATEGY TYPE**	RECOMMENDATION (WITH RESPONSIBLE SECTOR IN PARENTHESES)
S-O	1) Continue Oportunidades program, with sustained emphasis on improving outcomes for children growing up in poverty (Oportunidades). 2) Continue evaluating Oportunidades program rigorously with an emphasis on improving fieldwork and following youth migrants to ensure complete picture of impacts on all beneficiaries can be provided.
W-O	1) Implement large scale academic and evaluation effort using the ENLACE tests to estimate the impact of Oportunidades on achievement.
S-T	Consider taking advantage of migrants fieldwork to capture information on education and work of young adults where no information was obtained in 2007.
W-T	1) Examine ways that Oportunidades can address the issue of very low achievement by beneficiaries and overcome problems associated with low school quality.

**Overview of strategic possibilities for future action

		INTERNAL ANALYSIS	
		STRENGTHS	WEAKNESSES
EXTERNAL ANALYSIS	OPPORTUNITIES	S-O strategies pursue opportunities that are a good fit for the Oportunidades's strengths	W-O strategies overcome weaknesses to pursue opportunities
	THREATS	S-T strategies identify ways that Oportunidades can use its strengths to reduce vulnerabilities to external threats	W-T strategies establish a "defensive plan" to prevent Oportunidades's weaknesses from making it susceptible to external threats

Risk Behaviors and Their Consequences for Health, Welfare and Labor Force Participation Among Rural *Oportunidades* Beneficiaries

Juan Pablo Gutiérrez*

Introduction

Fifteen- to twenty-four-year-olds make up the largest age group in the world, and many engage in certain behaviors that compromise their present and their future. In this sense, such actions are considered 'risk behaviors,' including unprotected sexual relations, violent behavior, drug and alcohol abuse, tobacco smoking, and limited physical activity, among others. It has been documented that decisions made during adolescence can become patterns of behavior that solidify in adult life. For example, the consumption of alcohol during adolescence – as much the action itself as the amount consumed – is a strong predictor of consumption patterns as an adult. Another documented example is the strong correlation between condom use in the first sexual encounter and the use of condoms in future sexual encounters. Risk behaviors follow this pattern in general, and the probability of participating in a second risk behavior increases significantly when a person is already participating in one.

As with all human actions, there is not a unique cause behind risk behavior, and many factors contribute to the appearance of this behavior in specific individuals. Nevertheless, it is possible to group factors that have been associated with risk behavior into three levels: individuals, micro-environmental and macro-environmental. For instance, personal characteristics, such as an individual's genetic makeup, may make an individual more inclined to certain behaviors. However, the context in which the person lives is also an important factor, as the family and community contribute their own influences and pressures. Finally, the largest context includes the economic situation, laws and regulations. In this context, poorer youth have an increased probability of engaging in risk behaviors; socioeconomic inequality can generate environments where the participation in risk practices is perceived as a desirable activity that represents a higher socioeconomic status. In this manner, the consumption of certain products, such as tobacco and alcohol, can be necessary for participating in the desirable social environment.

Background

The results of the rural and urban evaluation of the Human Development Program *Oportunidades 2004* demonstrated that the program appeared to prevent risk behavior among adolescents. Nevertheless, the percentage of youth who participate in risk behavior remains high. Therefore, this situation may be an opportunity to implement actions that prevent a depreciation of the investment in human capital, which would result in the diminishing of benefits for both individuals and society. Investment in the formation of adolescents and youth's human capital is justified partly from the evidence that these types of social returns translate into better health, productivity, diminishing of poverty, and general social benefits.

In this context, the effect that a reduction in risk behavior has on the general wellbeing and labor outcomes of youth and adolescent populations needs to be explored further.

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The Program encourages continuance in school and includes, as part of its health component, assistance to adolescents and youths through self-care health workshops on topics such as preventing addictive substance consumption and the dangers of unprotected sex.

The literature, in turn, has reported that, in conditions of social exclusion, individuals are more concerned with the present and place very low value on the future costs of these behaviors. Through education in general and through specific information about risk behaviors, the Program could improve their expectations of the future and knowledge about the consequences of these behaviors. As a result, a higher value may be placed on the long-term benefits (and a greater cost on the future consequences) that would surpass the value of the present benefits of engaging in risk behavior.

The objective of this study is to estimate the probability of engagement in risk behaviors by individuals between 14 and 24 years old in families covered by the Program and to observe their relationship with variables of general wellbeing.

Methods

This report presents an analysis of information from the Rural Households Evaluation Surveys (ENCEL) of the Program, in particular those taken in 2003 and 2007, which included modules on risk behaviors in adolescents and modules on education and labor market participation

The paper is divided in two parts, first focusing on the proportion of adolescents who have participated in risk behaviors, and the relationship that exists between their risk behaviors and the years their families were covered by the Program, keeping control on other observable factors and utilizing multivariable probit regression models. However, as there is not comparison group, this analysis cannot be interpreted as the effect of the Program and can only provide useful information on the patterns that have been observed.

To describe the proportion of adolescents engaged in risk behavior, a series of reagents have been selected similar to those used in the previous surveys. The selected variables measure the proportion of youth people who reported smoking, consuming alcoholic beverages, having sexual relations, using condoms in sexual relations, and consuming high-energy foods and beverages.

The second part of this report analyzes the possible correlation between risk behaviors observed in 2003 and the results in education, labor, and health reported in 2007. This analysis seeks to study the impact of risk behaviors on "medium time frame" results that may affect the Program's potential to increase human capital for adolescent and youth population, and in this sense, these indicators are presented as wellbeing indicators.

For the analysis, this report utilizes multivariate probit regression models using information gathered with a risk behavior questionnaire from a group of individuals that were between 15 to 21 years of age in 2003. They were interviewed in 2007 about their education and labor history. The variables obtained in 2007 used as indicators of wellbeing were enrollment in school for that year, years of schooling appropriate for the age (defined here as educational success), labor participation, and if the labor participation is in agricultural activities.

Results

AGE GROUP: 14-18 YEARS

The proportion of children in the youngest age group who attended school at the time of the survey is higher among those with a longer participation in the Program. This is consistent with a higher average number of years in school and the percentage of students who had an adequate number of school years for their age.

Regarding the consumption of energy-dense foods (junk food), no significant differences were found among exposure groups or by sex.

The proportion of the participants who reported smoking tended to be lower among groups with greater exposure to the Program for both men and women. In addition, groups with a greater exposure to the Program reported a lower proportion of alcoholic beverage consumption. However, drug use at any point of the beneficiary's life was higher in the groups with greater exposure to the Program.

The percentage of those who reported having had sex is lower in the group with higher exposure to the Program in the case of women (2.4% in the rate controlled by truncation, compared with 8.0% in the lowest exposure group), with a minor difference in the case of men (2.8% vs. 3.3%, respectively).

Condom use was higher in the groups with greater exposure in both their first sexual encounter and their most recent sexual relationship, with a higher difference for the latter.

Finally, the proportion of those who were overweight or obese was higher for women in all exposure groups. At the same time, the data suggested a higher proportion of overweight and obesity among the groups with less exposure to the Program. Interestingly, there were no important differences between the exposure groups or gender for the consumption of foods with empty calories (junk food).

AGE GROUP: 19-21 YEARS

There was a small difference among 19-21 year olds for enrollment in school at any given time, with more proportions among those with the greatest exposure to the Program. Greater exposure to the Program also positively influenced the number of years of schooling, which is consistent with a larger proportion of youth who have an appropriate amount of schooling for their age.

There were no important differences in the consumption of addictive substances between the groups with different levels of exposure to the Program.

Youth with less time in the Program were more likely to have had sexual relations and, except for the highest exposure group, a higher proportion of women had experienced a sexual encounter than men. Interestingly for this age group, the proportion of those who used condoms in their first sexual relation and in their most recent sexual relation was higher in the group with less exposure to the Program.

Finally, individuals with less exposure to the Program were more likely to be overweight than the group with more exposure (18.5% vs. 10.8% between the women), and more women than men were overweight in all the groups, except in the group with the greatest exposure. Compared to the youngest age group, fewer individuals in this age group reported the consumption of food with empty calories, though there were similar results between the groups with different levels of exposure to the Program.

AGE GROUP: 22-24 YEARS

A similar proportion of the 22-24 year olds in all Program-exposure groups (95%) attended school at some point in time, and the number of years of schooling is also similar. However, the percentage of those who achieved an adequate level of education for their age was higher among the men in the group with greater exposure (77.3% vs. 73%), but the opposite is true for women (73.8% vs. 75.3%). On the other hand, current school enrollment was higher in the group with less exposure than in the one with greater exposure.

In this age group, individuals with less exposure to the Program were more likely to smoke and consume alcoholic beverages than those with a greater level of exposure.

Approximately 50% of this age group reported that they had already had sexual relations, when compared by gender (adjusted by truncation) more women reported sexual activity than men. Similarly, the proportion is higher in the group with the lowest exposure to the program.

More men than women in the group with greater exposure to the Program reported using condoms, with 35.3% of men reporting condom use during their most recent sexual relation compared to 21.3% of women. It was also clear that age played a role in condom use, as this group reported less condom use than the younger. The seropreva-

lence of HSV2 (herpes simplex virus type 2) was higher for women and lower for those who had more time in the Program.

Men had a lower level of knowledge on health subjects, and a greater exposure to the Program had no positive effect.

Again, more women were overweight than men, and those with less exposure to the program were more likely to be overweight than the group with greater exposure (20.2% v. 13.8%, respectively). However, for men, there were no differences between different exposure groups. Junk food (of high-energy value) consumption tends to decrease with age and, keeping with this, fewer individuals in this age group reported consuming junk food. The similarity between the exposure groups stayed.

The probability of drinking was inversely associated with the level of exposure to the Program. With respect to the probability of having sexual relations, it was inversely related to the exposure time to the Program in a clear way (all coefficients of the exposure groups were significant at 95% when using the rate-corrected truncation) and was higher for women, increasing with age. Similarly, the exposure time to Oportunidades was inversely associated with the likelihood of pregnancy and being HSV2 positive.

For men, being sexually active in 2003 had an effect (significant at 90%) on the probability of being enrolled in school, but this was not true for women. The probability of being enrolled in school decreased with age for women, but was greater among the indigenous population for men. The probability of educational success was increased by being sexually active in 2003, being in a cohabiting relationship (*unión*), and coming from an indigenous household. However, being overweight in 2003 had a negative effect on the probability of educational success in 2007; there were no observed negative effects from the consumption of tobacco and/or alcohol. Due to a limited number of observations, the model of condom use and educational success is not presented, though there appeared to be a positive association.

The probability of working was lower among women, individuals in a cohabiting relationship, and the indigenous population. There was no observed effect for having been sexually active in 2003. A positive effect was observed among men who were overweight and women who consumed alcoholic beverages in 2003, but smoking and drinking had a negative effect on the probability of working for both sexes (significant at 90%). However, the effect on women can be related to the number of reduced observations, which could suggest that this group of individuals had particular characteristics that made it impossible to generalize the impacts on them.

Discussion

The analysis of the association between time of participation in the Program and risk behavior in 2007 suggest that *Oportunidades* has played an important part in delaying unions among adolescents and youths. This may be reflected in greater educational success, which is in line with the Program's long-term objectives. With more participation in the Program, adolescents and youths postponed the start of their sexual lives, which may be directly related to formal unions. Likewise, this contributes to greater results in education as it reduces the probability of becoming pregnant and/or contracting sexually-transmitted diseases.

Nevertheless, a significant percentage of adolescents and youths in *Oportunidades*-beneficiary households (and who in fact are Program beneficiaries themselves) reported participating in behaviors that put their future wellbeing at risk. Though this study suggested that these behaviors were lower among individuals in households with greater time in the Program, this don't occur in all cases, and this could compromise the Program's capacity to increase human capital in this age group.

Likewise, time spent in the Program did not appear to increase knowledge on health subjects, and a significant percent of adolescents and youths had a low level of knowledge on these subjects.

It was also evident that there were important gender asymmetries with relation to risk. In addition to women having a higher probability of having had sexual relations, they were less likely to have used condoms in both their first and most recent sexual encounters. Such a high rate of unprotected sexual relations continues to call attention

to the current prevention strategies for youth pregnancy and the spread of sexually-transmitted diseases.

The Program generates adequate incentives for its participants to achieve higher levels of education, and this is reflected in the fact that individuals decide to postpone sexual activity, which potentially lowers the number of adolescent pregnancies. In addition, the Program has a negative effect on the probabilities of being overweight, which in turn affects the probability of achieving greater success in school. In this sense, the actions of the Program in education appear to be having the desired result.

SWOT Analysis

PRIORITY	DESCRIPTION	SOURCE OF ANALYSIS
FO1	The proportion of participants who were married or in a long term committed relationship is higher among those who came from households with less exposure to the Program. This result suggested that the Program is effectively associated with the postponement of unions by adolescents and young people.	ENCEL 2007
FO2	The probability of pregnancy and HSV2 is lesser among adolescents and young people with more exposure to the Program.	ENCEL 2007
FO3	The individuals in households with more time in the Program report a higher average number of years in school and in greater proportion of having adequate years of schooling for the age.	ENCEL 2007
FO4	The probability of consuming alcohol and of being sexually active is less for those who had spent more time in the Program.	ENCEL 2007

WEAKNESSES AND THREATS

PRIORITY	DESCRIPTION	SOURCE OF ANALYSIS
DA1	An important percentage of adolescents and youths from Oportunidades-beneficiary households (who were grantees of the Program themselves) report to be participating in behaviors that put their future wellbeing at risk.	ENCEL 2007
DA2	The consequences of such behaviors are also observed in considerable proportions, through being positive for HSV2 and being overweight.	ENCEL 2007
DA3	Important gender inequalities persist that make women more vulnerable.	ENCEL 2007

RECOMMENDATIONS

PRIORITY	RELATION	RECOMMENDATION	AGENCY RESPONSIBLE
R1	DA1	To include in the Rules of Operation the need to implement strategies of risk behavior prevention which have proven to be effective and go beyond supplying information.	Oportunidades, Health
R2	DA3	To strengthen the gender component in self-care health workshops for grantees.	Oportunidades, Health
R2	DA1, DA2	To reinforce the offer of healthy goods and services. This includes adolescent- and youth-friendly health services as well as expanding actions to moderate the offer of food with empty calories. Specifically, junk-food could be limited and replaced in schools with healthier options. Access to condoms could be facilitated through strategies that could include dispensers in schools.	Health, Social
R3	FO2	To support the actions that give incentives to continue in school and to achieve educational progress.	Oportunidades

Quality Assessment of Health Clinics That Serve Rural *Oportunidades*' Beneficiaries

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Introduction

The Human Development Program *Oportunidades* has as its objective to interrupt the intergenerational transmission of poverty, promoting social mobility and, thus, development. In order to achieve this objective, the Program's design has focused on the generation of incentives to increasing demand for services, which translates into investments in human capital (education and health). In order for these investments to translate into positive health and education results, they must meet the necessary technical quality.

Henceforth, it is expected that health service quality is directly related to the observed results in the population of users. Results from prior evaluations of the *Oportunidades* health component showed a positive effect in the usage of such services. In addition, favorable effects in health indicators, such as decreases in the number of sick days and a greater capacity to undertake everyday activities, have also been observed. However, the impact of such effects has been lower than expected when compared to the higher usage of services, which could be related to the quality of such services.

An examination of the quality of health services is proposed in three dimensions: structure (the resources for care), processes (staff operations), and results (health gains accomplished with these steps). This document will focus on the first two areas, and other elements will be provided to help analyze the results of the third area, which will be addressed in a separate document.

The objective of the analysis described in this document is to examine the type of health services provided to the *Oportunidades* population, measuring the infrastructure and processes, as well as the quality's heterogeneity of the services available in the communities. Information was obtained through questionnaires applied to providers (health care units, physicians, and nurses) and users.

Methodology

As mentioned in the Introduction, the quality's evaluation of health services included in this document is based on the measurement of structural and process quality.

Regarding the structural part, the analysis focused on the contrast between the existing and needed care resources in the units visited, according to the opinion of experts as well as the established regulations in the institutions.

In terms of processes, we have divided this part into three indicative conditions that combine the providers' capacity to utilize available resources and convert them into effective actions. The division was made due to the difficulty associated with analyzing all health care conditions in a manner in which the units' actions and activities are comparable. We chose to analyze medical conditions relevant to the Mexican population, for which the Health

sector offers standardized and clear recommendations for management. Such is the case for pregnancy care, management of disorders related to metabolic syndrome (specifically diabetes and hypertension, two of the main causes of morbidity in Mexican adults), and care for both healthy and ill children aged 0 to 23 months.

The present analysis explores the quality of services provided through a viewpoint in which combining the vision of the providers with the perception of the users over the same service makes it possible to construct a bigger picture regarding the quality and related factors, as well as how and in what manner the technical and perceived qualities affect the impact of the service received.

The health care evaluation was conceived to include information regarding the health care units that served the public in 767 communities of the sample. For various reasons, not all of the communities from the sample were visited (mostly due to weather conditions), nor in all the locations visited was possible to gather information from health care services. In total, information was collected from 495 health care units, although complete information (regarding unit, physicians, nurses, and patients) is only presented for 299 units (60%). These units provide service to 591 of the 733 communities effectively visited for the poll (80%).

The document describes units that were identified as being capable of providing quality services, considering the available public services, infrastructure, equipment, and medicine supply. Subsequently, the evaluation describes the services undertaken by the staff in both care patterns as well as the results of the standardized case care.

Results

UNIT CHARACTERISTICS

The description of the health care units allows identifying whether they fulfill the necessary conditions to offer quality care according to their resources; in particular, whether the available staff, equipment, supplies, and medication are sufficient. The first part of the analysis is an evaluation of the feasibility of quality health care in the visited communities. It also examines the diversity in unit conditions, identifying on the one hand differences according to subsectors, and on the other, variation between units.

Respect to the first element reviewed, it could be observed that the units' access to public services is not universal According to the collected data, the units are powered electrically, but they suffer regular cuts in supply. Furthermore, approximately 30% of the units are not equipped with tab water, and about half are not connected to proper sewage and utilizes septic tanks.

The second element reviewed was the unit's reference system, or its ability to transfer patients with health conditions that cannot be addressed by the unit (because of a lack of trained personnel, lack of equipment, and/or other supplies) to units with larger technical capacities. The centers for the referral of women and children with emergencies or advanced illnesses are located on average about 32 kilometers away, with an average travel time of 1.4 hours.

The units are staffed by 42% physicians and 36% nurses. Most of them report having attended a training class within the last year, and a large percentage also report having received training from *Oportunidades.* However, the health personnel do not use the *Oportunidades* Program guidebook as a source of information, and very few refer to the guidelines and the Official Mexican Standards of care.

According to the collected data, the necessary instruments for regular physical surveying of the users, such as scales, blood pressure monitors, othoscopes, and thermometers, do not exist in sufficient quantities at the units (see figure R1). The same occurs with other forms of equipment perhaps more complex (such as EEG, microscopes, and Doppler) but just as fundamental; these machines can only be found in a minority of the units. The collected data also showed that only 10% of the clinics possess ambulances for patient transport.

In addition, a high percentage of clinics do not have the necessary supplies to monitor conditions associated with the fulfillment of co-responsibilities, such as prenatal care. The short supply of pregnancy urine strips makes it impossible to perform this basic test for pregnant women, and the low percentage of glucose strips, in a country with a high diabetes index, complicates detection of the disease (See Table R1).

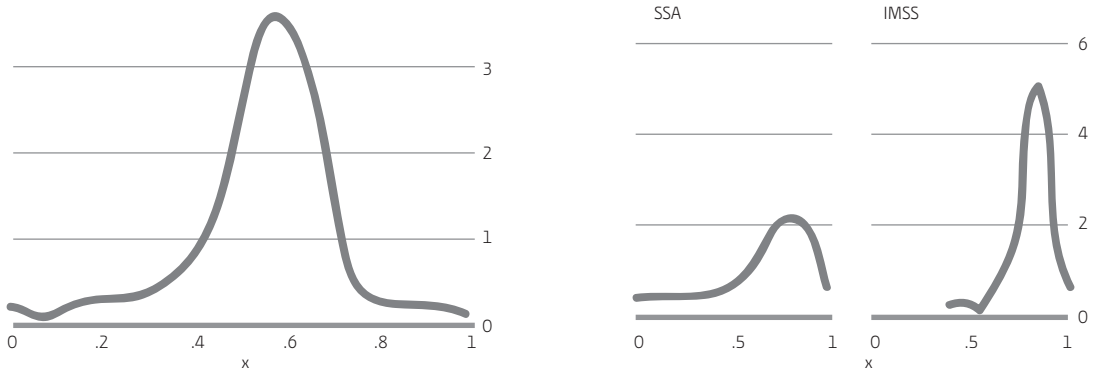


Figure R1
Unit's Minimum Equipment Distribution (percentage of the total)

VARIABLES	GENERAL	SUBSECTOR		VALUE P*
		SSA**	IMSS-OPORTUNIDADES	
Condoms[1]	87%	87%	86%	0.76
Mouthcovers[1]	86%	80%	96%	0.00
IUD[1]	89%	83%	98%	0.00
Vaginal Mirrors[1]	59%	54%	66%	0.01
Gauze[1]	89%	86%	93%	0.03
Lubricating Jelly[1]	83%	76%	96%	0.00
Liquid Soap[1]	60%	67%	47%	0.00
Glucose Strips[3]	78%	73%	89%	0.00
Urine St[1,3ips]	46%	35%	63%	0.00

Table R1
Existence of Medical Supplies

* Probability value of test t for mean's differences
** Department of Health (SSA): Health Clinics, Health centers, Mobile units, Mobile brigades
[1] Necessary supplies for maternity cases
[2] Necessary supplies for attention to children's cases
[3] Necessary supplies to treat metabolic syndrome

PRENATAL CARE

Four hundred and twenty-three pregnant women were surveyed. They were, on average, 25 years of age and had gone to school for six years. Ninety percent were married, and only 10% reported being employed. Forty-five percent of the women were identified as indigenous, 40% belonged to households covered by *Oportunidades,* and 34% to households affiliated with *Seguro Popular.* Of the women attending their first prenatal check-up, 47% were in the first trimester of their pregnancy, 36% were in their second trimester, and 17% were in their third trimester.

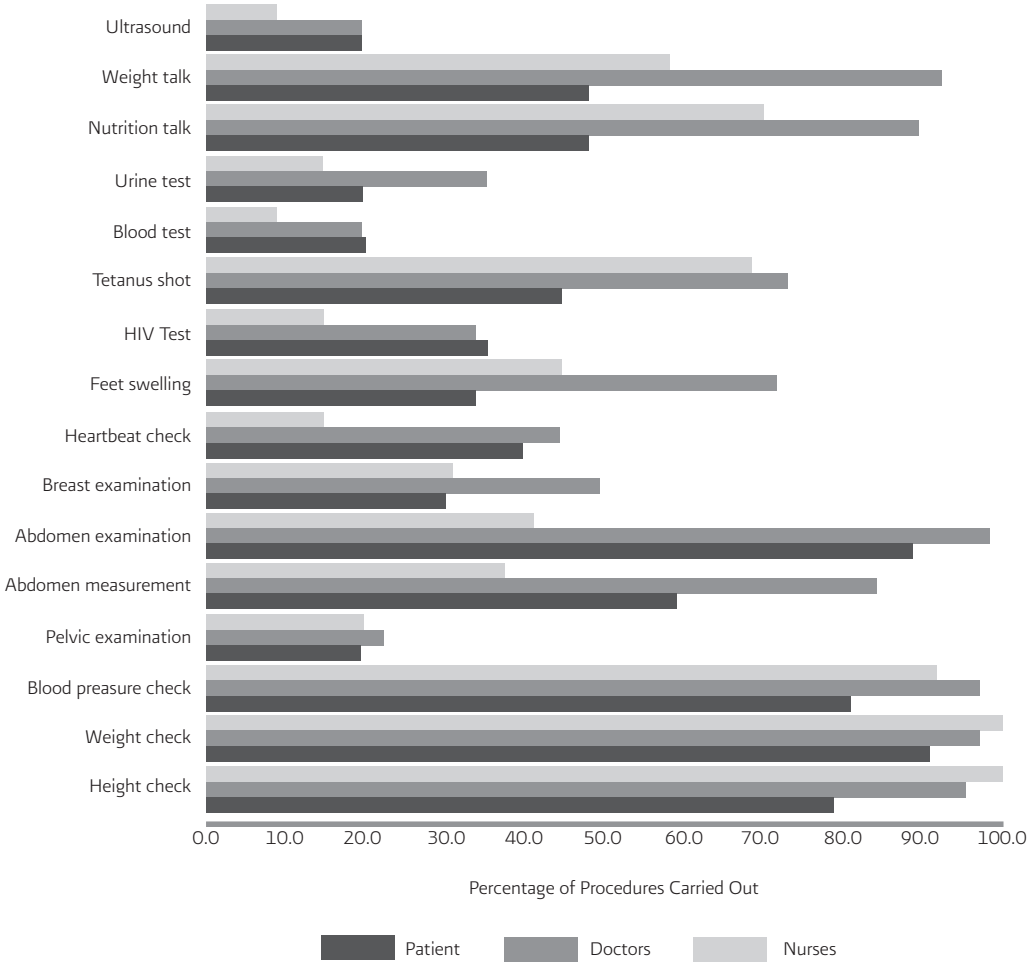
According to the information provided by physicians, it was noted that urine, blood, and HIV tests, as well as other theoretically routine procedures such as pelvic and breast exams, are performed infrequently (see fig R2).

CARE GIVEN TO PATIENTS WITH ILLNESSES ASSOCIATED WITH METABOLIC SYNDROME

Among the 694 adult patients with any of the three diagnostics associated with metabolic syndrome (diabetes, arterial hypertension, or dysplidaemia),* most had been diagnosed with diabetes or arterial hypertension, and 131

* Dysplidaemia refers to any type of alteration in the levels of lipids or fats in the bloodstream, including any form of cholesterol or triglycerides.

Figure R2
Report given by physicians, nurses, and patients on procedures performed during a first visit



presented both conditions. Having a status of dysplidaemia was infrequent and only one of the 13 patients who reported this condition referred to it as his only condition, while the remaining patients referred to it as a co-morbidity associated with diabetes, hypertension, or both.

There is great variability in the proportion of actions and suggestions make to patients. One of the most important actions for a diabetes patient is regular scanning of their blood glucose levels to define the degree of control and ascertain the therapeutic strategy. Although the proportion of patients who received glucose scans was high (higher than 80% in all institutions), it was worrisome that a considerable proportion of diabetes patients did not receive glucose scans.

Since both arterial hypertension and diabetes are significantly associated with dysplidaemias, determining cholesterol levels in all diagnostics is essential to defining cardiovascular risk and initiating medical treatment to reduce blood cholesterol levels in those patients who require management. Although this should be done at least once a year, less than half of the patients reported having a cholesterol test within the last year. Another worrisome finding in this evaluation is the very low frequency assessment of urine tests, which, at least for diabetics, is a necessary action for early detection of renal failure. Only slightly more than one fourth of the patients, and one third of the patients with diabetes, reported having been tested in the last year.

As far as non-pharmaceutical treatment, the data revealed poor adherence to exercise and diet plans; only 45% of the patients reported sticking to diet plans in an adequate manner, while exercise plans fell slightly lower.

As previously mentioned, the usage of standards or guidelines for medical care, especially on the first level of care, has been marked as an indicator of quality of care. In this sense, sixty-seven percent of physicians and about 50% of nurses reported having used some kind of standard or guideline with the patient in question (especially the Official Mexican Standards for medical care for diabetic patients, patients with hypertension, or patients with dysplidaemia). The rest of the health care staff reported using their know-how and previous experience or medical reference books for care.

Nurses rarely ask to carry out lab testing to patients. However, when physicians were asked for a reason why lab testing was not requested, 59% answered that they did not deem it necessary, while 23.6% said they did not have access to lab tests (without any major differences between institutions). This observation suggested that, independently of lab access, physicians do not consider regular monitoring tests such as glucose levels to be a fundamental issue in the observation of patients with chronic metabolic disease.

CHILD CARE

Care practices for children under the age of two were evaluated using data from 284 health care providers (29.58% nurses and 70.42% physicians) and 556 children who employed these services. The median age of the children was 12 months, and approximately 50% were girls. Among all of the children, 43% lived in *Oportunidades* beneficiary households.

The reported principal reasons for visiting the health center were respiratory problems (39%), followed by fever (21%) and diarrhea (14%). A quarter of the children visited the health care unit for a healthy child consultation. During the consultation 62.9% and 56.3% of the physicians and nurses respectively evaluated the presence of cough and fever. Only 3.8% evaluated the presence of diarrhea. The majority of physicians and nurses compared children's weight to a table or reference graph, but only 5.2% evaluated feeding practices; this percentage was even lower for children with low weight or length. On the other hand, 53% of the children who did not need antibiotics received them.*

In relation to the perceived quality, 90% of respondents (parents or other people accompanying the child) reported understanding the diagnosis. Three quarters of the respondents considered the care provided at the health care unit to be good. No differences were found between users of the Department of Health (SSA) or IMSS-*Oportunidades.*

RELATIVE UNIT QUALITY AND ASSOCIATED CHARACTERISTICS

A structure quality index was created using the information obtained from 408 units; the index values from the first factor of the factorial analysis were designated between -2.4 and 3.5, with higher values ascribed to units with better structural conditions.

Figure R3 presents the distribution of the index and the associated extremes in structural quality. It identifies a group of units that requires immediate attention, another of medium quality with an important margin for improvement, and a small group of units that could offer lessons for successful practices.

WORKSHOPS TO PROMOTE HEALTH

With the exception of the smallest ones, all health care units reported offering training workshops or talks on self-care. Generally, the physicians and/or nurses offer these workshops and report having the appropriate materials for the task, which they consider useful.

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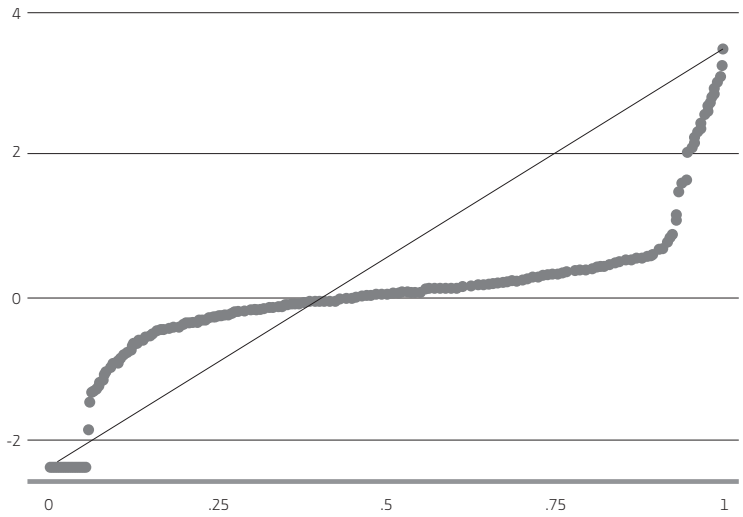
* Based on the established criteria regarding developed indicators for the strategy employed for child health, known as the Integrated Management of Childhood Illness (IMCI) by WHO. See Table 1 for a detailed definition.

Figure R3
Distribution of the structural quality of health care units



Discussion

GENERAL DESCRIPTION OF CLINICS

Half of the health care units are not equipped with the necessary infrastructure or supplies for childbirth care; only 51% have delivery rooms and less than one tenth have ultrasound equipment. Considering the needs of diabetes patients, nearly one fourth of the centers do not perform glucose tests, and only 10% perform glycosylated hemoglobin tests. In a country highly prone to anemia and diabetes, the units are not equipped for detection and monitoring of such conditions, which make preventing their associated complications impossible.

In general, the units visited have a reduced capacity to offer adequate healthcare to their users and face a significant lack of basic supplies.

QUALITY PRENATAL CARE

Ninety-three percent of the visited units had both doctors and nurses present, while in the remaining 7% comprising mostly rural and IMSS-*Oportunidades,* the staff present consisted of only nurses and aides.

In general, key tasks such as pelvic, breast, and lab exams were performed infrequently according to each of the three sources (healthcare providers and patients). Although some routine tasks, such as blood pressure or weight measurement, were frequently conducted, counseling related to weight management and nutrition was limited. This could give the impression that, despite efforts by health care providers to value women's health, their actions are not supported by advice on how to maintain a healthy pregnancy.

It must be noted that, in all cases, lab tests and auxiliary procedures like ultrasounds appeared to occur with very low frequency according to all sources, including healthcare providers, patients, and even the prenatal card registry.

It is also important to highlight that according to the information registered in the prenatal card registry, indigenous communities have decreased access to lab tests and tetanus vaccines, which considerably limits appropriate follow-up with pregnant women from these communities.

QUALITY CARE FOR METABOLIC SYNDROME

The under fulfillment of the norms, especially those related to the regular monitoring of metabolic control and timely detection of chronic complications, appeared to be the norm. This oversight was reflected in the low rate of patients with cholesterol check-ups and urine testing, and the low or non-existent rate of scheduling for habitual glucose control through standard means, such as glucose while fasting or glycosylated hemoglobin tests.

Despite the evidence of poor control, a lack of modification of the treatments offered to users was observed, resulting in static treatments that are probably not effective enough to achieve a proper control.

Finally, a lack of support from specialists was found with regard to diet counseling and other non-pharmaceutical treatments in the visited units. Management of diet and exercise is the cornerstone in the integral treatment of patients with metabolic syndrome conditions. The low observance of these measures, along with a very low number of appointments that could be used to evaluate the proportion of patients that are part of a support group, are clear elements that have a lot of room for improvement.

QUALITY OF CARE PROVIDED TO CHILDREN

Although the average wait time in the health care centers was longer than an hour, the majority of users evaluated the wait time as acceptable or short.

There were a number of important observations with respect to the technical quality of sick child consultations. First, it appears that basic physical evaluation or exploration of symptoms such as the presence of cough, diarrhea, and fever did not get much attention during consultations. Second, the majority of the staff actually did compare weight to a table or reference graph. Still, it seemed that an integral evaluation of the nutritional status of the child was not a priority—and food practices were evaluated in less than 6% of cases.

The third point relates to the use of oral antibiotics. Very few children were diagnosed –according to WHO standards– to have a justified need for the use of antibiotics. However, at least half of the cases evaluated had been prescribed antibiotics. Among the children who did not need an antibiotic 46.7% received a prescription anyway.

The fourth point is that approximately 97% of the users knew how to prepare an oral rehydration solution even though only 60% of the physicians/nurses had shown how to use this treatment.

The general conclusion about perceived quality was that parents (or other people accompanying the child) evaluated the services favorably. However, 10% reported not understanding the diagnosis, and 24.7% believed that the quality of care could be improved.

THE QUALITY OF THE VISITED UNITS

For this study, two quality dimensions were analyzed: structure and processes of the health care provided. As far as structure is concerned, the results pointed out important deficiencies that limit the possibility of offering quality care to users. The established processes also showed deficiencies. The medical staff, in many cases, was not undertaking the necessary actions to offer proper health care to users. This was particularly critical in relation to monitoring tasks to prevent complications in the three analyzed health conditions.

Additionally, the results of the standardized cases were worrisome. The percentage of medical staff that was able to reach an accurate diagnosis and offer proper treatment was low.

The structural quality of the units was categorized into three groups: one with major shortages, an average group with significant opportunity for improvement, and a small group with above average results. For its part, the process quality index showed significant gaps in the services provided at the units visited.

These observations (deficiencies in structure and processes) pointed out important challenges in the quality of health care, which may result in substandard service. It is necessary to further analyze these results along with the health results obtained for the users. However, the hypothesis that insufficient improvement in users' health is associated with problems with the quality of services provided is reinforced.

SWOT Analysis

DOCUMENT: QUALITY EVALUATION OF HEALTH CARE PROVIDED TO THE OPORTUNIDADES BENEFICIARY POPULATION

SUBJECT	STRENGTHS AND OPPORTUNITIES/WEAKNESS OR THREAT	RECOMMENDATION RECOMMENDATION REFERENCE
	STRENGTH AND OPPORTUNITIES	
Quality of Prenatal Care	A high frequency of prenatal care routine procedures, such as blood pressure check, weight check, size check, abdomen check, etc., was reported by doctors, nurses and patients.	Not Applicable
Quality of Prenatal Care	In general, most of the key information was recorded on the prenatal card, including the woman's age, number of pregnancies, number of abortions, date of last period, probable date of birth, tetanus shot, weight, and blood pressure.	Not Applicable
Quality of Prenatal Care	Indigenous and non-indigenous women had a high frequency of record of basic information on the prenatal card (woman's age, number of pregnancies, expected date of menstruation and date of birth, etc.).	Not Applicable
Attention Quality: Metabolic Sx	The great majority of patients with chronic diseases, such as high blood pressure and diabetes, attended a health center frequently (at least four visits per year) and had a medical record at the clinic.	Not Applicable
Self-care workshops	With the exception of the smaller units, all units typically reported implementation of self-care workshops, although in some cases they are known like talks.. In general the doctors and/or nurses are in charge of the workshops; they reported having the necessary materials, and considered these activities useful	Not Applicable
	WEAKNESS OR THREAT	
Structural Quality of Units	There were deficiencies of basic equipment for patient care. Necessary instruments for the regular physical examination of users, such as scales, sphygmomanometers, otoscopes, and thermometers, did not exist in a significant percentage of the units, especially if 100% of the clinics were expected to be well stocked.	The Program must work with the health sector towards reinforcing unit equipment to guarantee the supply of basic equipment.
Structural Quality of Units	There were clinics in which there were not even tongue depressors or gauze. A high percentage of clinics did not have the necessary supplies for monitoring the conditions associated with their responsibilities, such as prenatal care consultations. The limited supply of urine test strips makes it impossible to perform this basic test on pregnant women, and the low percentage of available glucose test strips, in a country where diabetes prevails highly, complicates detection of this ailment.	The Program must work with the health sector towards reinforcing unit equipment to guarantee the supply of basic equipment.
Structural Quality of Units	There were only a few services additional to consultations provided by clinics. Basic tests such as determination of hemoglobin and urine tests were offered at only a small percentage of units. The PAP test was practiced in only 72% of the units, and the obstetric ultrasound was practically nonexistent at these health units (4%).	The Program must work with the health sector towards reinforcing unit equipment to guarantee the supply of basic equipment.

Structural Quality of Units	The units that normally offered more limited services received even fewer resources than those they needed to work.	The infrastructure of first level health services provided to the Program beneficiary population must, in general, be reinforced, emphasizing services with the greatest current deficiencies. Based on MIDAS, the Rules of Operation may specify the minimum conditions under which a unit can operate to provide the services that are part of the Program.
Structural Quality of Units	Among a selection of up to 12 medical records per unit, only 45% included medical appointment registration programming and approximately 25% reported attendance at education sessions or their programming.	The existence of complete records has been considered as a quality indicator; the Program may generate incentives according to its demand and correct use if they are included as part of the documents that must be possessed by the beneficiaries.
Quality of Prenatal Care	When analyzing the frequency with which certain procedures were carried out among doctors of the health care units providing services to women covered by *Oportunidades* Program, it was found that laboratory tests (urine tests, blood tests, and HIV detection tests) were very infrequent.	*Recommendations for the health sector:* Reinforce the lab services offered at units that provide services to women of the *Oportunidades* Program, whether via strengthening of the infrastructure and availability of resources or through reinforcing referral of the women to other health units.
Quality of Prenatal Care	Sixty percent of pregnant women interviewed outside the health care units reported using the prenatal card. The percentage was not as high as expected.	*Recommendations for the health sector:* Motivate use of the prenatal card among pregnant women who use health services.
Quality of Prenatal Care	The record of lab tests and their results was low among actions carried out for prenatal care recorded on the prenatal card. This may be related to the fact that women do not have access to lab tests.	*Recommendations for the health sector:* Reinforce the lab services offered at units that provide services to women of the *Oportunidades* program, whether via strengthening the infrastructure and availability of resources or through reinforcing referral of the women to other health units.

Quality of Prenatal Care	The registration of lab tests and their results was lower among the indigenous population than among the not indigenous population..	*Recommendations for the health sector:* Strengthen access of the indigenous population to prenatal care laboratory services.
Quality of Prenatal Care	Nineteen percent of those in the group of women declaring use of some kind of birth control method felt compelled by the doctor or nurse to use a birth control method.	*Recommendations for the health sector:* Improve the supply of information related to the benefits to women of using birth control methods.
Attention Quality: Metabolic Sx	There is a low compliance of clinical standards and guidelines, especially for regular monitoring of metabolic control and timely detection of chronic complications, translating into a low rate of patient cholesterol and urine albumin determination and little to no programmed periodic glucose control by standard means, such as glucose levels during fasting or, ideally, as glycosylated hemoglobin.	*Recommendations for the health sector:* Given that an important proportion of doctors did not consider the request for regular tests important, training courses for health personnel designed to reinforce this concept could have a considerable impact on the technical quality. Improved access to laboratory tests should also be explored as an intervention aimed at improving the supervision of this type of patient.
Attention Quality: Metabolic Sx	Treatments offered by the visited clinics lacked intensification and dynamism, which was reflected by the very high proportion of patients referred who have not had a change of treatment since their ailment started, and by the fact that the prescribed treatment was not changed even after the doctors had identified the lack of an effect in patients with a chronic illness.	*Recommendations for the health sector:* Specific training for treating doctors to make use of pharmacological prescription, including the use of insulin, may impact the degree of control of this type of patients.
Attention Quality: Metabolic Sx	There is an absence of participation of specialists with regard to diet counseling and other non-pharmacological treatments. The low adherence to the latter, in addition to the very low proportion of specific consultations to evaluate the cases or the low proportion of patients that belong to self support groups, are clearly aspects susceptible to modification.	*Recommendations for the health sector:* Strengthen the participation of support personnel in the creation of multidisciplinary care teams, including self support groups and access to an ophthalmologist, may have a great impact.
Attention Quality: Children	Of the total child consultations analyzed, only 5.2% evaluated feeding practices, and this percentage was zero in children with low weight and/or length.	*Recommendations for the health sector:* It is important to strengthen personnel training at clinics to improve the care provided to children.

Quality Index	Analysis of the factors associated with the quality of units shows that the variable with a greater association with structural quality is the participation of the clinic as a service provider for the *Seguro Popular*. In addition to this variable, an investigation of the role of variables associated with personal characteristics, none of which were significant.	The Program must reinforce *Seguro Popular's* coverage of population and promote that units serving the population benefited by both programs obtain additional resources for infrastructure and equipment from the Program.
Quality Index	The categories generated permit the identification of a group of units that require immediate attention, a group of medium quality with a significant margin for improvement, and a group of units that can offer successful practical lessons.	It would be advisable to establish the evaluation of quality as a permanent process that is used to inform users, and as an additional mechanism of social control over the received services.

Living in Poverty: An Analysis of Health. Disease and Care Processes Among Rural Indigenous Households

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Introduction

The purpose of the *Guaranteed Basic Healthcare Package* (*Paquete Básico Garantizado de Salud*) is to provide first-level healthcare to beneficiaries of the *Oportunidades* Program. Through education and the dissemination of information related to personal healthcare, and by promoting regular visits to first-level health clinics as a means of facilitating the prevention of diseases and encouraging the practice of "self-care",* the package aims to improve the health of its beneficiaries (and thus their fitness to work and study). The *Oportunidades* Program affects various aspects with regards to health and, accordingly, requires a variety of approaches when assessing its impact. By *impact* we mean "any modification in the living conditions of the beneficiary domestic groups who might be directly or indirectly associated with the program".[1] This document will analyze the impact that the Guaranteed Basic Healthcare Package has had on the development of preventative and self-care practices among the domestic groups in our study sample through the dissemination of relevant health information, and will describe the conditions and provision of primary healthcare and its influence on the health practices of the households in the study, using the healthcare trajectories‡ of said households as our main source of data.

The main objective of this analysis is to understand the way in which the quality of medical care received (as perceived and experienced by its users/patients) influences the general health of families, the lengths they have to go to find appropriate healthcare and finally, how it affects the development of their physical capabilities, aspects which, as a whole, allow us to evaluate the program's health component in terms of its objectives, determining its ideal operation. We will describe the impact of the processes associated with health, sickness, and healthcare on domestic economies and the financial strategies, known as *economic confrontation strategies*,§ employed to cope with these situations. These descriptions not only provide an overview of the way in which families deal with the aforementioned processes, but, more broadly speaking, offer an insight into the relationship between access to healthcare and the structure of opportunities, which affect a household's potential to improve its economic situation and thus provide individuals with the possibility of having access to healthcare, education services and work opportunities.[2] Moreover, they allow us to comprehend the limitations or efficiency of the Guaranteed Basic Healthcare Package.

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* *Autocuidado* or "self-care" refers to the basic practices involved with looking after one's own health (and the health of the family): taking preventative measures, curing oneself of common maladies, and seeking (and following) medical advice in a timely manner.

‡ By "healthcare trajectory", we understand the following: "The sequence of decisions and strategies implemented by individuals to face a specific episode of illness. Such strategies include a series of social decisions and practices aimed at ending the illness, which involve all the institutions, medical services and healthcare models that are available to them, as well as, the individuals who take part in their operation, the sick/patients, therapists and other mediators, personnel in charge of providing patient care and of administering or stopping treatment, and who offer advice and provide solutions".[3] Throughout this document, healthcare trajectories and therapeutic itineraries are synonymous terms that we use to refer to the concept previously described by Osorio.[3]

§ *Economic confrontation strategies* should be understood as the set of resources (non-monetary and monetary) and strategies (loans, sale of assets to cover transportation expenses, medicines, medical interventions) and social networks (family or community) households utilize to cover the expenses accrued from medical emergencies.

Thus, this study has three main objectives:

a) To describe the conditions of first-level (primary) healthcare.
b) To determine if these conditions, in conjunction with the *Oportunidades* program, are having an effect on the general health of beneficiary households and the steps they take to access healthcare (*the where, when and how healthcare is sought).*
c) To identify the impact of the Guaranteed Basic Healthcare Package on the development of preventive and self-care practices in the studied households, comparing domestic groups who have been incorporated into the *Oportunidades* Program with non-beneficiary households, basing our analysis on the experiences of users/patients and their perceptions of quality.

Methodology

Twelve micro-regions were studied, three in each of the states of Oaxaca, Chiapas, Chihuahua and Sonora. The micro-regions were as follows: The Mazateca, Costa, and Mixe micro-regions in Oaxaca; Las Margaritas, Tumbalá and San Cristobal de las Casas micro-regions in Chiapas; Yepachi-Maycoba, Norogachi and Samachique micro-regions in Chihuahua; and Yaqui, Mayo and Guarijía micro-regions in Sonora. One of the main objectives was to discover what perceptions the medical teams had of the community in which they worked, the general state of health of the community's resident families, the working conditions of health service personnel, the quality of services offered, and their opinion regarding the *Oportunidades* Program and the co-responsibilities of the Guaranteed Basic Healthcare Package. We interviewed health service providers in charge of rural medical units and clinics in the communities of the studied households, including doctors (male and female), nurses (male and female) and rural healthcare assistants. Observations were made during community workshops, the medical consultations of families (a co-responsibility of the *Oportunidades* Program) and of the different types of healthcare provision (local health services).

An initial sample of 183 households with the following characteristics was chosen:

Table 1
Analytical household sample

OPORTUNIDADES STATUS	ETHNICITY	CHIAPAS	CHIHUAHUA	OAXACA	SONORA	TOTAL
Beneficiaries	Indigenous	24	12	11	13	60
Beneficiaries	Mestizo	8	12	10	14	44
Non-beneficiaries	Indigenous	7	12	14	11	44
Non-beneficiaries	Mestizo	6	12	7	10	35
TOTAL		45	48	42	48	183

Data compiled by Mercedes González de la Rocha (2008)[2]

According to the final composition of this analytical household sample,* two databases were built, one based on the households' healthcare trajectory and another on their reproductive history. The healthcare trajectory database included the following variables: ethnicity; program exposure; community; sex; age; type of illness and an explanation of the illness or its cause, according to the family; what measures they took and the decisions they made to resolve the illness; cost of the treatment and of the search for medical attention; basic sanitation and opinions or perceptions regarding local healthcare services. In total, we documented 348 therapeutic itineraries: 98 in Oaxaca, 85 in Chiapas, 92 in Chihuahua and 73 in Sonora. The reproductive history database included the following variables: ethnicity; program exposure; community; gender; current age (2008); age at the birth of first child; age at the birth of last child; type of care received during pregnancy and childbirth; number of births (alive, deceased, abortions); type of birth control methods used by the interviewee throughout her life; pregnancies and access to birth control methods. In total, 299 reproductive histories were documented – 38 in Oaxaca, 44 in Chiapas, 92 in Chihuahua and 55 in Sonora.

* According to the analytical sample, reference will be made to *long exposure households* and to *recent exposure households* throughout the document. The former refer to those households that have been *Oportunidades* Program beneficiaries since 1998 and the latter to those that have been beneficiaries since 2007.

Results

The types of service providers who have the potential to become involved in the provision of everyday medical care are very diverse. Although this document only deals with the conditions under which healthcare services operate, the inhabitants of the studied micro-regions have access to four types of local healthcare service providers:

a) Public sector healthcare service providers.
b) Private sector healthcare service providers.*
c) Health service providers affiliated with religious organizations (exclusively in the case of the Samachique – Misión Tarahumara – and Norogachi – Clínica San Carlos – in the Chihuahua micro-regions)
d) Traditional healthcare service providers.‡

To understand the structure and condition of those services, we will now provide a brief description of the resources – material, medical and human – of the primary healthcare centers in the micro-regions, which implement the policies of the Guaranteed Basic Healthcare Package.

Oaxaca. The healthcare services offered in the studied micro-regions of Oaxaca show signs that the presence of community clinics and rural medical units does not guarantee good healthcare services for the local population. Given the poor medical and material resources, the quality of healthcare services in these areas (with a high concentration of indigenous inhabitants) is deficient and clinics face multiple obstacles in achieving the *Guaranteed Basic Healthcare Package*'s objectives.

Chiapas. Out of all the micro-regions in Chiapas, only the IMSS-*Oportunidades* Rural Medical Unit (RMU) in Saltillo, Las Margaritas has an on-duty medical intern, Monday through Friday. The rest operate under the responsibility of nurses and auxiliary nurses, which is a fundamental concern that explains why medical attention for the studied households is deficient in this southern state.

The presence of first-level healthcare centers in the visited communities is minimal, meaning that residents have to travel outside of their home communities to receive first-level medical attention. This is another element that explains why local residents, who cannot travel outside of their home communities in search of quality medical attention owing to lack of resources, have poor health. On this matter, it is important to point out that the existence of community clinics and RMUs does not mean that residents in the studied micro-regions actually receive this type of medical attention; the fact that many doctors have never delivered a child is clear evidence of the inefficiency of services at the local healthcare centers.

Chihuahua. The presence of private and religious healthcare institutions in the studied micro-regions in Chihuahua meant that we were able to compare the services they provided with that of the public institutions in the same areas. The comparisons illustrated the deficiencies of the state healthcare centers and RMUs in terms of human resources and materials, and proved how, despite the population's marginal conditions, the obstacles they endure because of their regional geography and because of the ethnic differences between the users of medical services and those delivering medical attention, healthcare and medical services can still be delivered in an efficient and coordinated manner.

Sonora. Although the high demand for healthcare is the main cause of poor medical attention in the Yaqui micro-region, long waiting times and insufficient resources is common, it is here, out of all the regions studied in this state, that has the broadest range of healthcare services. This characteristic is influenced by the great diversity of public institutions

* Local and regional drugstores used as 'healthcare' centers: for example, the "Farmacias Similares" (Dr. Simi).

‡ Mainly traditional or indigenous medicine, and, to a lesser extent, alternative or complementary medicine.

offering healthcare services, and by the fact that the region has better infrastructure and more professional medical teams in comparison to other micro-regions in Sonora.

Among the studied micro-regions in Sonora, the Guarijía region in general presented the greatest shortage of personnel and the worst infrastructure; however, the community that was visited had two first-level healthcare options, provision that was not found in other micro-regions where residents of the communities we visited were forced to travel to other communities to obtain medical attention. This scenario suggests that even though the Guarijía is the micro-region with the least number of healthcare service options in the state of Sonora, it actually enjoys better service delivery than any other micro-region in the rest of the states we visited during the investigation.

FINDINGS AND COMPARISONS BETWEEN STATES AND MICRO-REGIONS

The descriptions of the various healthcare scenarios that follow will allow us to identify the similarities and differences in terms of healthcare provision among states, and even within the micro-regions. In this section we shall briefly identify the characteristics that are common to the micro-regions within the different states under study and those that are peculiar to them, highlighting the heterogeneity of the scenarios. This data will be useful later in the analysis when we focus on the obstacles or advantages that households encountered when experiencing unresolved episodes of illness.

First of all, excessive demand for public healthcare services is a characteristic shared by all micro-regions in the study. After ten years of operation, *Oportunidades* has undoubtedly contributed to bringing its beneficiaries closer to the state-run medical system. However, despite efforts to provide RMUs with better infrastructure, human and material resources remain insufficient to meet the demand for medical attention. In general, we found that the Department for Health (SSA) healthcare centers offered the best conditions in terms of infrastructure and furnishings: waiting rooms and private consultation rooms furnished with cots for the examination of patients. Bedrooms and bathrooms were available for medical personnel.* Nevertheless, centers continue to exhibit limitations with respect to adequate waiting rooms and inappropriate spaces to carry out workshops.

Regarding medical equipment, most of the healthcare personnel interviewed, regardless of the type of health center where they worked, said they did not have an assigned basic set of medical examination instruments, including a stethoscope, lamp, vaginal mirror and ostoscope.‡ In general, local healthcare centers have a set of scales (not always in the best condition), a sphygmomanometer§ and tongue depressor. On the other hand, *casa de salud*s (small local health clinics/units) generally have to manage without a sphygmomanometer, complicating the regular monitoring of blood pressure for patients who have already shown evidence of, or who may be predisposed to, high blood pressure and who live far from community health centers where their blood pressure could be monitored every month. Inadequacies in terms of infrastructure, instruments and supplies make it very difficult for healthcare providers to fulfill the Guaranteed Basic Healthcare Package's commitment to preventative practices, practices such as the timely detection of high blood pressure, diabetes, metabolic syndrome and the performance of the Papanicolau test (Pap). We also observed that the irregular or complete absence of necessary items such as glucose test strips for dextrosis tests, sphygmomanometers and Pap test materials generate skepticism amongst patients or users, especially when the tests cannot be completed because of the shortage of adequate materials.# These deficiencies discourage users from being tested again.

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* With the exception of the IMSS *Oportunidades* RMU in the Mazateco micro-region where, even though RMU facilities were smaller in comparison to the SSA healthcare center facilities, the equipment was of better quality and they had radio communication technology and a computer on which to keep files for the new electronic filing system. In comparison, the SSA healthcare centers used the communication system of the municipal government, examination beds were not in the best of condition, and there was a shortage of bed linen, patient robes, and even uniforms for healthcare service personnel. In addition, there were shortages of medical supplies, medicines and fast HIV and dextrosis tests in addition to supplies for Papanicolau testing.

‡ Instrument that enables the observation of the auditive tract up to the eardrum.

§ A sphygmomanometer is an instrument that allows the measurement of blood pressure. Its use is of great importance in medical diagnosis, since it allows detection of any anomalies related to blood pressure and the heart. The sphygmomanometer is an essential instrument for the prevention of hypertension and the identification of cardiac risk.

This information was derived from the interviews performed in the households and from the observations of service providing centers carried out by field researchers.

At this point it is important to note that despite the shortage of resources required to operate public healthcare institutions being a reality in all of the micro-regions, the degree to which this occurs varies greatly. The most evident disparities were noted when comparing the situation of the micro-regions of Chiapas and those in Sonora. The most unfavorable conditions in terms of infrastructure, equipment and human resources were reported in Chiapas, mainly with respect to the supply of medicines for high blood pressure and diabetes. The supply of these medicines is relatively sufficient in the other states in the evaluation, especially in Sonora and Oaxaca.

A regular supply of medicines has a powerful effect on the demand for primary health services. It is clear that the decision of healthcare centers to function as dispensaries is worthwhile and highly beneficial to the local population, as in doing so they are able to monitor and control the treatment of patients, even though they continue to be deficient with regard to prevention and health advice. The supply of medication has also had a positive effect on the finances of households, and is an impact that is most evident among families recently enrolled in the program and that previously had to pay for those services. Similarly, it has had favorable consequences with respect to changing the perceptions of households with diabetic members regarding the efficiency of the services offered by first-level health centers.

In terms of human resources, we observed that in micro-regions with a greater number of indigenous households, such as Chiapas and the Sierra Tarahumara and Pima communities, it is common to find medical attention being provided by healthcare auxiliaries. For example, SSA healthcare centers in El Encanto, Chiapas and in Mayocoba in Chihuahua are under the supervision of one nurse and a health assistant; they also have the support of a medical intern, but his attendance is irregular in both areas. In contrast, the SSA healthcare centers in the Yaqui and Mayo micro-regions have plenty of medical equipment available, they have, on average, three full-time doctors, and at least one of those doctors is a qualified M.D., while the other two are interns. They also have between two to six nurses, as in the case of the Vicam unit, where there is even a dentist. However, these conditions do not extend to the Guarijía micro-region, which presents characteristics of marginalization similar to those found in the communities in the Sierra Tarahumara and Chiapas. In Burapaco, in the Guarijía micro-region in Sonora, the SSA healthcare center is under the supervision of one assistant nurse. In comparison, the average level of medical attention exhibited by the health centers of the micro-regions in Oaxaca is of an intermediate standard: medical personnel at the SSA healthcare centers usually consist of at least one qualified doctor and a nurse.

The most evident contrast occurs among the studied micro-regions in Sonora and Chiapas. While the IMSS-*Oportunidades* RMUs in Sonora, like the SSA health centers, have, on average, more than two qualified doctors and more than two certified nurses in charge, in Chiapas, out of the four first-level medical institutions studied, only one had a qualified doctor. The difference between the states of Sonora and Chiapas also becomes evident when comparing their degree of marginalization.* Sonora has been categorized as a state with a "low" level of marginalization, while the level of marginalization in Chiapas is considered to be "very high". Of the 72 municipalities in Sonora, only one has a "high" degree of marginalization, while, in Chiapas, only five out of 118 municipalities have a "low" degree of marginalization, and the remaining municipalities range from "medium" to "high" and "very high". This data, combined with the findings of the fieldwork, allows us to suggest that the areas with the highest degrees of marginalization are also those in which public healthcare services are the most deficient. Thus, the impact of the *Oportunidades* Program will be limited by the conditions of the environment in which it operates, preventing it from fulfilling its objective of improving the health and physical well-being of its beneficiaries, indigenous or non-indigenous. Consequently, it is essential that the Department for Health commits to an overhaul of its policies and organization as means of implementing strategies that will make its operation more efficient and effective.

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* The following data with respect to marginalization refers to the last report published by the National Survey on Occupation and Employment of the fourth quarter of 2005 (Encuesta Nacional de Ocupación y Empleo del IV). The data was adjusted in relation to the new population estimates resulting from the 2000-2005 Demographic Conciliation (Conciliación Demográfica 2000-2005), as well as the adjustments of the 2005 Second Count on Population and Households carried out by the INEGI (II Conteo de Población y Vivienda 2005), as a result of the consolidation of files and territorial integration of the communities, substituting the previous version of the marginalization indexes that was announced via this medium on October 4, 2006. Available at: http://www.conapo.gob.mx/publicaciones/indice2005.htm

As mentioned previously, the presence of private and religious healthcare institutions in the studied micro-regions in Chihuahua allowed us to compare the performance of public institutions with their private counterparts in the same areas, which highlighted the deficiencies in human resources and materials that exist in public healthcare centers and RMUs. It also proved that, in spite of the marginal conditions of the population, the geographic barriers and the ethnic differences between patients and the healthcare personnel, medical attention and healthcare can be offered in an efficient and coordinated manner.

PATTERNS IN HEALTHCARE PROVISION

While the *Oportunidades* Program has indeed increased the demand for primary healthcare services, mainly generated by the fulfillment of co-responsibilities, after ten years of operation the conditions and quality of services have not matched this demand. To a large degree, healthcare provision in the micro-regions in the study is determined by their infrastructure and access to services in general. These conditions were relatively better in the northern states than in the southern ones, and especially so in the Yaqui and Mayo micro-regions in Sonora, as a consequence of a more diversified public service network and because of its location within the jurisdiction of an urban *hinterland,** meaning better access to services. Services were also more accessible in the mountainous regions of the Tarahumara in Chihuahua (Samachique and Norogachi) because of the presence of religious medical institutions.

In communities where the standards of first-level medical attention and the successful treatment of ailments is inadequate there is a trend towards going to urban areas in search of better healthcare, which also means the under-use of local health services for the fulfillment of the program's co-responsibilities. The limited effectiveness of public rural clinics creates numerous obstacles to the access of households to quality medical attention and presents difficulties in developing the Guaranteed Basic Healthcare Package. As a consequence, rural and indigenous populations show little confidence regarding the attention they receive from local healthcare centers. This mistrust was observed mainly in households from the six micro-regions in Oaxaca and Chiapas, in Yepachi-Mayocoba and in the Guarijía micro-region in Sonora, and affects the general health and quality of life in these communities in many ways. When households have to leave their communities in order to resolve health issues because they mistrust their local health centers, it has serious consequences for the domestic economies of these families, most evidently for indigenous households.

Families living in the communities of the Norogachi and Samachique micro-regions — where the quality of services was higher owing to the presence of religious medical institutions and because of an IMSS-*Oportunidades* RMU that provides adequate family planning advice and antenatal care — serve as a example of how effective local healthcare tends to reduce the time needed to find and receive treatment, as well as its financial costs. On the other hand, the profound social inequalities experienced by Rarámuri households are unacceptable, especially with regard to those aspects that affect their health (water supplies, housing and transport) and are associated with their geographical marginalization. In the Yaqui and Mayo micro-regions in Sonora, the diversity of public medical services represents a wider range of options and determines the standard of healthcare practices amongst its inhabitants. Households in these micro-regions, even indigenous ones, attend local healthcare centers more frequently, and the costs of medical attention are generally less than those documented in indigenous households in the southern micro-regions. The poorest conditions, in terms of infrastructure and quality of services, were documented in the micro-regions in Chiapas, Oaxaca, in Yepachi-Maycoba, Chihuahua and in Guarijía, Sonora. In these communities, it was revealed that the studied households frequently attended private clinics and laboratories or public hospitals (often located far from their communities) when searching for treatment, incurring great transportation expenses. The cost of traveling great distances to attain quality healthcare often means that the potential to resolve health issues in the long term is diminished, as often these trips are cut short, because of economic limitations, before the

* *Hinterland* means the territory or communities under the influence of a health center that are visited by health teams to perform tasks generally aimed at basic sanitation, vaccination, etc.

patient has completed their course of treatment. What happens as a consequence is that unresolved health issues simply become part of everyday life and reduce the capacity of families to work and study, consequently accumulating disadvantages. Moreover, the members of households with unresolved illnesses tend to accumulate additional health problems, which also remain untreated and add a further challenge to the family's potential to generate economic resources that could improve their standards of living (and treatment of future ailments).

Unresolved episodes of illness frequently result in a change of domestic roles within a household – from economic provider to patient or carer, from student to child laborer – frequently because of economic difficulties brought about by the illness. This process was more evident in indigenous households where the quality of local healthcare services was poor. The most common occurrence was the premature entry of adolescents into the labor force at the expense of their schooling in order to help support their households owing to the illness of a key economic provider, or the abandonment of school because of the student's own ill health. This pattern in response to health crises was highly evident in the Tumbalá micro-region in Chiapas, where, even for former student beneficiaries, the viability of continuing their schooling careers was limited by their access to healthcare services. We believe that the implications of these kinds of scenarios, which are typical among domestic groups living in conditions of greater vulnerability, could make these students candidates for differential benefits, especially in the case of youths who live with chronic ailments or whose parents suffer from those ailments.

In communities that have limited healthcare provision and where residents are often forced to seek medical attention in other regions, consideration should be given to the implementation of an appropriate and widespread referral system, forming links between health institutions in rural areas with those in urban centers, that facilitates the monitoring of patients (in particular beneficiaries) and appropriate aftercare.

In spite of the aforementioned tendency to search outside of local communities for medical attention, the fieldwork provided plenty of ethnographic evidence that allowed us to confirm that there was still a real user demand for local services, especially with regard to households' access to medical advice, medicines and help in obtaining "referrals" or "recommendations" that might be useful in getting users to urban hospitals or access to other health centers further a field. In contrast to non-beneficiaries, who were less likely to visit their local health centers, there was evidence to suggest that beneficiaries recognized the benefits of attending the rural clinics when in need of treatment for generally chronic or minor ailments (as in the case of pre-natal care in Samachique). Commonly, these ailments are related to general aches and pains, diarrhea, respiratory infections, minor accidents and access to birth control methods and medicines for chronic-degenerative ailments (diabetes and high blood pressure in communities with a regular supply of these medicines).

The *Oportunidades* Program, in accordance with its commitment to the provision of primary healthcare, has had a clear impact on services in some areas. In cases such as that of the RMU in Samachique, where there is adequate antenatal care, family planning advice and access to methods of birth control, women, regardless of their ethnicity have access to these services. In addition, the regular medical check-ups of whole families, encouraged by the program's co-responsibilities, have proven to be extremely useful in the detection of high blood pressure patients in the micro-regions of Chihuahua and of diabetic patients in the micro-regions of Oaxaca, even when access to medicines and treatment was irregular. The care and treatment of diabetic indigenous beneficiaries was considerably better than that provided to non-beneficiaries, among whom a higher occurrence of emergency care was reported at second-level private clinics and public hospitals.

Despite the limitations of local healthcare centers in terms of medicine supplies, family check-ups are very useful for diagnosis purposes. In general, beneficiary households seemed to be more concerned about finding a cure or treatment for their illnesses. We believe that access to relevant health advice and information, supported by a regular income (cash transfers), encourages beneficiary households to take a different approach to their health problems. Even though not all of the health issues of beneficiaries are resolved in local care centers owing to the limitations of rural health services, this attitude becomes more evident when compared to the approach of non-beneficiary households. In general, beneficiary families exhibited a more heightened awareness of their own state of health and were more disposed to participate in preventive healthcare campaigns. However, although the *Oportunidades* Program

has managed to increase the demand on local health services and the participation of beneficiaries in community healthcare campaigns, the capacity of these healthcare centers to treat patients effectively cannot meet these demands. Preventative health advice promoted in workshops and through community-wide campaigns loses all credibility if the supply of materials for diabetes detection and Papanaicolau testing is limited. Nevertheless, beneficiary families identify the program with a few resounding achievements – vaccination campaigns, access to treatment for chronic-degenerative patients, availability of pain killers and in some cases birth control methods, and access to treatment for ailments that can be resolved locally by centers. In the long term, these successes can go some way to changing the perception that families, particularly indigenous ones, have about healthcare services and the need to introduce preventative and self-care practices into their daily lives. We believe that these accomplishments must be sustained, guaranteeing full access to medicines and first-level healthcare.

In any case, in view of the unfavorable conditions under which first-level public services operate, the impact of the *Oportunidades* Program on the standards of healthcare is still minimal. The transition towards preventive medicine and the provision of effective first-level medical attention that can meet the demands of the local population remains a distant goal that will only be reached when rural clinics are guaranteed the resources and infrastructure necessary for its viable operation: medical supplies and the presence of professional medical teams. In order to meet these fundamental requirements, there needs to be an inter-institutional commitment to pursue common goals with respect to healthcare between the *Oportunidades* Program and other health and sanitary authorities.

SEXUAL AND REPRODUCTIVE HEALTH

Fertility and use of birth control - The hypothesis that indigenous women have slightly longer reproductive cycles than non-indigenous women is confirmed in all states. On average, indigenous women in the south have six children while in Sonora, in the north, they have five. Moreover, the age at which women (aged 19 or older) have their first child is generally older than the age at which their mothers first gave birth, which confirms that shorter reproductive cycles are more closely related to age or generational factors than to ethnicity.

In terms of the number of children born to the women in the study sample, mestizo women in the northern micro-regions presented the lowest average, three children in Sonora and four in Chihuahua. No increase was perceived in birth rate related to the presence of the *Oportunidades* Program. In general, where access to birth control methods existed, there were reports of their more frequent use among beneficiary mestizo women than among non-beneficiaries. There was also a better disposition towards family planning among indigenous women in Chihuahua and Sonora when they had access to birth control, and surgical methods once they had decided not to have any more children.

The use of birth control was affected by access to healthcare centers, contraceptive supply and the perception the patients have about them. Birth control methods were widely used in the Mayo micro-region in Sonora and in the micro-regions of Chihuahua, where few differences existed between indigenous and non-indigenous women. In the Yaqui micro-region, frequency of use was higher among mestizo women, but use among mestizo or indigenous women in the Guarijía micro-region, mainly owing to supply problems, occurred in only a few cases. In Chiapas, use of birth control methods by indigenous women was not reported and the data for Oaxaca demonstrated the preference for permanent birth control methods once a woman had decided not to have anymore children: there was a very evident tendency towards giving birth to one's last child in an organized medical setting so as to have the option of a salpingo-ovariectomy. Among indigenous women in the south, especially in Oaxaca, we witnessed fewer incidences of birth control use during a woman's active reproductive cycle, a practice that was closely related to the notion that they were harmful to reproductive health, and owing to the negative attitudes of women's sexual partners.

In addition, the patterns of birth control use are closely related to the combination of the generation factor and the establishment of healthcare institutions in these areas, which, in the rural context began around the mid-1990s. That is, women between 20 and 40 years of age know about or have used birth control methods not only because they have had greater access to healthcare centers than their mothers but also because they had greater exposure to information regarding the use of birth control methods through general program campaigns and workshops.

The methods preferred by women in the sample during their reproductive lifetime (with the sample concentrated on beneficiary mestizo women) were the IUD and hormone injections, since they required little aftercare. Among indigenous women, the preferred method was the salpingo-ovariectomy.

We were not able to specify the impact of the *Oportunidades* Program in terms of family planning and the use of birth control, but we could say that proximity to healthcare centers and a regular supply of birth control methods strongly determined employment possibilities. Although the program has had a very positive effect regarding the promotion of birth control, mostly through talks and workshops, on mestizo women between the ages of 20 and 40, we believe indigenous women are not taking advantage of these resources to the same degree. After ten years, perceptions about the use of birth control had not changed very much in the households studied in Oaxaca and Chiapas, nor had male attitudes towards those methods. We believe that in indigenous communities more workshops should be offered, where both men and women are encouraged to attend, which emphasize the advantages and explain the risks of birth control methods. It is also important that workshops that aim to raise awareness of birth control methods and their implications be adapted to reflect the cultural sensibilities of indigenous women. It is necessary to train medical teams to give more insightful and interactive introductions to these subjects, since they usually deliver these topics solely through "talks" or "presentations". Only in this way will these workshops become a more engaging experience rather than a technical presentation of the birth control methods.

We were not able to determine the impact of family planning workshops on young female student beneficiaries with a senior high school education, but we could say that these young women seem better disposed to discuss these subjects and are better informed about them after the workshops.

Lastly, we also recommend that healthcare centers and medical teams offer sterilization to women, providing users with the opportunity to evaluate their interest in this procedure without incurring a major family expense, and most of all to guarantee a constant supply of materials to healthcare centers.

Antenatal care and maternity services - Evidence suggested that the attitudes of women, mainly mestizo, had changed with regards to their most recent childbirth. A generational shift towards an interest in medical care for their pregnancies — with a tendency towards obtaining antenatal care in medical centers — occurred, which, although largely influenced by the creation of healthcare centers (mid-1990s) was also related, for some women, to the stage of the domestic cycle. Women from households in the consolidation phase of the domestic household cycle* (most advanced stage) generally enjoyed greater economic stability and therefore better reproductive healthcare. Clearly, these changes in attitude towards antenatal healthcare also coincide with the periods of time during which women have been beneficiaries.

With the exception of Chiapas, we observed a greater frequency of antenatal care among younger women (older than 19 years of age), regardless of their ethnicity and program status, which we assume was related to the establishment of healthcare centers in their communities. In general, the changes in the demand for pre-natal medical care is related more to access to quality first-level healthcare services than to ethnic background. For indigenous women, ethnicity and customs play an important role in the birthing method they choose (midwife, unassisted childbirth or birth assisted by the husband or a female relative). However, this choice was largely determined by the previous treatment they received at medical centers and by the fear of medical malpractice or abuse (a common occurrence in Chiapas and Oaxaca). These women often preferred to receive maternity care during pregnancy and childbirth at home. Nevertheless, when indigenous women between 19 and 40 years of age had access to quality medical attention and user-friendly services, they choose medical centers, as exemplified by the cases studies in Samachique. There, all of the women in the study, whether indigenous or non-indigenous, received prenatal and postnatal care

* The consolidation phase is the stage in the domestic cycle associated with the end of the household's reproductive period and greater equilibrium. Theoretically, at this stage of the cycle, children are ready to take an active part in the domestic economy, not only as consumers but also by contributing income.

at their local clinic precisely because they received good maternity care; they were even provided with reproductive health advice at the IMSS-*Oportunidades* RMU.

Regarding maternity care, medical centers mainly focused their attention on women older than 40 years old and in their second round of childbirths and on younger women, those 19 and younger. The users of these services were generally mestizo beneficiaries, who live in locations with access to effective healthcare services. However, when comparing cases studies with respect to the type of medical attention they received, it was clear that in rural contexts, the delivery of babies continues to be provided by midwives. Only in the case of risky pregnancies or at the suggestion of midwives do these women turn to medical centers.

According to an analysis of the choices women make during pregnancy and childbirth with respect to the method of delivery and their antenatal care, it was obvious that choice was affected more by the availability of services than by a woman's ethnic background, which would customarily give preference to midwives rather than to medical centers (except in the above-mentioned cases). It was not a simple coincidence that women from Oaxaca, who throughout their reproductive lives had received a different type of healthcare, were precisely those whose life history was marked by patterns of migration. For example, from the city to the mountains in case of non-Mazateco women or from the mountains to the city in case of indigenous women born in the Mazateco region. Indigenous women preferred to deliver their children in domestic contexts, although we must consider that this preference was determined not only by the type of medical attention they received as indigenous women in organized medical contexts but by the intention of avoiding anything that prevented them from continuing with domestic work and from caring for their other children.

We believe that the predominance of midwives providing maternity care in rural contexts, both indigenous and non-indigenous, illustrates the difficulties associated with getting access to quality maternity services from the local medical centers and the mistrust (mainly on the part of indigenous women) of those services. Since the middle of the 1990s, there have been more healthcare centers, more information about the risks associated with pregnancy and increased support from the *Oportunidades* Program (under the name of PROGRESA in 1998). Nevertheless, these efforts have not been sufficient to guarantee effective antenatal and maternity care in indigenous and rural communities, mainly because the reproductive healthcare of women is not only a matter of budgets and access to healthcare services but also one of sensitivity.

Opportune detection of Cervical-uterine cancer. The *Oportunidades* Program has had a positive impact on increasing the numbers of beneficiary women who are tested for cervical-uterine cancer (Papanicolau or pap test). On the other hand, the evidence suggests that there were no cases of non-beneficiary women in the study who had undertaken this preventive practice, which reflects the difficulties of women who are not incorporated into the program in accessing the test. The program has also affected the willingness of indigenous women to take the test, a willingness that is greater in contexts where lab services are relatively efficient at communicating results. An effective service with a well-stocked supply of test materials and good communication between rural clinics and the laboratories that conduct the tests encourages other women, friends and relatives of the women who have already been examined, to have the test as well (Yaqui and Mayo micro-regions in Sonora).

The general perception among beneficiaries was that the Pap test was part of their program co-responsibilities, since examinations generally occurred at the end of the workshops; although, in cases where the supply of materials was irregular (Mazateco micro-region), the promotion of these preventive measures usually lost credibility and in the end discouraged women from taking the test. A common problem encountered was the late notification of results or non-notification of negative results; it is essential to communicate test results, explain how they are to be read and offer advice regarding their importance. For patients who live in contexts of marginalization and poverty and who have difficulties accessing healthcare the failure of the system are factors that discourage women, especially those over 40, from seeking this medical help.

Therefore, even though the *Oportunidades* Program has increased self-care practices and preventive measures in terms of reproductive health among women, especially with regard to the Pap test, these efforts should be complemented and reinforced by an effective healthcare service.

Conclusions and Recommendations

The socio-structural conditions in which rural and indigenous households live and the disadvantages posed by the typical failures of the healthcare system in general all affect a household's quality of life and generate the accumulation of disadvantages, which further influence their access to healthcare and their ability to maintain an ideal state of health that will enable them to continue to work or study. Given the structural etiology of these conditions, they can hardly be modified by any action of the *Oportunidades* Program.

Guaranteeing access to healthcare is of fundamental importance when trying to influence the intergenerational transmission of poverty, as becomes evident when we analyze the social consequences of ill health on the households in the study and the changes that occur in domestic roles as a result. When the quality of healthcare services is not guaranteed, confronting an episode of illness has a destabilizing effect on domestic economies and roles within a household. These consequences frequently imply partial or permanent loss of the productive capacity of economically active members of a domestic group (as patients, frequently accompanied by another member of the family, embark on the search for appropriate healthcare), compromising the capacity of these individuals to work or interrupting the schooling trajectories of children or young people. Illness also has a clear impact on school performance, whether because of the illness itself or because of the emotional suffering and other consequences and tensions caused by the changes in domestic roles that can result from the illness of another family member. These are integral factors that affect the potential these households have in real terms to improve their quality of life.

The infrastructure and resources of public healthcare services in rural and indigenous contexts restrict the full implementation of the *Oportunidades* Program's health component. The program would be highly effective if the infrastructure, medical supplies and professionalism of medical teams were adequate enough to meet the demands and expectations of the beneficiaries. Before that can be achieved, it is necessary and pertinent to integrate the objectives of the Guaranteed Basic Healthcare Package and State healthcare policies, in order to foster improved coordination between the *Oportunidades* Program and other government bodies responsible for health. For example, to implement an effective referral system and counter-referral system to monitor and deliver after-care to patients who have to resort to using urban or rural services in communities other than the ones where they reside. This could be achieved by strengthening inter-institutional relations (at a regional level), which will allow links between rural and urban health agencies to guarantee effective patient aftercare.

The quality of healthcare services (as perceived and experienced by users) has a definite impact on the health of families, their access to healthcare, the lengths to which families have to go to find appropriate medical attention, and their implementation of preventive and self-care practices. Therefore, we believe that the Guaranteed Basic Healthcare Package must be guided by a logic that incorporates the different cultural contexts of the communities where it operates, and that it must develop its links with other health institutions within those rural and indigenous communities. After a decade in operation, although the presence of the program has generated a positive impact on the studied communities encouraging basic health and hygiene practices, particularly amongst mestizo beneficiaries who live close to medical units, we believe that the program could have a more integrated impact on community health. This objective could be achieved through improved and well-coordinated inter-sector endeavors that promote sanitation practices and also encourage activities that guarantee full access to basic services such as running water, sewage and waste disposal, and garbage collection.

We believe that it should be a priority to fully activate the components of the Guaranteed Basic Healthcare Package, especially its gender component in rural and indigenous contexts, ensuring that the information disseminated regarding health, hygiene and family planning, while bringing about positive changes with respect to preventive and self-care practices, are sensitive to and take into consideration the experiences of the women and the customs of the communities in which the program operates. Furthermore, effort should be made to ensure the integration of men into health workshops, especially those related to sexual and reproductive health.

The impact of the Guaranteed Basic Healthcare Package on the preventive and self-care practices of households varies greatly depending on a number of factors. The amount of time exposed to the program and ethnicity are certainly factors that affect its impact, but the quality of, access to and proximity of first-level healthcare services has an even greater impact on the health of beneficiaries. When healthcare services are of poor quality, the optimum effect of the package is weakened and its achievements are only relative, reflecting the limits of the resources and services available. Indeed, the transition towards preventive rather than palliative healthcare and the integration of self-care and preventive practices into the daily lives of households is linked to sociopolitical policies that can guarantee better-quality services. The effect of poverty on health is explained not in terms of cause and effect but in as much as the difficulties experienced in accessing quality healthcare and "bad health" are components of poverty, rather than a consequence or cause of it, highlighting the injustice and inequity of service provision, and perpetuating the intergenerational transmission of poverty.

SWOT Analysis

SUBJECT	STRENGTHS AND OPPORTUNITIES/ WEAKNESSES OR THREATS	RECOMMENDATION
	STRENGTHS AND OPPORTUNITIES	
Health Actions of the GBHP	**Strength.** In general, *Oportunidades* has a favorable impact on the health of beneficiary families, in as much as, through regular check-ups (when there is a doctor or health expert in attendance) and the self-care workshops, medical personnel attain a better knowledge of the general state of health of these families in comparison with that of non-beneficiary families.	We recommend the continuation of funding for health check-ups from the Department for Health and the *Oportunidades* Program.
Health Demands and expectations of first-level services	**Strength.** There is a real demand for local services from beneficiary households with long exposure to the program or from those who, regardless of their exposure to the program and their ethnicity, live close to health centers, expect to have access to medicines and health advice, and are in search of referrals or "recommendations" to enable them to attend urban hospitals.	Given the population's interest in high quality healthcare services and the growing expectations and need for health advice, we recommend that workshops and advice sessions that focus on second-level healthcare services should be held with the following agenda: the availability and procedures necessary to access second-level services within the region, its characteristics and costs, and potential to receive medical attention,
Health Demands and expectations	**Strength.** The program has brought about a positive impact amongst beneficiary households, thanks to the cash transfers, which are be particularly useful during episodes of illness.	This is particularly true of indigenous households, therefore differentiated support should be offered to indigenous households
Health Demands and expectations	**Strength.** Increase in service demand and expectations among indigenous and mestizo beneficiaries who live close to the health centers.	
Health Community participation	**Strength.** Greater participation of beneficiaries who live close to health centers (regardless of ethnic background) in vaccination campaigns (children and domestic animals) and other basic sanitation practices (not in operation in the Tarahumara and Chiapas microregions) and in community activities in general.	
Health User attitude	**Strength.** Better disposition of mestizo beneficiaries with long exposure to the program to turn to local healthcare centers for health advice (as well as referrals or recommendations for second-level attention).	
Health Social and communication networks	**Strength.** Program incorporation is an advantage when accessing channels of communication and social networks. Sometimes it even guarantees access to other State and Federal programs.	

Health Basic sanitation	**Strength.** After a decade in operation, the presence of program in the studied communities has generated a positive impact regarding the promotion of basic sanitation practices in beneficiary families, mainly through the building of latrines, decreasing open air defecation or in yards, plots or fields.	To implement well-coordinated inter-sector endeavors that promote sanitation practices, and which guarantee full access to basic services such as running water, sewage and waste control and disposal.
Health Basic sanitation	**Strength.** Better sanitation habits in households comprised of daughters of main beneficiaries, indigenous or non-indigenous who have relative access to healthcare services and live in less marginal rural contexts (municipal capitals and communities close to urban centers or located by roads or close to healthcare centers).	
Health Basic sanitation	**Strength.** There is an excellent disposition for waste control among beneficiaries, although through erratic methods such as burning plastic waste (promotion of correct waste disposal was not documented), which, though not directly promoted by the program, has been promoted by local agents (with the exception of the micro-regions in Chiapas).	To integrate into the agenda of the self-care training workshops the topic of adequate waste handling and disposal. It must be incorporated specifically into the agenda as "Adequate Waste Classifying and Handling".
Health Child population	**Strength.** *Oportunidades* has had a very positive impact on the early identification of risk factors, diagnosis and care of children who have grown up under the threshold of the program (mainly ADD1, ARD2 and dehydration). Among long exposure beneficiary households that live close to healthcare centers, first-level medical attention led to the diagnosis, regardless of their ethnicity and in the case of indigenous female beneficiaries, timely detection only occurred when it coincided with routine check-ups.	
Health Medicines and chronic-degenerative patients	**Strength.** Long exposure beneficiaries living with diabetes or high blood pressure, in contexts with efficient healthcare services, show better treatment and control of their ailments (does not apply for micro-regions in Chiapas and the Mixe micro-region in Oaxaca)	The Department for Health and the *Oportunidades* Program authorities should guarantee the medicine supply of diabetic and high blood pressure patients in Chiapas.
Health Use of non-public service infrastructures	**Opportunity.** There are several places in the Tarahumara region that have hospitals and clinics that are funded by religious organizations that provide healthcare services with a respectful healthcare model adapted to the cultural conditions of the indigenous population.	The Department for Health and the *Oportunidades* Program authorities should come to an agreements with the religious hospitals and clinics that operate in the Tarahumara region to collaborate with public clinics for medical attention services and healthcare education of beneficiary families.
Health Sexual and Reproductive Health (SRH)	**Strength**. Jointly with other campaigns, the *Oportunidades* Program has helped to promote sexual and reproductive health as a public health issue and not only as a private female issue.	
Health (SRH)	**Strength.** Better disposition to **discuss** reproductive health matters (birth control methods and Papanicolau testing) in long exposure beneficiary households where first and second generation women live (the latter have been scholarship beneficiaries and are senior high school students)	
Health (SRH)	**Strength.** Better willingness to search for antenatal care among women between 19 and 40 years of age (indigenous and non-indigenous, long exposure beneficiaries living close to healthcare centers).	
Health (SRH)	**Opportunity.** Better willingness among indigenous women to accept the Pap test when laboratory service is relatively efficient regarding the waiting time for results (Yaqui and Mayo micro-regions in Sonora)	

Health Self-care workshops	**Opportunity**. The self-care training workshops are already established, recognized social spaces; in general, attendance is constant and punctual, but subject repetition becomes boring for beneficiary women (especially for those with long exposure to the Program). Usually, the better-known subjects or those that local service providers can handle better are repeated without consideration of the diversity of the subject matter on the *Oportunidades* subject agenda.	To coordinate the delivery of workshops according to the different age groups and their degree of program exposure (we observed that usually no consideration was given to this). To train health teams on matters related to domestic violence, substance abuse among male heads of households, gender violence and *machismo*, which, although considered in the agendas, are usually not promoted owing to lack of training. The need for training guides is urgent. They should include information on group dynamics and techniques for health service providers and rural assistants.
Health Self-care workshops	**Strength.** In general, the self-care training workshops are not delivered in an interactive manner but through 'talks' and presentations, owing to the limitations of time (excess workloads of health personnel and assistants), training, adequate spaces and availability of teaching materials.	To create thematic descriptive cards (flashcards) that will function as tools for health service providers and assistants.
Health Self-care workshops	**Strength.** Where they are fully implemented, self-care training workshops are potentially useful as an adult education component for those adults who did not finish their primary or secondary school cycle.	
Health Self-care workshops	**Strength.** Self-care training workshops have enjoyed a better reception when presenting the following subjects: use of nutritional supplements, parasitosis/parasite treatment cycle, basic sanitation for families, vaccines, diarrhea and VSO use, childcare of infants less than a year old and older than a year, and family planning (among beneficiaries).	To (at least) guarantee the supply of medicines and materials for the ailments that are discussed in the workshops, since we consider their success related to their regular supply (vaccines and oral electrolyte solutions), in addition to the willingness of the main beneficiaries to hear about childcare.

THREATS OR WEAKNESSES

Health Quality of first-level services	**Weakness.** Since first-level attention is the operational basis of the Guaranteed Basic Healthcare Package, the structural disadvantages of the healthcare system imply a **weakness** in its operation (the most serious, no doubt)	
Health Quality of first-level services	**Weakness.** In the communities where healthcare provision and treatment (first-level services) were generally ineffective, we observed the tendency of inhabitants to look to other areas (particularly urban areas) in search of better healthcare, which meant that rural clinics became underused (particularly for the fulfillment of the program's health co-responsibilities).	
Health Coverage	**Weakness.** Many indigenous families living in geographic isolation have limited access to public medical healthcare services; they constitute the sector of the population with the greatest shortage of healthcare facilities and the greatest occurrence of respiratory and mother/child illnesses, as well as, tuberculosis and malnutrition.	The Department for Health and the *Oportunidades* Program should make greater effort to coordinate the more frequent visits of mobile healthcare units and itinerant medical personnel.
Health Collaboration and reproductive health provision	**Weakness**. Migration patterns pose challenges to the effective provision of healthcare, particularly maternity care. For example, young migrant women at the start of their reproductive cycle who fall pregnant in territories far form their communities tend to return home during their last trimester to guarantee the company of their family and community during childbirth. This can present difficulties for rural medical centers when evaluating the medical needs and conditions of newly arrived pregnant women (no access to the medical/maternity history of the patients), and often leads to women being refused medical attention.	The Department for Health and the *Oportunidades* Program should encourage (and perhaps coordinate) communication between states in terms of maternity care, so that provision of medical attention is not interrupted when women moves to a different state.

Health Approach	**Weakness.** Owing to the unfavorable conditions under which first-level services operate, in general terms, the impact of the *Oportunidades* Program remains, and will continue to remain, minimal unless the approach to healthcare provision changes in favor of preventive medicines and the effective treatment of first-level demands.	The Department for Health and the *Oportunidades* Program should supply local healthcare centers with the necessary materials for taking samples of chronic degenerative ailments and ensure the supply of medicines (especially those which are known to cure common ailments).
Health Preventive and self-care practices	**Weakness.** The main limitations affecting households' implementation of preventive and self-care practices resides in the mistrust and lack of credibility of first-level healthcare centers owing to previous experiences of ineffective treatment, shortage of qualified doctors, healthcare personnel rotation, erratic diagnoses, service refusal, shortage of medicines and medical supplies and, in general, negative past experiences which are communicated down through the generations. Such is the perception of many indigenous families, regardless of their program status, who live far from healthcare centers.	The Department for Health and the *Oportunidades* Program should guarantee the supply of medical resources to ensure an effective service and employ qualified medical personnel. The local health representatives should also be individuals who are respected within the community and who can bridge the gap between the community and the health centers, helping to instill more confidence in local first-level services because they understand the needs of local inhabitants and because they too are native to the area.
Health (SRH)	**Threat.** Although the program has managed to increase the frequency of Papanicolau testing, the poor response to cases where results have tested positive, and the time taken to issue results, discourages women from employing this preventive practice. Positive results are rarely accompanied by counseling and, in general, negative results are not usually even communicated.	The Department for Health and the *Oportunidades* Program should improve the level of medical attention offered to cancer patients, including counseling and aftercare, and ensure the effective operation of Papanicolau testing: all test results should be communicated, whether positive or negative, and the time taken for those results to be issued should be improved.
Health Medical attention and migration	**Threat.** Owing to the limited efficacy of first-level healthcare provision, beneficiaries (indigenous and non-indigenous) frequently leave their communities in search of appropriate medical attention in other regions, often urban areas, which means that rural clinics become underused (particularly for the fulfillment of the program's health co-responsibilities) and non-beneficiaries stop attending altogether. Consequently, it is difficult for the *Oportunidades* Program to effectuate a significant impact on the practices of households that generally look for palliative resources rather than preventive. Rather than decreasing, the demand for second-level medical services has increased.	The Department for Health and the *Oportunidades* Program should implement an appropriate and widespread referral system, forming links between health institutions in rural areas with those in urban centers, which facilitates the monitoring of patients (in particular beneficiaries) and appropriate aftercare.
Health Perceptions, quality and service effectiveness	**Threat.** One of the main reasons why inhabitants, especially indigenous (even those who live close by), do not attend their local clinics is based on their perceptions and ineffectiveness of the services offered.	Closer collaboration between traditional services and medical institutions will help to build a more integral health service, building confidence and better links with the community at large. The Guaranteed Basic Healthcare Package should, taking into account the local customs and the perception of rural inhabitants, acknowledge the value of more traditional methods of treatment and healthcare (healers, shamans, midwives, and so on), and allocate the role of the *Oportunidades* health representative to a respected member of the local community who can help promote the advantages of the package.

Health Self-care workshops and gender	**Weakness.** Even given that it is the women of a community who are the most frequent attendees of the workshops (they constitute the majority of the audience), the subjects that enjoy a better reception are those concerning the care of others, mainly childcare, and not about women's issues.	Although health-related gender issues do already feature on the agenda of topics to be covered by the workshops (albeit in a rather general manner), owing to lack of training, they are rarely broached or not dealt with effectively. The topics of the agenda must be made more specific.
Health Self-care workshops	**Threat.** Self-care workshops run the risk of underestimating or negating the value of local wisdom and indigenous or traditional medicine.	The workshops must recognize and value the cultural heritage of the communities in which they operate, particularly with regards to the treatment of ailments. The training and sensitivity of healthcare personnel are essential.
Health Health rights	**Threat.** The violation of human rights with respect to healthcare provision and racially motivated discrimination stop many potential uses of healthcare services from attending local clinics or expose them to situations of abuse of power. Therefore, often, even when access to healthcare does exist, attendance is low.	To promote workshops for service providers as well as for service users on human rights and racial equality, as a means of strengthening and boosting the social abilities of households to broaden their range of options for reaching better levels of well-being.

References

1. González-de la Rocha M, Agudo-Sanchíz A. Evaluación cualitativa de impacto del Programa Oportunidades, largo plazo, zonas rurales, 2008 [Qualitative Evaluation of the Impact of the Oportunidades Program, Long Term, Rural Areas, 2008]. Research proposal, CIESAS, 2008.
2. González-de la Rocha M. Documento técnico sobre trabajo, Evaluación cualitativa de impacto del Programa Oportunidades, largo plazo, zonas rurales, 2008, [Qualitative Evaluation of the Impact of the Oportunidades Program, Long Term, Rural Areas, 2008]. Number 12, CIESAS, 2008.
3. Osorio C. Entender y atender la enfermedad. Los saberes maternos frente a los padecimientos infantiles [Understanding and addressing disease. Maternal knowledge to combat childhood diseases]. Mexico, CIESAS, INDAH, INI, 2001.

Ten Years of *Oportunidades* in Rural Areas: Effects on Health Service Utilization and Health Status

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Introduction

Herein, we present a long-term evaluation of the effects of the Human Development Program *Oportunidades* ten years after its implementation in Mexico. Although this evaluation did not have an experimental design, it clearly identified tendencies of the most important health indicators among the beneficiary population, and more importantly, distinguished differences in these tendencies between various beneficiary groups. Within the relatively homogenous population group of *Oportunidades'* beneficiaries, there exist many differences. For example, the population varies in terms of whether they are indigenous, their level of income, the size of the community where they live and their degree of marginalization, among other characteristics. By taking these characteristics into account, we may identify groups among which we can document an increasing (or decreasing) tendency in the indicators of interest. The objective of this analysis is to document these tendencies in order to distinguish and define the heterogeneity observed through different types of indicators of services used, health and health expenditures between different groups of the population, divided by indigenous condition, gender, and year enrolled into the *Oportunidades* program.

A long-term evaluation such as this one can also identify the contemporary heterogeneity between different groups, concerning their states of health and utilization of health services. For the current study, we used for the first time the 2007 Rural Households Evaluation Survey (ENCEL – *Encuesta de Evaluación de los Hogares Rurales*), through which detailed information was gathered on aspects of health and use and quality of health services that had not been measured in the past, with a special emphasis on the quality of health and education services that the Program beneficiaries receive. The information that was made available in 2007 allowed us to evaluate the health of the beneficiary population in two ways: on the one hand, through indicators of health that were measured for the first time; and on the other, by evaluation of the role that quality of services plays in the determination of health status and the utilization of medical services by the beneficiary population. Finally, since 2007 was the first year in which ENCEL included communities in the states of Chiapas, Oaxaca and four northern states,* we were able to include in this diagnosis households from regions observed for the first time within the context of an evaluation of *Oportunidades*.

In the first section, which focuses on reproductive health and family planning, we analyzed the changes in the use of contraceptive methods among women of reproductive age who are beneficiaries of *Oportunidades*. In addition, we identified characteristics associated with the decision not to use contraceptives. We also examined the effect of the *Oportunidades* Program on the pattern of utilization of prenatal and obstetrics services. Finally, we inquired into the perceived quality of prenatal and obstetrics services received by *Oportunidades'* female beneficiaries.

* Durango, Sinaloa, Nayarit and Aguascalientes.

In the section on children's health, we analyzed data on child morbidity and symptoms experienced two weeks before our research. We characterized the patterns for seeking medical attention and identified the barriers and facilitators of this process. We analyze data on whether medical attention was sought when children were sick with specific symptoms and the perception of the quality of the health care center in comparison with other health service providers, in terms of transportation costs, waiting time, and the service's friendliness.

In the *metabolic syndrome* (MS) section, we analyze information related to changes or illnesses associated with this syndrome, specifically *systemic arterial hypertension* (SAH), *type 2 diabetes* (T2D), and *hyperlipidemia*.* MS is a series of metabolic disorders that are strongly associated with obesity, heart attacks and other cardiovascular irregularities.[1] Such disorders are the leading cause of death and morbidity among adult Mexicans.[2,3] They have a large impact on the quality of life and basic capabilities of affected individuals.[4] These disorders are frequently present not only in urban communities, but also among the rural population, where the context of poverty further complicates access to quality health services and adequate adherence to doctors' recommendations.[2] In addition to the control of these illnesses, prevention and early detection are two important strategies that may reduce the development of these illnesses among the population. In this analysis, we evaluated the state of health of the *Oportunidades'* adult at-risk population that received diagnostic and early detection interventions, as well as possible factors that may explain the heterogeneity of the population groups of interest.

In the section concerning the older population (OP), we describe for the first time the health condition of the older adults who live in households in the communities included in the original evaluation sample of *Oportunidades*.‡ For this evaluation, we took as a main reference the *Oportunidades* Program Rules of Operation regarding the provision of health services to the older population, published in 2007. We approached topics related to chronic and acute illnesses and health-related activities. We investigated the functional capacity and cognitive function of the older population. Finally, we carried out an evaluation of the coverage§ of highly effective interventions received by this group.

In the last section of the document, we analyzed the use of health clinic services, preventative and remedial, public and private, during the last four weeks. In the same way, we analyzed the expenditures associated with these actions. We performed this analysis for data obtained in 2000, 2003, and 2007. We compared the use of hospital services in the last three years and the associated expenditures between 2003 and 2007. We concluded this section with an analysis of the self-reports of morbidity and general state of health in 2007.

Methodology

The evaluation of the *Oportunidades* Program presented here does not have an experimental design to assess the impact of the Program on the analyzed indicators. The method that we used for identifying the effect of *Oportunidades* on the beneficiary households was based on three characteristics of the sample of analyzed households. In first place, we are able to assess temporal variability since we could observe the same households during different rounds of evaluation. In second place, we could determine the households' time spent in the Program. Lastly, we could identify, through self-reports, whether the evaluated households were beneficiaries of the Program.

IDENTIFICATION OF THE TREATMENT: GROUPS BY ENROLLMENT

The groups of households were classified by their phase of enrollment into the *Oportunidades* Program. First, we have the group of households who received benefits from the Program since its inception in 1998. Second, we have

* *Hyperlipidemia* refers to the disorder characterized by the elevation in lipids or "fats" including cholesterol and triglycerides among other types.

‡ For the general population of the older adult beneficiaries of *Oportunidades*, the INSP carried out a study on their general live conditions in the year 2006. *A diagnostic on life conditions and wellbeing of the beneficiaries from the Component for the Older Adult among the* Oportunidades *Program*, 2006. Research Report, INSP-*Oportunidades*.

§ The measure of coverage used is a combination of variables of access and the decision to use the services from the indicators in the older adults' section.

the group of households who received benefits of the Program two years later, beginning in 2000. These two groups of households constitute the original sample that was evaluated to determine the impact of *Oportunidades*. In this initial evaluation, the first group was the treatment group and the second the control group. In this sense, we knew that these groups were comparable at base line in 1997. Third, we have the group of households incorporated into the Program in 2003. This group constituted the new comparison group in this analysis since the original controls were incorporated in 2000. The manner in which these households were identified was quasi-experimental; they were identified through an approximation of "matching" (propensity score matching), which takes into account observable characteristics of the households in order to find an adequate counterfactual group.

We constructed the group of incorporation variable based on the state and the community to which the households belonged in 2003. The communities were classified as follows: 1) treatment in the year 1998; 2) treatment in the year 2000, and 3) control in the year 2003. This information was obtained from the rural socioeconomic base of ENCEL 2003. Inclusion of this variable in our analysis had two important implications. First, the variable identifies the age of the households at the community level; that is, it identifies the offering of the Program or the intention of providing the Program's benefits to the households, and not necessarily their actual enrollment. A high rate of acceptance and enrollment among the communities, which is the case in rural communities, indicates that the results of the analysis of the *intention to treat* will be similar to the results of the analysis of the *effect on treated households (or treatment on the treated)*. Second, this variable is not available for the communities absent from the ENCEL 2003 sample; therefore, we could not use it in our analyses of households in communities in Chiapas, Oaxaca, and the northern states.

IDENTIFICATION OF THE TREATMENT: SELF-REPORTED TO BE BENEFICIARIES IN 2007

We can observe the variability in *Oportunidades* household enrollment in the ENCEL 2007 sample by evaluating whether the households reported receiving the Program's benefits or not. This variable had the advantage of representing individual households; that is, it allowed us to analyze the *effect on treated households*. An additional advantage of this variable was that it was available for all households included in ENCEL 2007, including those that lived in Chiapas, Oaxaca, and the northern states.

QUALITY OF HEALTH SERVICES

As we mentioned above, one important aspect to investigate in this report was the effect of the quality of health services on the utilization of services and the health of the beneficiaries of *Oportunidades*. In 2007, ENCEL included, for the first time, a component that focused on measuring the quality of health and education services provided to the Program's beneficiaries. Using this information, we generated a variable that measured the structural quality of the health centers at the community level. In the methodology section, we explain how we constructed this variable.[15]

ANALYSIS

In the present analysis, we used two approaches to determine the correlation between the presence of *Oportunidades* and the variables of interest:

1. *Multivariate* analysis. We constructed this analysis using only the ENCEL 2007. The objective was to present an analysis of factors correlated with the state of health, the use of services, and the barriers to using these services, among the beneficiary population of *Oportunidades*. One important goal for this analysis was the identification differences among two individual characteristics: gender and ethnicity. The general model that we used for this analysis was as follows:

$$Y=\alpha+\beta_1 I+\beta_2 H+\beta_3 L+\beta_4 C+\beta_5 O+\beta_6 Op+\varepsilon$$

Where:
I is a vector of characteristics at the individual level: age, gender, education, etc.
H is a vector of characteristics at the household level: demographic composition, indigenous status, and socioeconomic level.
L is a vector of characteristics at the community level: existing services, and specific services' costs.
C is an indicator of quality of health services at the clinic level.
O is a vector of characteristics that it is important to control for each specific result.
Op is the treatment variable (group of incorporation or self-reported to be or not to be a beneficiary).
Although this general model was applied in all of the analyses presented here, we adapted the model in order to optimize the analysis. Therefore, none of the sections used exactly the same version of the model.

2. *Descriptive analysis of trajectories*. We analyzed data obtained in different years of ENCEL with the objective of showing the trajectories in time of the different variables in each topic, and the heterogeneity in these trajectories as determined by the Program (groups of enrollment) and as determined by individual characteristics: males with respect to females, indigenous with respect to non-indigenous. It is important to note that a strict longitudinal analysis was not attempted here for two main reasons. On the one hand, there exist sections for which an analysis of this type would lack meaning because of the low probability that the events of interests would be continually repeated in periods of a few years, such as results related to pregnancy and hospitalization. On the other hand, it is only possible to identify the same individuals at different stages for the ENCEL 2003 and 2007 populations. For any previous stage, it is only possible to identify households through the different stages of ENCEL. Therefore, the analysis presented in this section analyzes differences in the averages of the variables of interest between the various evaluation rounds from 2000 to 2007. Since this analysis must necessarily be restricted to indicators that have been measured in the same way in different surveys, our analysis was limited to the sections of reproductive health and use of health services.

Results

REPRODUCTIVE HEALTH

For a descriptive analysis of the use of contraceptive methods, we employed information from ENCEL 1998, 2003, and 2007. When comparing these three years, we found that 36% of females of reproductive age reported having used some method of contraception in 1998, 42% in 2003, and 57% in 2007. The increase in the proportion of women that used contraceptive methods was greater among those that reported having at least one child, the proportion of whom rose from 37% in 1998, to 54% in 2003, and 56% in 2007. Among married women or those in a cohabiting union with at least one child, the most relevant change was observed in the group of youths between 15-19 years of age. In this group, we noted that the percentage using a contraceptive method increased with time: 33% in 1998, 54% in 2003, and 70% in 2007.

PRENATAL CARE

In this section is analyzed the use of prenatal services among 5,930 women of reproductive age with children less than 2 years of age. These women responded to questions regarding their experience with prenatal attention provided during their last pregnancy, with data collected through ENCEL 2007.

Among non-indigenous women, 95.5% recalled having been attended by a doctor or nurse during their prenatal visits; among indigenous women this percentage dropped to 91.1%. Of all evaluated women, 36% pointed out that someone other than their primary health care provider also provided them with prenatal care; in 48% of these cases, the additional health care provider was a midwife. Among indigenous women, the additional health provider

was a midwife in 61% of the cases and a doctor in 31%. By contrast, 48% of the non-indigenous women saw a midwife as a second provider and 45% saw a doctor.

In a descriptive analysis of the proportion of women who mentioned having chosen a doctor or nurse as a main health care provider for prenatal care, we did not observe significant differences between indigenous and non-indigenous women. In both cases, the proportion of women who visited a doctor or nurse for prenatal care was around 90%. However, among indigenous women, the proportion who mentioned being attended to more often by a midwife (as an alternative) was greater (5.4%) than among non-indigenous women (3.4%). In general, the number of prenatal consultations average six visits (standard deviation of three visits).

For the multivariate analysis of the main determinants of the use of prenatal consultations, we used a Poisson model whose standard errors were adjusted with conglomerates at the communty level in order to correct for potential correlation within each community due to the presence of women with similar characteristics. The data were obtained from ENCEL 2007. The results of the Poisson model adjusted for the number of prenatal visits in 2007 are presented in Table 1. Cohabiting or married women and those with higher education used prenatal services more frequently. The existence of a complication during pregnancy had a positive and significant effect on the frequency of using prenatal services. The same effect was observed for women covered by social security. In contrast, indigenous women used prenatal services less frequently than non-indigenous women. Finally, the women who reported being beneficiaries of *Oportunidades* showed greater use of health services. We did not find statistically significant effects on the variable of quality that indicates availability of medical resources at the community level. Additionally, in this model we found no statistically significant effects on the period of enrollment into *Oportunidades* (1998, 2000, and 2003), indicating that personal participation in the Program is not associated with an increased use of prenatal services.

ACCESS TO OBSTETRIC SERVICES

Among the indigenous women, 51% mentioned having been attended to by a doctor during their last pregnancy, whereas 39% were attended to by a midwife. In contrast, most of the non-indigenous women (79%) mentioned having been attended to by a doctor, and only 14% by a midwife. Among the indigenous women, 87.1% reported having had their last child naturally; this percentage dropped to 72.6% for the non-indigenous women.

In order to conduct a multivariate analysis of the women's choice of location at which they were attended during childbirth, we estimated a logistics model in which the dependent variable was having received attention during the last pregnancy by a doctor or nurse (=1), versus having been taken care of by a midwife (=0). Table 2 shows the results of the estimation of the logistics model. We found an association between more education in women, whether it be secondary education (OR*=2.55) or higher education (OR=5.26), with respect to primary education, and attention received during childbirth from a doctor or nurse. The presence of some complication, particularly during childbirth, was significantly associated with receiving attention from a doctor or nurse during childbirth (OR=2.10). Belonging to an indigenous household was significantly associated with attention received from a midwife at childbirth (OR=0.43), whereas being medically insured was associated with attention received from a doctor or nurse during childbirth (OR=1.39). Additionally, belonging to a family with greater access to assets in the household, particularly in the index third labeled *assets 2* (OR=1.32) or in the index third labeled *assets 3* (OR=1.60), was significantly correlated with attention from a doctor or nurse during childbirth. A lower index of marginalization at the community level correlated with attention received from a doctor or nurse during childbirth. In the same manner, the presence of at least one midwife in the community was associated with attention from a midwife during childbirth (OR=0.65). The latter is related to two observations. First, it is probable that doctors are less available in communities with midwifes. Second, women prefer to be attended to by a midwife during childbirth if they are available in the community. Finally, we found that being a beneficiary of *Oportunidades* (OR=1.07) was

* Odds ratios (OR). The odd of an event is defined as the probability that an event will happen on the probability of it not happening. Odds ratio is the ratio of the odds of one group of interest on the odds of a comparison group.

Table 1
Poisson model for number of prenatal visits

DEPENDENT VARIABLE: NUMBER OF PRENATAL VISITS		
VARIABLE	**MARGINAL CHANGE**	
Groups of Incorporation		
Year 1998	**-0.272****	-0.253
Year 2000	-0.119	-0.054
Year 2003 (reference)		
Individual Characteristics		
Age in years	0.156	**0.174****
Age squared	-0.003**	-0.003**
Marital status	0.810***	0.801**
Labor status [2]	-0.432	-0.442
Primary education (reference)		
Secondary education	0.591***	0.582***
Higher education	1.601***	1.557***
Health complications during pregnancy	0.306**	0.332***
Household Characteristics		
Indigenous	-0.471***	-0.426***
Assets, first third (reference)		
Assets, second third	0.014	0.019
Assets, last third	-0.013	-0.020
Oportunidades [4]	0.035**	0.036**
Health insurance [3]	0.569***	0.591***
Community Characteristics		
Low structural quality (reference) [5]		
Medium-low structural quality		0.117
Medium-high structural quality		0.281
High structural quality		-1.633**
Marginalization index	-0.068	-0.070
N	5,455	5,419
Estimation by maximum probability	-13,417.6	-13,331.05
χ^2	119.52[6]	130.16[7]

*** p<0.01, ** p<0.05, + p<0.10
(1) Standard errors adjusted for 170 community conglomerates.
(2) Labor status is a dichotomous variable that is equal to one if the woman notes having worked in the previous week.
(3) Health insurance is a dichotomous variable that is equal to one if the woman indicates having some type of IMSS, ISSSTE or *Seguro Popular* insurance.
(4) Self-report variable that is equal to one if the person in the household notes that the household is a beneficiary of *Oportunidades*, and equal to zero in the opposite case.
(5) Index that measures the availability of material and human health resources at the community level.
(6) Estimated with 15 degrees of freedom.
(7) Estimated with 18 degrees of freedom.

Table 2
Logistic model of childbirth attention by a doctor/nurse or midwife

DEPENDENT VARIABLE EQUAL TO 1 IF A DOCTOR ATTENDED CHILDBIRTH, AND EQUAL TO 0 IF A MIDWIFE ATTENDED CHILDBIRTH		
VARIABLE	**ODDS RATIOS[1]**	**ODDS RATIOS[1]**
Groups of Incorporation		
Year 1998	1.620***	1.630***
Year 2000	1.350	1.320
Year 2003 (reference)		
Individualistic Characteristics		
Age 15-19 years	1.850**	1.870**
Age 20-24 years	1.280	1.300
Age 25-35 years	1.280	1.320
Age 35-49 years (reference)		
Marital status	1.230	**1.220****
Labor status [2]	1.260	1.280
Reference: Primary Education		
Secondary Education [1]	2.550***	2.570***
Higher Education [1]	5.260***	5.010***
Complications during pregnancy	1.650***	1.680***
Complications during childbirth	2.100***	2.040***
Household Characteristics		
Indigenous	0.430***	0.420***
Assets, first third (reference)		
Assets, second third	1.320***	1.320***
Assets, last third	1.600***	1.580***
Oportunidades [4]	1.070***	1.070***
Health insurance [3]	1.390***	1.360***
Community Characteristics		
Health clinic [5]	1.090	1.070
Midwife [6]	0.650**	0.650**
Low structural quality (reference) [5]		
Medium-low structural quality		0.940
Medium-high structural quality		1.510
High structural quality		3.09
Marginalization index 2005	0.57***	0.560***
N	5,211	5,175
Probability ratio	-2,185.76	-2,171.54
χ^2	324.4[8]	330.2[9]

*** p<0.01, ** p<0.05, + p<0.10
(1) Standard errors adjusted for 170 community conglomerates.
(2) Labor status is a dichotomous variable that equals 1 if the woman notes having worked during the previous week.
(3) Health insurance is a dichotomous variable equal to one if the woman indicates having some type of IMSS, ISSSTE or *Seguro Popular* insurance.
(4) Variable of self-report which is =1 if the person in the household notes that the household is a beneficiary of *Oportunidades*.
(5) Dichotomous variable =1 if there is a health clinic located in the community.
(6) Dichotomous variable =1 if there are midwifes in the community.
(7) Index that measures the availability of material and human health resources at the community level.
(8) Estimated with 20 degrees of freedom.
(9) Estimated with 22 degrees of freedom.

associated with childbirth attention by a doctor or nurse. We found that this association was greater for women with longer history in the Program, particularly those who come from families enrolled since 1998 (OR=1.62). We did not find a statistically significant effect of the variable for structural quality at the community level.

CHILDREN'S HEALTH

The analysis presented in this section was restricted to the database from ENCEL 2007. Of the 6,024 children under 2 years of age in the database, 5,572 were observable for this analysis. Of the usable observations, 49% were female and the average age was 12.18 months.

MORBIDITY

Thirty-seven percent of the observable children from the final sample were sick during 15 days prior to the research. We found that cough and fever were the most common symptoms, with respective prevalence levels of 27% and 20% respectively. By contrast, 10% presented with rapid respiration and 9% had potentially dangerous diarrhea. Almost half of the parents perceived the severity of illness as low, while 39% perceived the severity of illness as moderate, and 11% as severe.

There was no notable difference between the groups of incorporation into *Oportunidades*. This result indicates that there was not a cumulative effect of incorporation into the Program on the health of children. The only difference between indigenous and non-indigenous persons was found in regard to general morbidity; the prevalence in indigenous persons (39%) was lower than that in the non-indigenous persons (33%). The beneficiary children reported being healthier than the non-beneficiaries. The beneficiary children reported less morbidity in general, including less coughing, diarrhea, and potentially dangerous diarrhea.

According to the results, the search for help pattern varied according to the perceived degree of seriousness. We observed a clear tendency of going to a private doctor when the illness was perceived as more serious. Likewise, more parents visited a health center or community clinic than a hospital. Fewer parents gave medicines without a prescription. However, administration of home remedies to the child did not change with the perception of seriousness. We observed the same tendencies between the three groups of incorporation, although the tendencies were not always significant due to the small sample size (ENCEL 2007).

It is noteworthy that the non-indigenous mothers showed a greater tendency to go to a health clinic or community clinic and have a lower tendency to go to a private doctor or pharmacy. The effect of the perceived seriousness on sought attention was only significant in the non-indigenous group. The non-indigenous mothers sought a private doctor when they perceived the child's illness to be grave, whereas the indigenous mothers showed a greater tendency to go to a health clinic under those circumstances.

In Table 3, we present the results of the regression analysis, which evaluated the child's gender and age variables, ethnicity, time in *Oportunidades*, the household's assets index, availability of health services in the community, and the perceived gravity of the illness. We present separate models for the group of incorporation (1998, 2000, or 2003) and for the variable of being a beneficiary of *Oportunidades* or not, with and without the quality of service variable.

Indigenous households had a much higher probability of taking the child to a public health service provider (health care clinic, community clinic, or hospital) when the child had any type of illness during the two previous weeks (Table 3, columns 1 through 4). Households in the highest third of assets (last third) went to a public health service provider less often (Table 3, columns 1 through 4). The presence of a health clinic in the community substantially increased the probability of going to a public health service provider (Table 3, columns 1 through 4). By contrast, the perceived severity did not have a significant effect. The results were similar for potentially severe diarrhea, but due to the limited number of children who experienced this condition, the majority of the effects were not statistically significant. The negative effect of the quality of services in the sixth model could not be explained (column 6).

Table 3
Regression analysis for help sought from a service provider during the two previous weeks. Sample: 2007 ENCEL

DEPENDENT VARIABLE: SOUGHT THE ATTENTION OF A PUBLIC HEALTH SERVICES PROVIDER IN THE TWO PREVIOUS WEEKS

	ANY ILLNESS				POTENTIALLY DANGEROUS DIARRHEA			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Groups of Incorporation								
Year 1998 (reference)								
Year 2000	-0.035	-0.057			-0.078	-0.092		
Year 2003	-0.059	-0.037			-0.098	0.052		
Individual Characteristics								
Gender (1=m, 0=f)	-0.020	-0.025	0.000	-0.006	0.076	0.118	0.079	0.095
Age 3-6 months	0.030	0.000	0.052	-0.008	-0.398	-0.396	-0.445+	-0.429+
Age 6-9 months	-0.023	-0.080	-0.021	-0.067	-0.523	-0.573	**-0.531****	**-0.496****
Age 9-12 months	-0.050	-0.115	-0.029	-0.113	**-0.636+**	-0.551	**-0.626*****	**-0.511****
Age 12-15 months	-0.087	-0.144	-0.077	**-0.147+**	**-0.615+**	-0.587	**-0.643*****	**-0.602*****
Age 15-18 months	-0.042	-0.086	-0.009	-0.067	-0.586	-0.593	**-0.596*****	**-0.565****
Age 18-21 months	-0.068	-0.105	-0.020	-0.041	-0.555	-0.588	**-0.562****	**-0.510****
Age 21-24 months	-0.034	-0.064	-0.008	-0.056	-0.536	-0.485	**-0.521****	**-0.474****
Moderate illness	0.050	0.052	**0.049+**	**0.053+**	0.048	0.042	0.021	0.022
Severe illness	0.060	0.050	0.041	**0.035**	0.014	-0.055	-0.018	-0.078
Household Characteristics								
Indigenous	**0.150*****	**0.162*****	**0.092****	**0.101****	0.089	0.101	0.027	0.013
Assets, first third (reference)								
Assets, second third	-0.023	-0.026	-0.032	-0.027	-0.052	-0.033	-0.090	-0.082
Assets, last third	**-0.115*****	**-0.116****	**-0.093*****	**-0.085*****	-0.171	-0.151	-0.192**	-0.192**
Oportunidades (1)			0.081***	0.079***			0.071	0.076
Community Characteristics								
Health clinic (2)	**0.112****	**0.123****	**0.137*****	**0.136*****	0.081	0.084	0.118	0.107
Community clinic (3)	-0.011	0.003	0.011	0.019	-0.031	0.044	0.003	0.018
Private doctor (4)	-0.139	-0.139	-0.007	0.063	-0.376	-0.598	-0.069	-0.197
Low structural quality (reference)(5)								
Medium-low structural quality		-0.102		-0.070		-0.262**		-0.163
Medium-high structural quality		-0.031		0.035		-0.071		0.010
High structural quality		-0.136+		-0.077		-0.346**		-0.205
Intercept	**0.508*****	**0.613*****	**0.388*****	**0.460*****	**1.011*****	1.021	**0.976*****	**0.975*****
N	1,090	846	1,400	1,108	269	213	345	279

*** p<0.01, ** p<0.05, + p<0.10
(1) Self-report variable is equal to one if a person in the household mentioned that the household is a beneficiary of *Oportunidades* and is equal to zero in the opposite case.
(2) Equal to one if there is at least one health clinic in the community, and equal to zero in the opposite case.
(3) Equal to one if there is at least one community clinic in the community, and equal to zero in the opposite case.
(4) Equal to one if there is at least one private doctor in the community, and equal to zero in the opposite case.
(5) Index that measures the availability of material and human health resources at the community level.

METABOLIC SYNDROME

In this section, we present the results related to illnesses associated with metabolic syndrome, especially Type 2 Diabetes (T2D) and hypertension (HTN), and its risk factors among the *Oportunidades* Program beneficiary population.

In general, the population reported a relatively high prevalence of T2D (5.6%) and HTN (10.2%). The indigenous group reported a lower prevalence of both illnesses, even after adjusting for age and other possible predictors. In relation to the medical tests, we observed that, in general, there existed a sufficient coverage of hypertension and diabetes tests: more than 50% of the participants who were not diagnosed with HTN reported having received a blood pressure test in the last year, and almost 30% of the participants not diagnosed with T2D reported having had a glucose exam in the last year.

With regards to the physical exam and the measurement of biomarkers (Table 4), we observed a significant prevalence of obesity and overweight in both the non-indigenous and indigenous populations. However, the levels

Table 4
Biological measurements of the women evaluated for metabolic syndrome, by ethnicity

	NON-INDIGENOUS	INDIGENOUS	VALUE P*
Body Mass Index			
With at least one diagnostic factor			
Normal	19.6	31.2	
Overweight	40.2	40.5	
Obese	40.3	28.3	p≤0.0*
Without any diagnostic factor			
Normal	27.0	54.1	
Overweight	37.5	33.3	
Obese	35.5	12.6	p≤0.05
Blood pressure			
Uncontrolled hypertension	59.4	58.7	NS
Uncontrolled hypertension among undiagnosed patients (diagnosed pb) n	32.7	38.9	p≤0.05
Blood-sugar level in diabetics			
Good control	26.8	36.6	
Poor control (diagnosed pb)	46.4	49.7	
Very poor control (diagnosed pb)	26.8	13.8	p≤0.05
Blood-sugar level in non diabetics			
Good control	75.9	82.8	
Poor control (diagnosed pb)	18.3	13.0	
Very poor control (diagnosed pb)	5.7	4.2	p≤0.05
Cholesterol			
Diagnosed as uncontrolled	47.4	44.0	NS
Undiagnosed and uncontrolled	34.7	30.1	NS
N	1,641	448	

(1) All of the values in the table are presented as percentages.
Body mass index: normal=<25 Kg/m^2, overweight= 25-<30 Kg/m^2, obese: ≥ 30 Kg/m^2.
Uncontrolled hypertension: systolic pressure ≥ 140 mmHg or Diastolic pressure ≥ 90 mmHg.
Uncontrolled glucose: good control=HbA1c<7%, poor control= HbA1c 7 - <12 %, very poor control HbA1c ≥12%.
Uncontrolled cholesterol: capillary cholesterol ≥ 200 mg/dL.
* The P values were calculated by use of the Ji-Square test.

of obesity were significantly higher among the non-indigenous persons. The proportion of patients diagnosed with uncontrolled HTN in the indigenous and non-indigenous populations was nearly 60%. However, among the patients not diagnosed with HTN, the proportion with uncontrolled hypertension, and therefore with undiagnosed hypertension, was around 30%. This proportion was higher (39% vs. 33%) among the indigenous than the non-indigenous population, which may reflect the lack of access or opportunity to perform medical exams among the indigenous population.

In our multivariate adjustment, we included obesity and other important predictors of blood pressure levels. An index of assets as markers of socioeconomic status and an indicator of quality of attention in the corresponding clinic were also included in the adjustment (Table 5). We observed that the indigenous population showed a statistically significant greater risk for uncontrolled hypertension among undiagnosed participants (probable undiagnosed HTN), with an odds ratio of 1.74, in comparison with the non-indigenous population. Aside from the predictors that were expected to be associated with HTN, such as age and obesity (BMI), no other variable was associated with this end result. We did not find a significant relationship between uncontrolled hypertension and being a beneficiary of

Table 5
Logistic regression models for uncontrolled hypertension in patients who have either been or not been diagnosed with hypertension. Sample: ENCEL 2007

	UNCONTROLLED HYPERTENSION IN PATIENTS WHO HAVE BEEN DIAGNOSED WITH HYPERTENSION [1]			UNCONTROLLED HYPERTENSION IN PATIENTS WHO HAVE NOT BEEN DIAGNOSED WITH HYPERTENSION. (DIAGNOSED PB UNKNOWN) [1]		
	ADJUSTED BY AGE	**(1)**	**(2)**	**ADJUSTED BY AGE**	**(1)**	**(2)**
Group of Incorporation						
Year 1998 (Reference)						
Year 2000		1.450	1.620		1.020	0.960
Year 2003		0.700	1.010		0.890	0.880
Chiapas-Oaxaca		**1.70*** **	1.610		0.850	0.820
Individual Characteristics						
Age (in years)	**1.060*** **	**1.060*** **	**1.060*** **	1.050	**1.060*** **	1.060
Without Dx. (Reference)						
Dx. Diabetes [2]		1.380***	1.370***		1.800***	1.850***
Dx. Dyslipidemia [3]		0.700	0.780		0.820	0.850
BMI (Kg/m^2)		1.020	1.030		1.060***	1.070***
Time of diagnoses (year)		1.040***	1.400***			
Household Characteristics						
Indigenous	0.930	0.960	0.880	1.430	**1.610*** **	**1.740*** **
Assets, first third (reference)			1.000			1.000
Assets, second third			0.900			0.800
Assets, last third			0.600			0.760
Community Characteristics						
High structural quality (reference) [4]			1.000			1.000
Medium-high structural quality			0.800			0.970
Low-medium-high structural quality			0.540			0.840
Low-high structural quality			0.610			1.110

*** p<0.01, ** p<0.05, + p<0.10
(1) Reported odds ratio.
(2) and (3) Diagnosis of diabetes or hyperlipidemia is known.
(4) Index that measures the availability of material and human health resources at the community level.

Oportunidades (either using the group variable or the self-report variable). The structural quality of the clinics did not seem to be related to differences in uncontrolled hypertension.

With respect to the patients with T2D, a minority of participants was found to be in good control of their illness: a little more than a third of the indigenous population and a little more than a quarter of the non-indigenous population. The degree to which the illness was uncontrolled was higher among the non-indigenous population, especially in the category of very poor control for which the difference was 26.8% as compared to 13.8% among the indigenous population. After adjusting for metabolic control predictors, especially the time of evolution of the illness, weight excess and obesity (smaller among indigenous), the difference reverted to a higher risk of being uncontrolled among the indigenous than among the non-indigenous population, with a non-significant odds ratio of 1.32 (Table 6). For the patients without a known T2D diagnosis, glycosylated hemoglobin values suggested a proportion of 24% of individuals with a probable unknown diagnosis of T2D among the non-indigenous and 17.2% among the indigenous population. This difference was reduced and became insignificant in the multivariate model, but the trend remained the same (Table 6). Again, neither the groups of incorporation nor the self-report of incorporation in the Program appeared to cause differences in these health indicators.

Table 6
Regression logistic models for uncontrolled glycemia (glycosylated hemoglobin) in patients who have either been or not been diagnosed with diabetes. Sample: ENCEL 2007

	UNCONTROLLED GLYCEMIA IN PATIENTS WHO HAVE BEEN DIAGNOSED WITH DIABETES (1)			UNCONTROLLED GLYCEMIA IN PATIENTS WHO HAVE NOT BEEN DIAGNOSED WITH DIABETES. (DIAGNOSED PB UNKNOWN) (1)		
	ADJUSTED BY AGE	(1)	(2)	ADJUSTED BY AGE	(1)	(2)
Groups of Incorporation						
Year 1998 (Reference)						
Year 2000		0.970	1.270		1.430	1.380
Year 2003		0.800	0.870		1.130	1.030
Chiapas-Oaxaca		0.850	0.930		1.180	1.200
Individual Characteristics						
Age (in years)	**1.020*** **	1.000	1.010	1.020***	1.040***	1.040**
Without Dx. (Reference)						1.0
Dx. HTN (2)		0.850	0.850		**1.180*** **	0.810
Dx. Dyslipidemia (3)		1.090	1.120		0.870	1.230
BMI (Kg/m2)		1.020	1.000		1.060***	1.060***
Time of diagnoses (year)		**1.780*** **	1.670			
Household Characteristics						
Indigenous	**0.610*** **	1.570	1.320	**0.590*** **	0.710	0.890
Assets, first third (reference)						
Assets, second third			1.040			1.770**
Assets, last third			1.320			1.610**
Community Characteristics						
High structural quality (reference) (4)						
High-medium structural quality			1.130			0.980
High-medium-low structural quality			0.770			0.980
High-low structural quality			0.790			1.000

*** p<0.01, ** p<0.05, + p<0.10
(1) Reported odds ratio.
(2) and (3) Diagnosis of diabetes or hyperlipidemia is known.
(4) Index that measures the availability of material and human health resources at the community level.

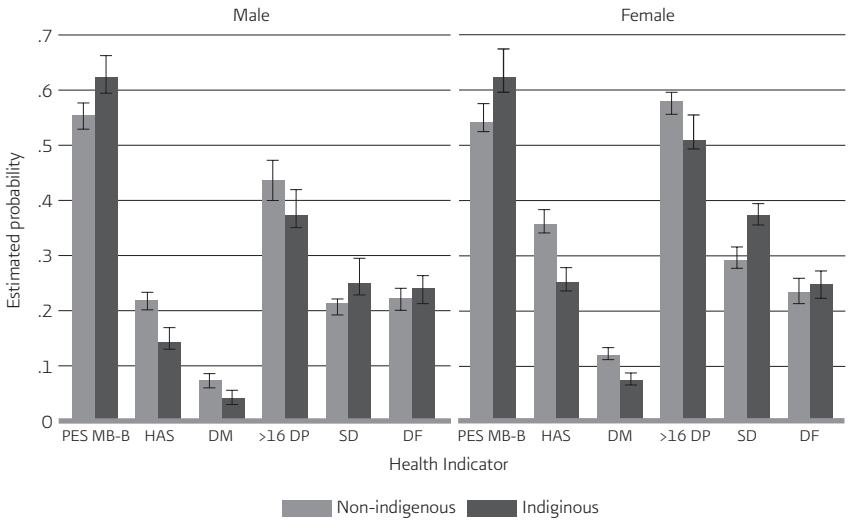
OLDER POPULATION'S HEALTH

The following section presents an analysis of the older population incorporated in the *2007* Evaluation survey of rural households (ENCEL 2007). The questionnaire, specifically designed for this type of population, included measurements in three main categories: patterns of income, savings and spending; health (physical and mental) and nutrition; as well as support networks (social and familial) and residential arrangements. A total of 13 health indicators and 10 coverage indicators were constructed and analyzed, taking into consideration the Official Mexican Standards on health for this population group as well as the Rules of Operation for the *Oportunidades* Program that specify the type of reviews to which the older adults should be subjected in each medical visit and the types of services (preventative and coverage) to which they are entitled.

Graphs 1 and 2 show the results for some of the indicators as distinguished by gender and indigenous status. We observed that the indigenous population perceived that they had a better health condition, as well as a lower probability of a medical diagnosis for hypertension or diabetes mellitus. It was also noteworthy that indicators such as functional dependency and symptoms of depression tended to be statistically higher among the indigenous population (Graph 1). On the other hand, in the matter of coverage and use of health services, we observed a clear difference to the detriment of the indigenous population. This situation was particularly evident with regard to dental and visual health, as can be observed in Graphs 2 and 3.

The men generally presented with higher indicators of health when compared to the women. Men presented with less frequent medical diagnoses of hypertension and diabetes mellitus, as well as lower self-reported symptoms of depression, functional dependency, and lack of 16 or more teeth as compared to the women. Interestingly, concerning coverage and utilization of health services, women reported having greater coverage.

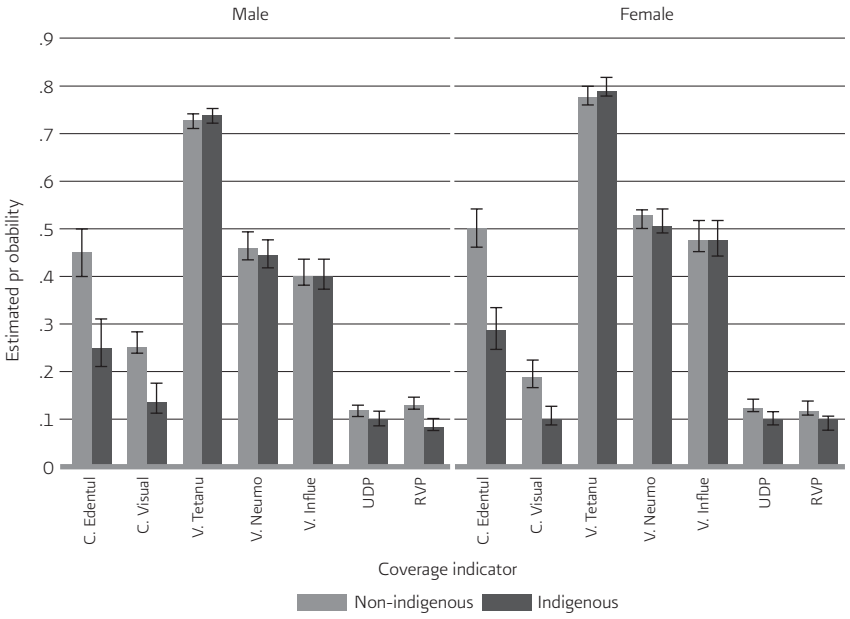
In our analysis of the effect of community type, we did not find differences for any of the indicators according to the phase of incorporation of the community into the *Oportunidades* Program. More specifically, we did not observe an effect on indicators related to health condition or coverage and utilization of health services. Graph 3 shows these results for select indicators.



Graph 1
Indicators of health condition

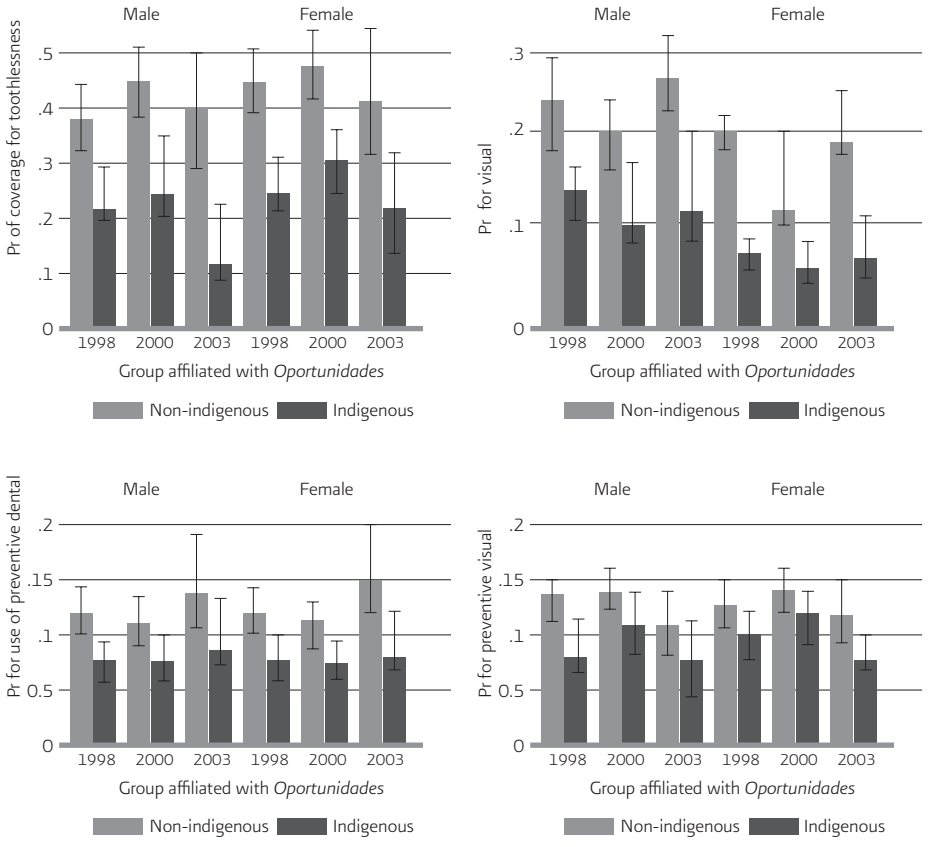
* PHC VG-G (*perception of "very good" or "good" health condition*), HTN (*Hypertension*), DM (*Diabetes Mellitus*) >16 DP (*more than 16 teeth missing*), SD (*symptoms of depression*), FD (*functional dependency*).

Graph 2
Coverage and use of health services



* C. Edentulousness/toothless (*coverage for toothlessness*), C. Visual (*visual coverage*), V. Tetanus (*coverage of vaccination against tetanus*), V. Pneumo (*coverage for vaccination against pneumococci*), V.Influe (*coverage for vaccination against haemophilus influenzae*), UDC (*Use of dental care*), PEE (*Preventative eye exam*).

Graph 3
Coverage and utilization indicators for dental and vision health, according to the year of affiliation of the community of residence with the *Oportunidades* Program

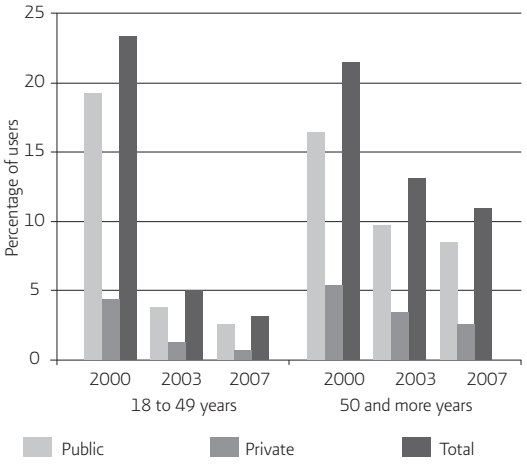


* UDP (*Use of preventative dental*), PEE (*Preventative Eye Exam*).

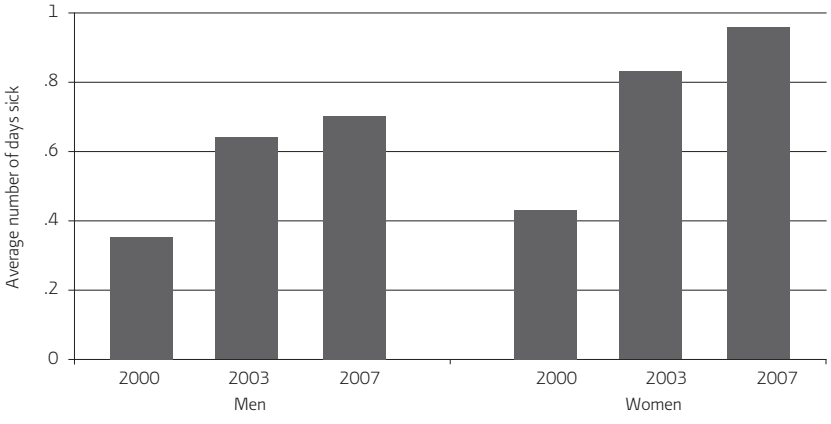
UTILIZATION OF SERVICES, SPENDING ON HEALTH SERVICES AND SELF-REPORTED HEALTH CONDITION

In this section, we present an analysis of the utilization of health services, the spending associated with it, and the self-reported health conditions of the persons living in households covered by the *Oportunidades* Program. We performed two types of analysis, one was descriptive and the other multivariate. The goal of the first analysis was to describe the evolution of public and private health service usage, spending and the conditions of morbidity and inactivity attributed to people's health reasons. On the other hand, we identified the trajectories in the indicators of age, gender, and ethnicity. In the descriptive analysis we employed data from ENCEL 2000 (March), 2003, and 2007. So that the comparisons between the different phases were more informative and easy to interpret, we decided to exclude from the sample the households that were formed after 1998. That is, we maintained the same households during the whole period analyzed.

In Graph 4, we present the change between 2000 and 2007 of the proportion of households that report having used clinic services during the last four weeks, for those aged 18 to 49 and 50 years or those older than 50 years. It is important to note that there seemed to be a drastic decrease in the use of health services, public ones in particular, and especially among the population aged 18 to 49 years. Graph 5 shows the same analysis distinguished by gender. The results were similar, although the effect was less drastic for women.



Graph 4
Use of public, private, and all types of health services in the last four weeks



Graph 5
Report of morbidity during the last month, by gender

The morbidity self-report was measured as the number of sick days during the last four weeks. Graph 5 shows the change between 2000 and 2007, as distinguished by gender. According to the results of the three rounds of ENCEL, the average number of sick days during the last four weeks increased among the beneficiaries over the last seven years, among men as well as women, although this increase was higher among women: it increased from 0.4 days to almost 1 day.

The aim of the multivariate analysis was to identify differences in the levels of usage, spending and health indicators between various groups of beneficiaries, and the factors associated with those differences. The groups of interest that will are compared in the multivariate analysis, based on the ENCEL 2007 information, were males vs. females, and indigenous vs. non-indigenous, as in the descriptive analysis, in addition to three community types based on their year of enrollment into the Program. Alternatively, as explained in the methodology section, we used a variable of self-reported status as a beneficiary of the Program in 2007.

Table 7 shows the results of the estimates for the usage of outpatient services (all services and public services) in 2007. We used two specifications (1 and 2), which are different from the general model presented in the methods section. The first one considered as its treatment variable the type of community to which the household belonged, while the second one considered the self-report of being a Program beneficiary. Both specifications control for the users' demographic characteristics (age and gender) and for socioeconomic status at the household level using the assets index (see Methodology section) and for other characteristics of the head of household. The (a) and (b) specifications in the models differed with respect to inclusion of the health center structural quality index, which is included in (b).

We noted that the estimated coefficients in the four models, for the public outpatient services in particular as well as in general, are stable. This finding indicates that households that are systematically different from those that remain in the sample were not lost. However, the year of incorporation into the Program had an effect on the use of services for all types of services. The households in communities incorporated in 1998 tended to use less outpatient services. This finding is interesting given the descriptive analysis result that showed a decrease in the time spent using this type of service. Together, these results suggested that the first beneficiaries of the Program are most likely to reduce their usage by the greatest degree. For this reason, we have investigated whether the use of preventative services also showed a tendency to decrease over time. We found that this is not the case, or at least it was not as drastic as in the case of total services (see Appendix 6). This finding implies that the reduction in use is directly related to the curative services and, according to the results presented in Table 7, this effect is probably stronger among the beneficiaries who have a longer history in the Program. This hypothesis should be investigated more closely for two reasons. First, the hypothesis implies an important positive effect of the Program in the case in which it is validated. Second, it implies that the morbidity report result (an increase in morbidity over time) is due to a change in perception of the morbidity report and not necessarily to a deteriorating state of health. On the other hand, in the case of the self-report variable of being a beneficiary, we did not find an effect on usage in this multivariate analysis.

The quality of services had a positive effect on the use of services. In those households with access to clinics of high structural quality, the probability of the use of services was increased in comparison to households that had access to clinics of low structural quality. Given the relevance of this result, it is important to note that it was statistically significant. In addition, given that we control for the level of community marginalization in these estimations, this result could not be attributed to a shortage of public services or another poverty characteristic at the community level. On the other hand, it is important to note that we found an important role for the quality of services solely with respect to the utilization of general services. In the previous sections, in which we analyzed the effect of the structural quality of the clinics on specific indicators of reproductive health, children's health, metabolic syndrome, and health of the older population, we did not find a significant effect of structural quality. Given the results reported in this section, it is very likely that the index of structural quality is not appropriate for measuring the quality of specific services. In future investigations, use of indices that are more appropriate and specific to the population group or the health problem under study are necessary.

For both types of usage (all services and public services), higher levels of marginalization at the local level are associated with a lesser use of outpatient services. We also found that women have a lower probability of using services (on average 3%) as compared to men. As was expected, the older population (aged 50 years or more) used

more outpatient services than younger populations. Being indigenous did not have an effect on usage, as opposed to what we found in the descriptive analysis. This finding implies that, once we control for poverty, education, marginalization, etc., being indigenous was not indicative of lower use of services.

Finally, despite the fact that the self-reported variable of being a beneficiary did not have an impact on the use of outpatient services, the association of this indicator with the indigenous status of households favored usage, with the interaction between groups of incorporation and being an indigenous household. This association becomes even more interesting if we consider that almost 60% of the households that self-reported being beneficiaries of the Program came from communities treated in 1998 and 2000. This finding implies that the Program has brought about a considerable increase in the use of outpatient services on the part of the indigenous population.

Table 7
Probabilistic linear models for the use of public outpatient services and all clinic services in the last four weeks

DEPENDENT VARIABLE: HAVE YOU USED OUTPATIENT SERVICES WITHIN THE LAST FOUR WEEKS?								
	ALL OUTPATIENT SERVICES				PUBLIC OUTPATIENT SERVICES			
	(1A)	(1B)	(2A)	(2B)	(1A)	(1B)	(2A)	(2B)
Group of Incorporation								
Year 1998	-0.013+	-0.019**			-0.010	**-0.014+**		
Year 2000	-0.018**	-0.020**			-0.016**	-0.017**		
Year 2003 (reference)								
Year 1998* indigenous	0.004	0.022			0.008	**0.025****		
Year 2000* indigenous	0.017	**0.034****			0.017	**0.031****		
Year 2003* indigenous (reference)								
Individual Characteristics								
Gender (1=m, 0=f)	-0.033***	-0.034***	-0.033***	-0.034***	-0.027***	-0.028***	-0.027***	-0.028***
Age 0 to 6 years (reference)								
Age 7 to 17 years	-0.058***	-0.056***	-0.058***	-0.056***	-0.039***	-0.037***	-0.039***	-0.037***
Age 18 to 49 years	-0.055***	-0.055***	-0.055***	-0.055***	-0.041***	-0.040***	-0.041***	-0.040***
Age 50 and more years	0.019***	0.018***	0.019***	0.018***	0.009**	0.009**	0.009**	0.009**
Household Characteristics								
Indigenous	-0.000	-0.017	-0.005	-0.002	-0.001	-0.016	-0.004	-0.000
Assets, first third (reference)								
Assets, second third	0.005	**0.007+**	0.005	**0.007+**	0.003	0.005	0.003	0.005
Assets, last third	0.002	0.003	0.002	0.003	-0.002	0.000	-0.002	0.000
Oportunidades(1)			-0.001	0.000			-0.001	0.000
Oportunidades(1)* Indigenous			0.008***	0.005+			0.007***	0.005**
Head of household without education (reference)								
Head of household with primary education	0.035	0.038	0.035	0.038	0.024	0.027	0.024	0.027
Head of household with more than a primary education	0.059**	0.061**	0.059**	0.061**	0.039+	0.042+	0.040+	0.042+
Community Characteristics								
Low-low/medium-low structural quality (reference)(2)								
Medium-high structural quality		0.004		0.005		0.007		0.007
High structural quality		0.013		0.015+		0.016+		0.017**
Marginalization index 2005	**-0.013*****	**-0.012****	**-0.013*****	**-0.013*****	-0.004	-0.004	-0.004	-0.004
Intercept	0.109***	0.108***	0.099***	0.091***	0.091***	0.086***	0.083***	0.074***
N	128,115	100,398	128,115	100,398	128,115	100,398	128,115	100,398

*** p<0.01, ** p<0.05, + p<0.10

(1) Self-report variable is equal to one if a person in the household mentions that the house is a beneficiary of *Oportunidades*, and is equal to zero in the opposite case.

(2) Index that measures the availability of material and human health resources at the community level.

Discussion

In general, we found that being poor, a woman, and indigenous are associated with a worse state of health, use of fewer health care services and poor levels of detection and control of chronic illnesses. This finding requires validation. It would be interesting to compare the magnitude of the inequalities observed in the *Oportunidades* sample with other representative samples at a national level. Our hypothesis is that the inequalities between various beneficiaries of *Oportunidades* have been reduced by implementation of the Program.

In general, the population of beneficiaries that was defined in the study as indigenous is found to be at a disadvantage with respect to the population that was defined as non-indigenous. The first point to consider has to do with the variable used to define "indigenous". We have defined a household as indigenous based on the answer given on the demographic questionnaire as to whether the head of household spoke any indigenous language. This definition has been used in the past, although not without criticism of its validity. The definition of ethnicity that is relevant to this type of analysis does not have to do with understanding an indigenous language exclusively, but rather it has to do with other cultural characteristics and behaviors that are not necessarily related to whether one or both heads of household speak or understand an indigenous language. In this case, our definition would be deficient and use of a definition based on other answers would be preferred. Second, because we did not have a similar analysis from the past, it was not possible to say whether the disadvantages observed in the indigenous group with respect to groups who were not indigenous have changed over the 10 years that passed since the implementation of *Oportunidades*. Third, we observed that the indigenous population reported a higher state of health relative to the non-indigenous population. It is very probable that this result is related to their limited access to medical services, which may affect their perception of what constitutes a health problem and thus result in reduced diagnosis of chronic illnesses. Inclusion of other factors in the analysis would enable verification of the effect of "being indigenous." For example: the size and level of isolation of the community, the proportion of the community that is indigenous, the type of clinic (presence of doctors), etc. It would be very useful to investigate the effect of being indigenous on the use of services, the population's health condition and the role played by *Oportunidades*.

On the other hand, we found that women present disadvantages in terms of their state of health and use of services in comparison to men. This difference was most obvious for preventative services. Beyond the fact that any such gap is unjustifiable from the point of view of social equality, it is difficult to say whether the magnitude of this gap has changed over time or if it has changed in terms of improving the situation of impoverished Mexican women, because we do not have a previous analysis of this type. *Oportunidades* has set new standards for the social policies in Mexico regarding poor women. On one hand, *Oportunidades* has granted them more negotiating power within the household through their role as the *main beneficiary* and, on the other hand, it has fostered within them a greater understanding of their right to use public services. For this reason, future in-depth investigations of these aspects are necessary.

In general, we found that history in the *Oportunidades* Program, as measured by the year of incorporation into the Program, did not correlate with significant differences in terms of state of health or use of medical services. This result can be interpreted in different ways. It could be a result of two opposing effects: family members with more time spent in the Program tend to fall ill less frequently, but this effect is nullified by the tendency of these persons to be more aware of health issues and have more information, which leads them to report illnesses more frequently. The analysis on reported morbidity and sick days presented in this document includes some evidence in support of this hypothesis. An alternate interpretation is that the households that were incorporated into the Program earlier were different than those incorporated later; in particular, they were in worse shape and had a greater probability of having a poorer state of health in the absence of the Program. If the latter situation is true, the fact that no differences were found in the state of health in 2007 could be evidence that the Program has leveled the beneficiaries to an equal state of health, regardless of the status of their initial condition at the implementation of the Program. A third alternative is that some of the effects of the Program are largely achieved in the short term, and that it is difficult to observe further improvement once these changes are achieved.

The clinic quality index used in the analyses presented in this document had little effect on the indicators analyzed for specific illnesses. However, we found that the clinic quality index had a positive effect on the use of general services. This result suggested the need to use quality indicators specific to the condition of interest. The results observed in the area of use of services were very encouraging in the sense that they indicated that the beneficiary population was responsive to the improvement in the quality of services, and that the population responded by using the services more frequently. These results should be confirmed in further studies.

SWOT Analysis

TOPIC: REPRODUCTIVE HEALTH	STRENGTHS AND OPPORTUNITIES/WEAKNESSES OR THREATS	RECOMMENDATION REFERENCE
	STRENGTHS AND OPPORTUNITIES	
Use of Prenatal Services	A considerable portion of the women who used clinics that provided services to *Oportunidades's* female beneficiaries reported using their prenatal identification card in order to plan their doctor visits during their pregnancy.	Not Applicable
Use of Prenatal Services	More than 90% of the indigenous and non-indigenous women reported having been attended by a doctor during prenatal care.	Not Applicable
Use of Prenatal Services	The average number of prenatal visits was six, with no big difference in visit averages between indigenous and non-indigenous women.	Not Applicable
Use of Prenatal Services	The women who reported being beneficiaries of *Oportunidades* used more prenatal services.	Not Applicable
Use of Prenatal Services	The majority of the women reported that they had been given a prescription and had taken nutritional supplements during pregnancy. The majority also indicated having received the nutritional supplement *Nutrivida*.	Not Applicable
Use of Obstetrical Services	Almost 80% of the non-indigenous women were attended to by a doctor during childbirth. .	Not Applicable
Use of Obstetrical Services	The women beneficiaries of *Oportunidades* and those who had spent more time in the Program were more prone to be attended to by a doctor than by a midwife during childbirth.	Not Applicable
	WEAKNESSES OR THREATS	
Use of Prenatal Services	Thirty-six percent of the women indicated being attended to by a second health provider during prenatal care. Among indigenous women, 61% had a second health provider during prenatal care.	*Recommendations for Oportunidades* To investigate the reasons why the women visit a second health care provider for prenatal care.
Use of Prenatal Services	A considerable proportion of women noted not having had access to urine or blood tests, syphilis tests or ultrasounds.	*Recommendations for the Health Sector* To improve access to lab tests in accordance with the Official Mexican Standards on health.
Use of Prenatal Services	Indigenous women and women with less education used prenatal services less often. In contrast, women with some type of medical insurance (IMSS, ISSSTE, *Seguro Popular*) used prenatal services more often in comparison to those who were not covered.	*Recommendations for Oportunidades* To better identify women who show low use of prenatal services in order to provide an intervention.

Use of Prenatal Services	There remained a significant proportion of women who were not given information on specific alarm signals during prenatal care.	*Recommendations for the Health Sector.* To improve the information given to pregnant women regarding the possible alarm signs during pregnancy. Education could be achieved through self-teaching (videos, etc), workshops, or qualified health care providers. To innovate and evaluate various approaches.
Use of Obstetrical Services	The majority of indigenous women noted having received attention during labor at their house. The main reason was their confidence of being attended to there. Additionally, indigenous women had a lower probability of being attended to during labor by a doctor in comparison to a midwife.	*Recommendations for Oportunidades* To investigate the main reasons why indigenous women do not have confidence in being attended to during childbirth by formal health care services or doctors. To experiment with innovative ways to increase the rates of attendance during childbirth by a qualified professional in their community, including: payments to accompanying midwifes, conditional payments to women, hiring midwifes and/or professional nurse obstetricians. To improve local health care centers where child birth can be attended to in safer conditions (oxygen, ambulance, CPR kit, incubator) with the possibility of referring the patient to another facility if necessary.
Use of Obstetrical Services	Indigenous women, those with less education, and those who have fewer assets in the household received attention during childbirth by a midwife instead of a doctor.	*Recommendations for the Health Sector* To improve access to formal obstetrical services for indigenous women and those who are in greater poverty.
Use of Prenatal and Obstetrical Services	Despite the fact that the *Oportunidades* Program has improved prenatal service usage among women beneficiaries (indigenous and non-indigenous), it was not clear that their preference for being attended to by midwives during childbirth had changed, particularly among indigenous women.	*Recommendations for Oportunidades* To investigate the reasons why women in rural zones and those of indigenous origin increase their prenatal care, but not their obstetrical care from doctors. **Recommendations for *Oportunidades* and the Health Sector** To strengthen coordination between the *Oportunidades* Program and the health sector in order to link incentives to the demand for prenatal services with the actions of the health sector to offer these services. To motivate comprehensive and proper use of reproductive health care services (prenatal, obstetrical, etc.) among women in rural zones.

TOPIC: CHILDREN'S HEALTH	STRENGTHS AND OPPORTUNITIES/WEAKNESSES OR THREATS	RECOMMENDATION REFERENCE
	STRENGTHS AND OPPORTUNITIES	
Morbidity	Children in families covered by *Oportunidades* had fewer (reported) health problems than those not covered.	Not Applicable
Medical Attention Sought	The beneficiaries used the health clinic or community clinic with greater frequency (47% vs. 37%) and went to a private doctor less often (14% vs. 25%) relative to non-beneficiaries.	Not Applicable
Knowledge	The beneficiaries of *Oportunidades* were more inclined to use public medical services relative to non-beneficiaries.	Not Applicable

Perception of Health Center	The majority of parents believed that the health care center is better or equal to a private doctor or private pharmacy.	Not Applicable
	WEAKNESS OR THREAT	
Medical Attention Sought	Tendency to go to a private doctor when the illness is perceived as more serious.	*Recommendations for Oportunidades* To investigate why parents go to a private doctor for illnesses perceived as grave. To translate these motives into a campaign for behavioral change using formative investigation. *Recommendations for the Health Sector* To implement a campaign for behavioral change based on evidence. In the short-term period (that is, before obtaining the results of the study of motives), it is recommended to take action so that people are aware of the technical quality of the public services.
Sought Medical Attention	High proportion of parents who sought attention from a provider that was not suitable (for example, the pharmacy) to handle illnesses perceived as grave.	*Recommendations for Oportunidades* To investigate why the parents go to a provider not equipped to deal with illnesses perceived as grave. To translate these motives into a campaign of behavioral change using formative investigation. *Recommendations for the Health Sector* To implement a campaign for behavior change based on evidence. In the short-term (that is before having the results of the study of motives): strengthen the workshops so that the parents are aware of the potentially dangerous illnesses that need attention from an adequate provider.
Medical Attention Sought	The preference to go to a public provider was lower in families with more resources.	*Recommendations for Oportunidades* To investigate why parents go to a public provider in order to ensure the "appeal" of public providers. In this way, we can prevent beneficiaries from using the private sector as soon as they acquire a higher socio-economic level. *Recommendations for the Health Sector* To ensure that the quality perceived by the users corresponds to the technical quality of the public services.
Perception of the Health Center	The majority of parents considered the waiting time worse at the health care center than at a private pharmacy or with a public doctor.	*Recommendations for the Health Sector* To investigate the reasons for the perception of longer waiting times in the care health centers. To reduce the waiting times in the health care centers, possibly by hiring more staff or expanding business hours.

TOPIC: METABOLIC SYNDROME	STRENGTHS AND OPPORTUNITIES/WEAKNESSES OR THREATS	RECOMMENDATION REFERENCE
	STRENGTHS AND OPPORTUNITIES	
Medical Detection Exams	There was adequate coverage of medical exams for hypertension (blood pressure tests). More than 50% of participants diagnosed as not having HTN in the total study population, and in practically all analyzed subgroups, reported having received a blood pressure test during the last year.	Not Applicable
Medical Detection Exams	In general, around 25% of the adult population reported having had a glucose exam for detecting T2D during the last year, which is considered adequate.	Not Applicable
Medical Detection Exams	The group described as Program beneficiaries reported having had blood pressure tests (sifting or detection exams) to a greater degree, as much in the undiagnosed group as in the patients diagnosed with HTN (exams for monitoring and controlling the disease).	Not Applicable
Attention to Diagnosed Patients	The proportion of patients with T2D and/or HTN who received medical treatment was high, with no differences observed between the groups categorized by ethnicity or incorporation into the Program.	Not Applicable
Attention to Diagnosed Patients	94% of the patients with T2D and 79.8% of the patients with HTN reported very good adherence to the medical treatment.	Not Applicable
Attention to Diagnosed Patients	The majority of patients with HTN and/or T2D had at least four consultations for disease control during the last year.	Not Applicable
	WEAKNESSES AND THREATS	
Prevalence of Illnesses Associated with Metabolic Syndrome	In general, the adult population reported a relatively high prevalence of having been diagnosed with Type 2 Diabetes (5.6%) and Hypertension (10.2%).	*Recommendations for the Health Sector and for Oportunidades* To set as a priority the detection and control of these illnesses among the beneficiary population, reinforcing the self-care workshops, and evaluating their incorporation into beneficiaries' responsibilities.
Prevalence of Illnesses Associated with Metabolic Syndrome	Around 70% in non-indigenous and around 50% in indigenous populations of participants with no diagnosis of chronic illness were overweight or obese and therefore at a high risk for T2D and HTN.	*Recommendations for the Health Sector* To strengthen strategies for the prevention of obesity and the detection of chronic illnesses within the overweight population. To use overweight and obesity guidelines to direct the specific prevention interventions. *Recommendations for Oportunidades* To strengthen the unhealthy weight component (overweight and obesity) in workshops in order to augment the notion of associated risk. To increase participation in self-help groups for beneficiaries with obesity in order to promote a healthy diet and to increase physical activity.
Medical Detection Exams	The group classified as indigenous reported lower access to medical exams for HTN	*Recommendations for Oportunidades* To explore the reasons for this heterogeneity since, at least among the beneficiary groups, the indigenous should receive the same amount of medical exams as the non-indigenous group. A qualitative investigation should identify the barriers for this vulnerable group.

Early Detection	Despite the high percentage and adequate coverage of the medical exams, there remained a high proportion of likely undiagnosed patients for HTN (around 30%) and T2D (around 20%).	*Recommendations for the Health Sector* To verify early detection actions, since, despite good coverage, lack of diagnosis seems to be highly prevalent. To train the personnel who administer the medical exams.
Early Detection	The indigenous group appeared to be the most affected by the proportion of patients likely to be undiagnosed for HTN.	*Recommendations for Oportunidades* To explore the reasons for this heterogeneity since, at least among the group of beneficiaries, the indigenous should receive the same amount of medical exams as the non-indigenous.
Attention to Diagnosed Patients	The proportion of patients who had been diagnosed with uncontrolled HTN was nearly 60%, both among the indigenous and the non-indigenous. There were no differences between groups of incorporation into the Program or by being a beneficiary or not.	*Recommendations for the Health Sector and for Oportunidades* ,To create a training plan for the doctors and health personnel, besides reinforcing the workshops for beneficiaries, so that the quality of attention can be strengthened. To explore alternatives for motivating the doctors to improve their training in the treatment of these types of illnesses: pay by performance.
Attention to Diagnosed Patients	The majority of patients with T2D had some degree of uncontrolled glucose: around 70% of the patients among the indigenous and more than 75% among the non-indigenous.	*Recommendations for the Health Sector and for Oportunidades* To create a training plan for the doctors and health personnel, besides reinforcing the workshops for beneficiaries, so that the quality of attention can be strengthened. To produce quick treatment guides based on standard recommendations. To ensure the supply of medicines. To train and explore the barriers to insulin use. To explore alternatives to incentivize the doctors to improve their training in the treatment of these types of illnesses: pay by performance.
Attention to Diagnosed Patients	More than 20% of the patients with T2D were not administered a glucose test during the last year. This percentage is below the recommended attention level since it is expected that 100% of patients have at least two annual monitoring exams.	*Recommendations for the Health Sector and for Oportunidades* In addition to training doctors, to ensure access to the labs in the clinics that serve patients who are beneficiaries of the *Oportunidades* Program.
Attention to Diagnosed Patients	Despite good adherence to the medical treatments, we observed low adherence to the diet and exercise plans among patients with T2D and HTN.	*Recommendations for the Health Sector and for Oportunidades* To reinforce self-help groups and explore the possibility of incorporating them into the Program's requirements for its members.
Attention to Diagnosed Patients	Less than 30% of the patients reported a change in their treatment since the start of their diagnosis with T2D or HTN.	*Recommendations for the Health Sector and for Oportunidades* In addition to reinforcing the workshops among the beneficiaries, to develop a training plan for the doctors and medical personnel in order to strengthen the quality of attention.

TOPIC: HEALTH OF OLDER POPULATION	STRENGTHS AND OPPORTUNITIES/WEAKNESSES OR THREATS	RECOMMENDATION REFERENCE
	STRENGTHS AND OPPORTUNITIES	
Coverage	Women presented higher coverage and use of health services than men.	Not Applicable
Vaccination	There were no inequalities in vaccination coverage by indigenous status. This finding is important for social equality.	Not Applicable
Early Detection of Cervical – Uterine Cancer	There were no inequalities in early detection coverage for cervical - uterine cancer by indigenous status. This finding is important for social equality.	Not Applicable
	WEAKNESSES AND THREATS	
Functional Dependence	28.64% of the older population showed functional dependence. The probability of having functional dependence was higher among women.	*Recommendations for Oportunidades* To establish strategies, with a gender perspective, to guarantee that these persons receive health services. House visits are a possible option. To detail the specific activities that should be applied by the Program in order to guarantee that health services are accessible to this group in the Program's Rules of Operation. To approach this problem in future investigations through case studies and interviews of key informants.
Vaccination	Low vaccination coverage (H. Influenza 44%, Pneumonia 49%, tetanus 75%).	*Recommendations for the Health Sector* To improve the availability of and access to vaccines. **Recommendations for *Oportunidades*** To improve information pertaining to vaccines and promotion of vaccination.
Early Detection of Cervical – Uterine Cancer	Low coverage of the early detection of cervical – uterine cancer (34.93%).	*Recommendations for Oportunidades* To improve the quality and distribution of information pertaining to the importance of early detection of cervical – uterine cancer.
Coverage in the Detection of Breast Cancer	Low coverage of mammograms for the detection of breast cancer (7.3%)	*Recommendations for the Health Sector* To improve the availability of and access to mammograms. To establish specific strategies to increase the availability of mammograms, with explicit prioritization criteria. Recommendations for Oportunidades To improve the quality and distribution of information pertaining to the importance of mammograms for the early detection of breast cancer. To document the degree to which low coverage is due to the lack of availability of proper equipment (mamma graphs) or other access barriers (cultural acceptability, missing information, etc).

Detection of Prostate Cancer	Low coverage of prostate cancer screens in men that present prostatic symptoms (21.3%).	*Recommendations for the Health Sector* To improve the information on prostatic symptoms with the use of audiovisual material (videos) and talks with better-trained personnel. To innovate and evaluate promotion and diffusion campaigns for the detection of prostate cancer.
Treatment of Edentulousness	Low coverage (43.74%) of edentates (loss of all natural teeth) treatment. The probability of being covered was statistically lower within the indigenous population.	*Recommendations for the Health Sector* To improve the availability and access to treatment of edentulousness. **Recommendations for *Oportunidades*** To analyze the main reasons why the indigenous have lower coverage for this indicator.
Treatment of Visual Disorders	Visual coverage was lower among the indigenous relative to the non-indigenous population.	*Recommendations for the Health Sector* To improve the availability and accessibility of treatments for visual disorders. **Recommendations for *Oportunidades*** To identify the main reasons why the indigenous have less coverage.
Use of Preventative Dental Care	Low use of preventative dental healthcare (12.23%)	*Recommendations for Oportunidades* To innovate and evaluate campaigns of promotion and diffusion for improving the use of preventative dental care.
TOPIC: USE OF SERVICES	**STRENGTHS AND OPPORTUNITIES/WEAKNESSES OR THREATS**	**RECOMMENDATION REFERENCE**
	STRENGTHS AND OPPORTUNITIES	
Use of Preventative Services	Between 2000 and 2007, the use of preventative services was relatively constant, at least with respect to general use of services. This trend could be evidence that the responsibilities of the participants continue to motivate the use of services. It is an important achievement in terms of the fulfillment of the Program's objectives.	Not Applicable
Use of Clinic Services by the Indigenous Population	The indigenous beneficiaries of *Oportunidades* had a higher probability of using this type of service than the non-indigenous beneficiaries . It is an important effect in terms of access to services (probably preventative) among the indigenous population and with respect to the inequality in access to services that has traditionally affected this group.	Not Applicable

Structural Quality in the Clinics	In clinics with a relatively high structural quality level, the use of clinic services is higher.	*Recommendations for the Health Sector*_ It is of vital importance to make an effort to improve the basic structural conditions of the clinics in rural communities. According to our results, the users perceive and react to improvements in the quality of services by using them more often. In this sense, improving the structural quality of the clinics can translate into a substantial increase in the use of services. With respect to other aspects of quality, we recommend exploring the possibility of creating economic incentives for service providers to improve their performance (performance-based pay).
	WEAKNESSES AND THREATS	
Total Use of Clinic Services	There was a very significant reduction in the use of public services between 2000 and 2007. We hypothesize that this decrease could be attributed to curative services. If so, it could be a sign of improving health within the beneficiary population. However, this hypothesis is not supported by the morbidity report, which documents an increase during the same period. Another explanation could be that the beneficiaries are ceasing to fulfill their responsibilities in the usage of preventative services.	*Recommendations for Oportunidades* 1. To verify the fulfillment of requirements by the beneficiaries with respect to the use of preventative services. 2. To investigate this aspect in depth. The observed effects could be positive or negative. It is not possible to make a precise recommendation based upon the analysis presented in this document.
Female Morbidity	The female population reported a higher prevalence of morbidity.	*Recommendations for Oportunidades* To put emphasis on the health care of women. The system of incentives needs improvement in this respect. Until now, the Program has focused on mother-child health and, as we have seen, it has achieved positive results. Now may be the time to extend this focus. For example, the responsibilities of the members could be extended to include other types of preventative services among women: early detection of breast cancer, HPV infection, obesity, diabetes, etc.
Health and Usage of Services by the Indigenous Population	The indigenous population in general used health services less often. On the other hand they reported a higher state of health. It is difficult to believe this result *a priori* and the objective indicators of health shown in the report did not support this suggestion. It is probable that this distinction is indicative of a much more complex problem. On the one hand, the indigenous are in a poorer state of health than they perceive. On the other hand, they confront more barriers to the use of services. In this sense, it is probable that there exist cultural factors that play an important role in their perception of health.	*Recommendations for Oportunidades* The talks attended by the beneficiaries of the Program as part of their responsibilities could be an appropriate vehicle for delivering more culturally appropriate messages to the indigenous population. In this sense, the Program could take measures to develop the necessary content for this goal. It is highly probable that before developing this content, it will be necessary to better understand this problem through rigorous studies.

References

1. Grundy SM, Brewer HB Jr, Cleeman JI, et al. Definition of metabolic syndrome: Report of the National Heart, Lung, and Blood Institute/American Heart Association. Conference on scientific issues related to definition. Circulation 2004;109(3):433-438.
2. Fagard RH, Van den Enden M. Treatment and blood pressure control in isolated systolic hypertension diastolic hypertension in primary care. J Hum Hypertens 2003;17(10):681-687.
3. Stevens G, Dias RH, Thomas KJ, Rivera JA, Carvalho N, Barquera S, et al. Characterizing the epidemiological transition in Mexico: national and subnational burden of diseases, injuries, and risk factors. PLoS Med 2008;5(6):e125.
Ford ES, Li C. Metabolic syndrome and health-related quality of life among U.S. adults. Ann Epidemiol 2008;18(3):165-171.

The Nutritional Status of Children Under 2 and Their Mothers in Rural *Oportunidades* Households: A Situation Assessments

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Introduction

The Human Developmen Program *Oportunidades'* main objective is to develop human capital by improving the education, health, and nutrition capabilities among its beneficiary population. To fully accomplish this goal, the adverse effects that malnutrition has on development, capacity to learn and work, and person's general well-being must be eliminated. Ten years after the Program's s implementation, it is essential to follow up the evolution of the population's nutritional status since the beginning of *Oportunidades* in rural areas and to understand the nutritional gap that children and their mothers still face in rural communities, to which the Program should still attend. The general objective of this document is to provide a situational diagnosis of the nutritional status of children less than two years of age and their mothers, in the communities where the evaluation of the impact of *Oportunidades* (previously known as *Progresa*) was conducted in 1998-2000 and 2003. At the same time, the information available from other surveys was used to highlight the gap in the nutritional status that remains for this population, and to search for other factors associated with high rates of malnutrition. Specifically, this study sought to achieve the following objectives:

1. To estimate the prevalence of anemia, stunting, and wasting in *Oportunidades'* beneficiary children less than two years of age in Mexico's rural areas.
2. To estimate the prevalence of overweight and obesity in mothers of children less than two years of age, and the prevalence of anemia among pregnant women and six-month postpartum women.
3. To locate the areas within the country and/or the sub-groups within the beneficiary population that are lagging the most in terms of nutritional status and identify the gaps in nutrition that should be attended to by the Program during the upcoming years.
4. To identify the socioeconomic and demographic factors associated with major gaps in the nutritional status among children less than two of age.

Methods

The analyses carried out in this report rely mainly on the information obtained from the 2007 Evaluation survey of rural households (ENCEL – *Encuesta de Evaluación de los Hogares*). The sample was drawn from the same seven states where the original impact evaluation of the Program was carried out, i.e., Guerrero, Hidalgo, Micho-

acán, Puebla, Querétaro, San Luis Potosí, and Veracruz. In 2007, Chiapas and Oaxaca were incorporated into the sample because of their high concentration of beneficiary population. In order to compare the nutritional status in the communities since the beginning of the Program, data from previous rounds of ENCEL (1998 and 1999) were used. We also used data from the the National Nutrition Survey (ENN – *Encuesta Nacional de Nutrición*, 1999) and the most recent National Survey of Health and Nutrition (ENSANUT – *Encuesta Nacional de Salud y Nutrición* 2005) as points of reference.

For children, we estimated height for age, weight for age, weight for height, hemoglobin concentration, and the prevalence of stunting, wasting, risk of excess weight, and anemia. The prevalence of malnutrition (i.e., stunting, anemia, wasting, and the risk for excess weight in children; overweight and obesity in women; and anemia in women durnig the first six months postpartum) is presented for the entire population as well as for various sub-groups based on characteristics at the individual, household (ethnicity), community, and state levels. For women, we estimated body mass index (BMI), hemoglobin concentration for those who were pregnant or in their first six months post-partum at the time of the interview, and their respective prevalence of overweigth, obesity and anemia. Additionally, we obtained information on breastfeeding and complementary fedding practices. Information on household food security, which documents the perception of not being able to have sufficient food or money to procure food for their families is reported according to womens' perception for mothers of children less than two years of age.

Results*

We report results from a sample of 5,855 children less than two years of age at the time of the survey, and 5,307 mothers of these children. Among these respondents, 27.4% belong from families classified as indigenous.

The prevalence of wasting was low among the population and within the range expected for a healthy population (<2.5%). The prevalence of risk of excess weight was 4.7%. The prevalence of stunting was 21.8%. A significantly greater ($p<0.001$) proportion of boys (25.6%) were stunted than girls (18.1%). Anemia affected 32.5% of the children, being significantly ($p<0.01$) more prevalent among boys (34.6%) than girls (30.5%). The prevalence of stunting was highest in Guerrero (36.3%), followed by four states that had a prevalence of stunting between 20% and 25% (Puebla, Veracruz, Chiapas, and Oaxaca), while four other states had a prevalence between 15% and 20% (Hidalgo, Michoacán, Querétaro, and San Luis Potosí). The prevalence of anemia was high in all the states included in the sample and varied between 25% and 40%.

The prevalence of stunting and anemia was significantly higher among children belonging to families classified as indigenous (stunting 33.0%, anemia 35.0%) than among those from non-indigenous families (stunting 19.4%, anemia 31.4%). Using the index of socio-economic status, the prevalence of stunting was less than half among those in the least poor tertile compared to the most poor (14.1% vs. 32.0%) and the prevalence of anemia was also lower (32.8% vs. 39.0%). Likewise, the prevalence of coexistence of malnutritional problems (anemia and stunting) was higher among children from indigenous than non-indigenous families and in the poorest tertile. The prevalence of stunting was significantly higher among beneficiary children than among non-beneficiary children ($p<0.01$). There was no difference in the prevalence of wasting, risk of excess weight, or anemia among children of beneficiary and non-beneficiary families.

The prevalence of stunting was significantly higher in very highly marginalized (37.2%) and highly marginalized (20.0%) communities than in those less marginalized. Likewise, the prevalence of anemia was higher in very marginalized communities (40.6%), followed by those classified as highly marginalized (35.6%). There was no significant difference in the prevalence of wasting or in the risk of excess weight by the level of marginalization of the community. The prevalence of stunting was significantly higher among children in the communities where the Program was established in 1998 (24.5%) than among the children from the communities where the Program

* All results are reported, and in the case that they are statistically significant, they are explicitly marked as such.

was established in 2000 (19.5%) or 2003 (21.2%). This finding is not surprising considering that the group from 1998 included a greater proportion of communities classified as very highly or highly marginalized.

BREAST-FEEDING AND COMPLEMENTARY FEEDING PRACTICES

The results show that 95.6% of the children receive or received their mother's milk at some point in their life. The proportion of children received or having received mother's milk was higher among among children of families that consider themselves of indigenous origin. At the time of the survey, 23.5% of the children were *exclusively breastfed*, 32.0% were *predominantly breastfed,* and 44.5% were *partially breastfed*; these groups had an average age of 3.3±3.0, 10.8±5.7 and 12.2±5.6 months, respectively. In the sub-group that had not been receiving their mother's milk, the mother had stopped breastfeeding them at an average age of 9.4±5.2 months.

The pattern of use of the nutritional supplement *Nutrisano* did not differ by ethnicity. Between 29.6% and 39.3% of the children had consumed *some* amount of *Nutrisano* 24 hours prior to the interview (either a "taste" or any amount greater than that). The proportion of the population that reported not having consumed *Nutrisano* in the past 24 h was slightly higher among the non-indigenous population than among the indigenous population.

NUTRITIONAL STATUS OF PREGNANT WOMEN, WOMEN IN THE FIRST SIX MONTHS OF POSTPARTUM, AND MOTHERS WITH CHILDREN LESS THAN TWO YEARS OF AGE

The prevalence of anemia among pregnant women was 17.3% and amoung women during the first six months postpartum, 8.6%. In women who had not given birth to a child in the last six months, the prevalence of overweight or obesity (IMC ≥ 25.5) was lowest in Guerrero (37.0%), followed by Veracruz (42.8%), Oaxaca (46.2%), and Hidalgo (48.8%). In all other states, the prevalence was more than 50%, ranging from 50.4% (Puebla) to 59.5% (Querétaro). The prevalence of overweight, obesity, and the coexistence of overweight or obesity in mothers and anemia in children, was significantly higher in women who lived in households with a lower economic level (according to the economic index).*

FOOD SECURITY IN OPORTUNIDADES' BENEFICIARY HOUSEHOLDS IN RURAL AREAS OF MEXICO, ENCEL 2007

According to maternal perception, 1,241 households (21.9%) could be classified as being food secure. In the rest, 35.1% were classified as mildly food insecure, 36% as moderately food insecure, and 7% as severely food insecure. The prevalence of households with food security was significantly lower in Guerrero (13.2%) and Puebla (15.1%) than in Querétaro (30.5%), San Luis Potosí (28.0%), and Michoacán (27.6%). Food insecurity (prevalence and severity) is higher as the level of marginalization of the community increases. The prevalence and severity of food insecurity was also higher among *Oportunidades* beneficiary households than in the non-beneficiary households.

COMPARISON OF THE PREVALENCE OF MALNUTRITION IN OPORTUNIDADES BENEFICIARY CHILDREN IN THE LAST TEN YEARS

An important reduction in the prevalence of stunting among the poorest population groups in Mexico has been observed during the last ten years (ENN 1999, 44.0%; ENSANUT 2005, 28.0%; ENCEL 2007, 21.8%). In

* The index of the economic status includes diverse factors that are associated with economic well-being of the family, specifically construction materials used in the house and the possession of common domestic goods. The index was designed using Principal Components analysis. For this analysis, the score of the index was divided into tertiles, which allows for the comparison of the poorest household with the intermediate and least poor.

general, the prevalence of stunting has been significantly reduced in the seven states included in ENCEL 1998 and 1999, with an average reduction of ten percentage points (with the exception of Veracruz). Likewise, there was been a major reduction in the prevalence of anemia. The prevalence of anemia among beneficiary children in 2007 (35.8%) is nearly half that reported in 1999 (61.0%), with a similar reduction observed among non-beneficiary children (64.7% in 1999 and 35.2% in 2007).

Discussion

A notable decline in the prevalence of malnutrition in children less than two years of age has been observed during the last ten years. In all Mexican states and sub-groups studied, wasting (low weight for height) was within the expected range for a healthy population (<2.5%). At the same time, there has been no increase in the prevalence of risk for excess weight among children less than two years of age, which remains low (<5%) for all states and sub-groups.

Substantial variability exists among statues in the prevalence of stunting and anemia, with significant reductions occurring in the last ten years in almost all of them. The influence of the *Oportunidades* Program in the reduction of the prevalence of stunting is difficult to quantify. The fact that there is currently no other population group exposed to similar economic conditions without having received benefits from the Program throughout the last ten years, limits our ability to make causal inferences related to the impact of the Program. Given the existing evidence of Program impact,[1,2] it is our opinion that *Oportunidades* has had an important impact on child growth. However, the information presented here highlights that the Program has not yet been sufficient to eradicate the problem of stunting. The prevalence of stunting continues to be high, particularly in Guerrero, Puebla, Veracruz, Chiapas, and Oaxaca. Henceforth, the impact evaluations related to nutrition should focus on how the Program can be strengthened and what additional actions are required to achieve a greater impact.

All of the sub-group analyses presented here demonstrate a strong association between economic well-being and the prevalence of stunting and anemia. Additionally, no important reduction has been observed in the prevalence of stunting in very highly marginalized communities since 1998. It is possible that this is at least partially due to environmental factors (e.g., the lack of food with adequate nutritional value, low quality and accessibility of health services, precarious sanitary conditions, among other factors), which limit the capacity of families to provide the necessary conditions to raise healthy children. Also, a high proportion of the mothers of children less than two years of age who live in very highly marginalized communities perceive some degree of food insecurity.

This document highlights some of the most important factors that are likely direct causes of malnutrition among the children, specifically, inadequate breast-feeding and complementary feeding practices. According to the most recent recommendations by the World Health Organization (WHO), children should receive only breast milk during the first six months of life. As of the sixth month, the child should be given foods with an adequate nutritional value (rich in energy and micronutrients). In this study, we document the extremely early introduction (at one month of age) of liquids and milks other than breastmilk in more than 50% of the children. These types of food do not provide the necessary nutrient density. At the same time, foods that contain the essential micronutrients (specifically those of animal origin other than milk, as well as fruits and vegetables) were introduced only in approximately 20% during the first two years of life. The result of these practices is is diet that possibly provides sufficient energy, but lacks essential vitamins and minerals. These findings highlight the need for education campaigns and individual counseling aimed at improving breast and complementary feeding practices. It also highlights the need for effective distribution and promotion of the nutritional supplements.

Nutrisano continues to be an excellent nutritional supplement for distribution due to the quality of the product and its overwhelming acceptance among the beneficiary population. However, the results presented here confirm previous findings that *Nutrisano* has important limitations in achieving its objective, specifically its regular consumption in a sufficient quantity by children who are at the ages of greatest nutritional risk (six to twenty-four months of age). This is primarily due to consumption by other family members, which leaves only a small portion for the child to whom it

was originally targeted. Actions are urgently needed that permit the consumption of a daily adequate dose of supplements containing iron, zinc, and other micronutrients by children between six and twenty-four months of age. This could include linking the allotment of *Nutrisano* to the number of children in the family, particularly in communities that are highly and very highly marginalized or the distribution of combinations of supplements, for example *Nutrisano* and *Sprinkles,* according to the number of children in each household.. Clearly, any modification in distribution should be accompanied by a strong education campaign to ensure the appropriate use of the supplements.

In this sample, nearly 50% of the women already had a problem of overweight and obesity despite their young age (an average of 27.5%). Clearly, this is a problem that not only affects the beneficiary population, but also the entire country. Although we observed a lower prevalence of overweight and obesity in highly and very highly marginalized communities, as well as among families with a low economic status, the presence of overweight and obesity is a threat to the entire population. Actions are needed within the Program that will, on the one hand, prevent an increase in the prevalence of overweight and obesity that coincides with increased economic levels in beneficiary families and, on the other hand, help control obesity and its related morbidities in the population already afflicted with this problem.

IMPLICATIONS OF THE PROGRAM

The malnutrition-related goal of *Oportunidades* for children less than two years of age should be to eradicate the problem. That is, to reduce the prevalence of stunting to approximately 2.5% (the expected value among a healthy population), and the prevalence of anemia to less than 10%. Although we should not lose sight of this goal, it should not be expected that these figures can be achieved in the short term, at least in the case of stunting. The data presented in this study as well as in the most recent National Health and Nutrition Survey (ENSANUT 2006) provides a context for estimating the obstacles that still exist for the short-term reduction of malnutrition among the *Oportunidades* beneficiary population. In ENCEL 2007, the prevalence of stunting was more than double in the poorest tertile than the least poor tertile. Likewise, according to ENSANUT 2006,[3,4] the prevalence of stunting in the southern states was 33.2% among the poorest households and 15.4% among the mid-income households. In the short term, with help from the Program, families should at least expect their children to reach a nutritional status similar to that observed for the less impoverished population within their own communities.

The efficacy[5] study that we recently conducted showed that the regular consumption of *Nutrisano* did not produce benefits in terms of the prevalence and control of anemia in a timely manner as can be obtained with the consumption of other types of supplements (specifically *Sprinkles* or medicinal syrup). After four months of consuming *Sprinkles* or syrup, we observed a reduction of 15 percentage points in the prevalence of anemia, while there was no significant change in the prevalence of anemia among those who consumed *Nutrisano*. However, at 24 months of age all three groups (i.e. Nutrisano, Sprinkles and syrup) had a prevalence of approximately 5%, without a significant difference between them. These results give clear evidence that the goal of reducing the prevalence of anemia among the population to less than 10% is feasible if the supplements are consumed regularly at the recommended dose.

In addition to the potential benefits of modifications to the supplements, it is fundamental for the Program to adopt a more comprehensive approach towards nutrition. The supplement is currently the pillar of the nutritional component of Oportunidades. Rather, a supplement should be considered a tool to help families close the nutrient gaps in the diet and its use should be promoted as part of an integrated strategy focused on the promotion of healthy eating habits throughout life.

On the other hand, it is clear that aggressive actions for the prevention and control of excess weight are urgently required in these communities. Some of the actions needed for the prevention of malnutrition (e.g., the promotion of exclusively breastfeeding) also have strong impacts on the prevention of excess weight. Contrary to malnutrition, overweight and obesity are not concentrated among the beneficiary population of the Program, and therefore, aggressive nation-wide policies and actions are needed for their prevention and control. The workshops carried out

as part of the *Oportunidades* co-responsabilities provide an excellent forum for addressing this subject. At this time, however, the subject of obesity and strategies for its prevention are essentially absent from these workshops.

To achieve full eradication of malnutrition and control of weight, the Program should incorporate a comprehensive strategy for nutrition based on the following:

- Regular growth monitoring for children less than five years of age with plans for detecting and taking actions if problems are detected.
- Individualized counseling tied to the growth monitoring, with consistent messages provided by different health care providers (doctors, nurses, health promoters, and the Program community workers)
- Effective education to promote changes in dietary practices through self-care workshops.
- Ensured accessibility to essential micronutrients (in the form of food and/or supplements) during critical periods when nutritional requirements cannot be met through diet alone from foods commonly used, specifically, during pregnancy and in children from six to twenty-four months of age.
- Early detection and supplementation with micronutrients (without calories) for people with anemia in age groups different from those previously mentioned.
- Weight monitoring for the early detection, intervention and tracking of people who suffer from overweight and obesity and its associated morbidities.

At this time, a group has been created with the purpose of making these modifications to the Program and promoting their implementation in the Health Sector. The Integrated Strategy for Attention to Nutrition (EsIAN – *Estrategia Integral de Atención a la Nutrición*) will take into consideration the diversity of the prevalence and the severity of the nutritional problems among the beneficiary population with a variety of different actions implemented in different areas of the country. At this time, a pilot study is underway to document the feasibility of implementation of the EsIAN, and education campaigns are being developed with integral plans to achieve these objectives.

SWOT Analysis

PRIORITY	DESCRIPTION	SOURCE OF ANALYSIS
FO1	The prevalence of stunting is 11% lower than that observed ten years ago among the beneficiary population of *Oportunidades* (23.9% vs. 35.0%) with reductions in all of the states (with the exception of Veracruz). The prevalence of anemia in the 2007 survey (35.8%) is almost half of what was observed in ENCEL 1999 (61.0%)	ENCEL 1998, 2007
FO2	The prevalence of wasting was within a range that is expected among a healthy population (<2.5%) in children less than two years of age in all states and all sub-groups.	ENCEL 2007
FO3	The prevalence of overweight and obesity among women is lower in all of the states (from 40.4% in Guerrero to 61.1% in Querétaro) than the national prevalence (nearly 70%).	ENCEL 2007 Reference 69

WEAKNESSES AND THREATS

PRIORITY	DESCRIPTION	SOURCE OF ANALYSIS
DA1	The persistence of stunting in all of the states, with a higher prevalence in the South of the country (36.3% in Guerrero), among the indigenous population (33.0%), among the population who live in communities that are highly marginalized (20.0%) and very highly marginalized (37.2%), and among the poorest households (32.0% vs. 14.1% in the least poor)	ENCEL 2007
DA2	A high prevalence of anemia in children less than two years of age (higher than 30% in all compared groups) and in pregnant women (17.3)	ENCEL 2007
DA3	The low (inadequate) consumption of *Nutrisano* by part of the target population (children between six and twenty-four months of age)	ENCEL 2007
DA4	Practices that do not follow the international recommendations for breast and complementary feeding (the early introduction of liquids and late introduction of foods rich in micronutrients)	ENCEL 2007
DA5	A high prevalence of overweight and obesity in women (more than 50% in all comparison groups).	ENCEL 2007

RECOMMENDATIONS

PRIORITY	RELATION	RECOMMENDATION	SECTOR RESPONSIBLE
R1	DA1-5	To implement and integrated nutrition strategy with a focus on nutrition in various life stages beginning with pregnancy and lactation; children less than two years of age and following up as soon as possible with strategies directed at all of the age groups (school-age children, adolescent girls and boys, adults, and the elderly). Including integral actions and messages on: Growth monitoring (regularly from zero to five years of age) and the height and weight for calculating the BMI (annually) from five years of age continuing throughout life. Strong promotion of exclusive breastfeeding for six months, with extension of some breastfeeding until two years of age with the timely implementation of the appropriate complementary food, as suggested by the World Health Organization's recommendations.[73] Actions should focus on the resolution of the specific problems faced (guided counseling) and be implemented by personnel who have the time, dedication, and the capacity to influence women's decisions and actions (e.g., committees' members, health assistants, promoters with specific training on the subject). This campaign should focus on feeding practices from birth until two years of age. Guided counseling tied to the results of the growth and weight monitoring and the promotion of healthy eating in accordance to the various stages in life. An educational strategy be should be developed related to food purchases and the preparation of healthy foods that can be applied to the preparation of foods at home (directed at the person who decides what to prepare and who prepares the meals). This campaign should complement the previously-mentioned campaign, including the preparation of food for the family, even for children ages two and older. Appropriate distribution and promotion of supplements, with promotion that uses social marketing techniques. It is worth noting that in previous reports, concrete recommendations were made about the types of supplements that were most appropriate for women[75], and now we present options for children in rural areas. Early detection and supplementation with *Sprinkles* (children) or pills (adults) for those with anemia. Early detection and check-ups for those who are overweight or obese, or suffer from associated morbidities. Aside from the recommended actions pertaining to education campaigns on healthy feeding, further alternatives for interventions should be explored at the community level *(environmental modification)*, health unit, and school, place of work, and others in order to support healthy eating and an active life.	Health with close help from *Oportunidades* Department of Health (SSA) and IMSS-Opo SSA and IMSS-Op SSA and IMSS-Op *Oportunidades* and SSA SSA and IMSS-OP *Oportunidades*, SSA, IMSS-Op. Depending on additional actions Department of Education, others
R2	DA3	To change the type of supplement given to pregnant and lactating women for one with micronutrients without calories (according to the results of the Efficacy study, pills are recommended).	SSA, *Oportunidades*

R3	DA1-3	To look for a distribution mechanism for supplements that allows a greater focus on children from six to twenty-four months in age, recognizing the intra-family distribution that occurs in the case of *Nutrisano*. Options include: Provision of a supply of *Nutrisano* proportional to the number of children in the household *Nutrisano* for children from six to twenty-four months of age and *Liconsa* milk proportional to the number of children in the house *Nutrisano* and *Sprinkles*, with strong messages towards a focus on *Sprinkles* for children from six to twenty-four months in age (independently of whether they consume *Nutrisano*)	SSA and *Oportunidades*
R4	DA1	To give priority to strengthening the Program's activities related to health and nutrition (e.g., the implementation of EsIAN) in the communities classified with high and very high marginalization	SSA, *Oportunidades*
R5	DA1, DA2, DA4	To further explore the association between the following: The quality of the health services and the nutritional status in the children The morbidity of children and the feeding practices and the nutritional status in children	ENCEL research team

References

1. Rivera JA, Sotres-Alvarez D, Habicht JP, Shamah T, Villalpando S. Impact of the Mexican program for education, health and nutrition (Progresa) on rates of growth and anemia in infants and young children: a randomized effectiveness study. JAMA 2004;291:2563-2570.
2. Neufeld LM, García-Guerra A, Leroy J, Flores-López ML, Fernández-Gaxiola AC, Rivera-Dommarco J. Impacto del programa Oportunidades en nutrición y alimentación en zonas urbanas de México. In: Hernández-Prado B, Hernández-Ávila M, eds. External evaluation of the impact of the Oportunidades Program 2006. Cuernavaca, Mexico: National Institute of Public Health, 2006.
3. Olaiz-Fernández G, Rivera-Dommarco J, Shamah-Levy T, Rojas R, Villalpando-Hernández S, Hernández-Avila M, *et al.* Encuesta Nacional de Salud y Nutrición 2006 Cuernavaca. Cuernavaca, México: National Institute of Public Health, 2006.
4. Shamah T, et al. Componente de Oportunidades de la Encuesta Nacional de Salud y Nutrición 2005 (ENSANUT-2005). Technical report presented to the National Coordination office of the Oportunidades Program. Cuernavaca, Mexico: National Institute of Public Health, 2006.
5. Neufeld LM, et. al. Final version of the report on the impact of the supplementation of the growth, development and state of micronutrients. Technical report of the study of Efficiency of three nutritional supplements for improving the development among children less than 2 years of age and the nutritional state among pregnant women (Eficacia). Provided to Oportunidades in December, 2007.

Learning Gaps Among *Oportunidades* Scholarship Recipients in Primary and Junior High School: Association with Educational Modality and Multi-grade Organization

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Introduction

The *Oportunidades* Program [hereinafter, the "Program"] was conceived as a strategy for families in extreme poverty to help them develop skills and accumulate human capital, particularly by improving options related to education, health, and nutrition. From its inception, the program focused its resources and expectations on education of children from poor families in order to achieve greater levels of education than their parents and, thus, contribute to interrupting the intergenerational cycle of educational poverty. The increase in the education levels achieved by children and young people from poor families at the same rate as the population is not enough. Fighting poverty implies that poor people require more rapid educational advances compared to other group* and that the educational system should be more equitable. The opportunities it offers should be greater and better distributed for everyone.

Demeuse, et al.[1] propose that at least four principles of educational equity should be considered as a function of the achievement of four main equalities: equality in access, equality in learning conditions or means, equality in achievements or results, and equality in the social attainment of these achievements. External evaluations of the *Oportunidades* Program have rendered a broad account of the achievements attained for the first equity principle of access.[2-7] Evaluation of the quality of educational services is related to the second and third equity principles: the characteristics of schools and learning achievements.

Until now, there has been no national assessment of the educational achievement of children and adolescents in terms of the results of standardized tests, which compare beneficiaries and non-beneficiaries of the Program, or in terms of how these differences operate regarding basic education characteristics. The purpose of this paper is to describe gaps related to academic achievement between beneficiaries and non-beneficiaries of the program on the basis of the *Enlace* (*Evaluación Nacional de Logro Académico en Centros Escolares* – National Evaluation of Academic Achievement in School Centers) test‡ for Spanish and Mathematics applied during 2007 to 6th grade elementary school students and 3rd grade secondary school students. The extent to which educational modality and school organization are associated with the magnitude of these gaps will be analyzed. Additionally, the presence of different programs furthered by the federal administration to improve educational quality will be observed.

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* Within the matrix of the program's logical framework, the indicator for the goal of the educational component measures if the intergenerational education gaps between beneficiary families and the national average is reduced as time passes.

‡ The Enlace test is applied annually in a census-like way. It evaluates third to sixth grade students from elementary schools and third grade students from secondary school in the following subjects: Spanish, Mathematics and Sciences. Reading comprehension and mathematical ability are evaluated in the case of students from the last grade of preparatory school (bachillerato).

Methods

This is a descriptive study that performs a comparison of means, based mainly on information sources obtained as a result of the collaboration between SEP (*Secretaría de Educación* – Ministry of Education) and the *Oportunidades* Program. The basic source of information comprises the results by student from the *Enlace* test. Other sources of information include the database from the DGEP (*Dirección General de Evaluación de Políticas* – General Direction of Policy Evaluation) at SEP, which includes average results by school from *Enlace* 2006 and 2007, a database provided by Conafe (*Consejo Nacional de Fomento Educativo* – National Council of Education Promotion) to *Oportunidades,* in which schools that were supported by compensatory programs during the 2005-2006 cycle are identified, a database to identify multi-grade school*, provided by CIGED (*Centro para el Desarrollo de la Planeación e Innovación de la Gestión Educativa* – Center for the Development of Education Management Planning and Innovation)‡, and data based on information by SEP.

During the first semester of 2008, the *Enlace* test was applied in a census-like manner in elementary schools and the *Excale* (*Exámenes para la Calidad y el Logro Educativo* – Exams for Quality and Education Achievement)§ test —performed by the INEE (*Instituto Nacional para la Evaluación de la Educación* – National Institute for the Evaluation of Education) — was applied to a sample of secondary schools. Along with these two tests, a series of context questionnaires was applied to enable the implementation of deeper and more precise comparisons between the factors related to beneficiaries' learning processes with respect to the rest of the students. It will be possible to conduct the analysis of the data during the first months of 2009, once the information has been processed by SEP and INEE. Based on this, a comprehensive evaluation of the quality of the inputs and the educational processes, as well as their impact on academic achievement, will be performed.

In the case of elementary education, students' scores from the Spanish and Mathematics *Enlace* tests will be at our disposal, as well as individual information from all students who took the test in 1,000 elementary schools from the *Encel* (*Encuesta de Evaluación de los Hogares Rurales* – Evaluation Survey at Rural Homes) in 13 states in the country.# The information provided by principals and teachers at schools will also be taken into account. With regard to secondary education, the scores attained by a sample of students who attend 888 secondary schools at *Encel* locations will be available, as well as the individual and institutional information obtained by questionnaires applied to students, teachers, and principals. Moreover, the data will be enriched with information obtained directly from students' homes by the *Encel.* Additionally, information on management practices of education authorities in six states& that bear the highest rates of beneficiaries in the country will be available.

Based on all this, it will be possible to perform a multi-level study that considers a considerable number of variables related to a study population that consists of students who attend schools in the *Encel* localities, i.e., rural areas. This study is of major importance for the *Oportunidades* Program and is possible thanks to the invaluable collaboration of the education sector, especially DGEP and INEE. It is expected to be ready by mid-2009.

This paper is substantially different from what will be performed in 2009. It focuses on the comparison of learning results and identifies the gaps between beneficiaries and non-beneficiaries, but it is not a comprehensive assessment of educational quality.

Even though the analyzed information is limited, the value lies in its census-like nature in relation to the national education universe, at the different grades where it is applied, in both urban and rural areas. On the other hand, the identification of gaps, without including control variables, clearly shows the state of inequity as far as the distribution of knowledge is concerned.

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* Multi-grade schools are those in which teachers give at least two grades each, due usually to population dispersion and not because they were designed as such. According to this definition, one-teacher schools only have one teacher that is in charge of all the grades available at the school; two-teacher schools have two teachers who are in charge of four to six grades, and three-teacher schools have three teachers who are in charge of six grades. In one-teacher tele-secondary schools, one teacher is in charge of two or three grades and in the two-teacher ones, two teachers are in charge of three grades.

‡ CIGED is a private consulting group dedicated to the systematization of information produced by the education sector.

§ Excale tests assess the results of the education system, not the students' in particular. It is applied to third grade preschool students, third and sixth grade elementary school students, and third grade secondary school students. It covers Spanish, Mathematics, Natural Sciences and Social Sciences.

Aguascalientes, Chiapas, Durango, Guerrero, Hidalgo, Michoacán, Nayarit, Oaxaca, Puebla, Querétaro, San Luis Potosí, Sinaloa and Veracruz.

Enlace allows for the attainment of census-like data on educational achievement, but it does not elicit census-like individual information about the students taking the test (sex, age, etc.). Questionnaires were also not given to teachers and principals at all the schools. Given *Enlace*'s application characteristics, it is not possible to obtain more information than what is available.

In a complementary fashion, but without aspiring to discover a relationship between variables, an analysis on the distribution of certain resources related to the learning process in different schools is performed based upon a SEP database. This information is valuable for making inferences about equity according to Demeuse's second meaning.

This paper also does not artificially force an explanatory study based on some school-level variables that could eventually be available in SEP's annual statistics, by considering only two characteristics from relatively structured schools: modality and multi-grade organization. These variables were treated as associated factors and not as causes of the educational outcome.

Assuming that not even the most sophisticated methodology can replace reliable and relevant information, this study is a descriptive study, based mainly on sources with census-like information available in *Enlace* 2007.

Results

The most relevant results are summarized:

- Stratification of learning results when considering whether individuals are beneficiaries of *Oportunidades*, the educational modality they attend, and the school organization. Stratification is more pronounced in the case of elementary education.
- Disadvantageous gaps for beneficiaries of the Program in all modalities, for both elementary and secondary education.
- Extremely low learning results, obtained through the *Enlace* test, in indigenous elementary schools, multi-grade schools, and Conafe's Community Courses.
- Disadvantageous learning results for indigenous beneficiaries of *Oportunidades* with respect to non-indigenous beneficiaries in all elementary and secondary school modalities, especially in indigenous elementary schools and in elementary Community Courses.
- Higher learning results in the case of relatively younger beneficiaries of the Program, whose mothers have a higher level of education, both for elementary and secondary schools.
- Better learning results in the case of female beneficiaries of the Program both in Spanish and Mathematics. For Mathematics, the difference is greater for elementary education than for secondary education.
- In comparison with the mean results by school from 2006, elementary schools with a higher concentration of beneficiaries of the Program achieved a lower score in the 2007 *Enlace* test with respect to schools with a lower concentration of beneficiaries.
- Unequal distribution of federal resources according to the number of *Oportunidades* beneficiaries in the schools, based on information provided by SEP. The PEC (*Programa Escuelas de Calidad* – Quality Schools Program)* and *Red Escolar* (School Network)‡ provide more benefits to schools with few or no beneficiaries. The PNL (*Programa Nacional de Lectura* – National Reading Program)§ is distributed in all schools and the AGE (*Apoyo a la Gestión Escolar* – Support for School Management)# provides more benefits to schools with a greater number of beneficiaries.

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* Program intended to strengthen institutional and school management. Teachers, principals, students and parents develop a management model with a strategic approach to meet their needs, solve their problems and achieve their goals. Schools are provided with funds (up to $150,000 Mexican pesos annually) to perform the agreed tasks in their management model.

‡ Red Escolar is a group constituted by students, teachers, parents, principals and technical-pedagogic staff that communicate through a computing network connected to the internet. To participate, schools should have a media room.

§ It consists of the provision of class and school libraries to strengthen the students' and teachers' reading habits and abilities.

It consists of the provision of funds (up to $7000 Mexican pesos annually for elementary schools) to meet small material needs and encourage the well-arranged participation of parents. Up to the school 2007-2008 period, this was present only for elementary schools. Starting with this cycle, it has been extended to secondary schools.

Discussion

One of the first striking observations is that over 30% of the Program's beneficiaries, upon finishing elementary school, do not achieve basic language competences that will enable them to satisfactorily continue their studies. This figure rises to 56.6% if the beneficiaries go to indigenous schools. Likewise, 54.9% of the beneficiaries do not achieve minimum learning goals in terms of language and reading comprehension, upon finishing tele-secondary school. For thousands of students, although undoubtedly beneficial, education does not result in a full acquisition of human capacities pledged by basic education.

Beneficiaries of the Program come from families that live in marginalized locations, where they share disadvantageous socio-economic and educational conditions. Most families have little or no education. Most students attend schools whose modality gathers the highest lags in the educational system,* and this situation worsens when the school has a multi-grade organization. Multi-grade schools were created in order to satisfy the growing demand for educational services in marginalized and dispersed areas. Thanks to these schools, thousands of students receive the benefit of education. Nevertheless, these schools operate in unequal conditions, do not have the same inputs as other schools located in urban and less marginalized areas, and undergo educational processes that have a negative impact on the quality of learning results. In other words, the poorest people attend the poorest schools.

These limitations, along with many others, affect all students who attend these schools, but the results reported here indicate that the effect from the school's modality is more negative for *Oportunidades* beneficiaries, whose family educational shortfall is greater than non-beneficiaries.

Within any educational system, there will always be personal differences that will be reflected in individual student results, but a horizontal equity criterion considers that dispersion related to access, resources, and educational outcomes should be minimal when the educational system is considered as a whole.

Far from making learning results effective in terms of equity, stratification, depending on the combination of three elements (being a beneficiary, which implies a condition of greater poverty than non-beneficiary fellow students, attending a specific modality, and attending a multi-grade school), is observed. From this combination, 28 subgroups of elementary school students and 12 subgroups of secondary school students can be deduced, with a different average result. The subgroups that correspond to each of the educational levels are: Table 1.

Although this study does not offer definitive elements to make an assertion, it seems unlikely that scholarship and health and nutrition support will sufficient to close gaps related to school achievement between beneficiaries and non-beneficiaries, even in the smallest gaps between schools in the same modality. Additional compensatory measures promoted by the education sector are required at both the state and federal levels.

Table 1
Subgroups corresponding to each of the educational levels

ELEMENTARY SCHOOL SUBGROUPS			SECONDARY SCHOOL SUBGROUPS	
PRIV-C-NB	RUG-C-NB	IND-C-NB	PRIV-C-NB	TELE-C-B
PRIV-C-B	RUG-C-B	IND-C-B	GRAL-C-NB	TELE-TT-NB
URG-C-NB	RUG-THT-NB	IND-THT-NB	TEC-C-NB	TELE-OT-NB
URG-C-B	RUG-THT-B	IND-THT-B	PRIV-C-B	TELE-C-B
URG-THT-NB	RUG-TT-NB	IND-TT-NB	GRAL-C-B	TELE-OT-B
URG-THT-B	RUG-TT-B	IND-TT-B	TELE-C-NB	TELE-TT-B
URG-TT-NB	RUG-OT-NB	IND-OT-NB		
URG-TT-B	RUG-OT-B	IND-OT-B		
URG-OT-NB	CON-NB			
URG-OT-B	CON-B			

PRIV: Private, GRAL: General, URG: Urban General, RUG: Rural General, CON: Conafe, IND: Indigenous, TEC: Technical, TELE: Tele-secondary, C: Complete, OT: One-teacher, TT: Two-teacher, THT: Three-teacher, B: Beneficiary, NB: Non-beneficiary

* These schools are characterized by having less learning resources and a greater teacher rotation; moreover they are constituted by students who come mainly from an unfavorable social, cultural and economic environment.

The results presented here do not intend to challenge the positive impact that the Program has had on children who go to school. First, education offers a vast range of learning and knowledge appropriation processes, as well as abilities and attitudes, that standardized tests are unable to capture. School offers children possibilities that their families cannot, in terms of socialization and understanding of the social and natural world. This, which is valid for any child or adolescent, is even pertinent for families whose educational capital is extremely weak. The Program's positive impact is even more relevant to the case of women, who, without scholarships, would hardly achieve the benefits of comprehensive education. Therefore, education in itself is an enormous step.

On the other hand, the results obtained in this study enable us to advance the thesis that children who live in extreme poverty and go to school without a scholarship from the Program obtain less satisfactory results than children who, under the same conditions, go to school with a scholarship. This thesis is deduced from the average result obtained from elementary indigenous schools and Conafe-related schools, whose students do not receive a scholarship and get the lowest results national comparisons.

The score achieved by women in both Spanish and Mathematics is an encouraging outcome that could possibly be attributed to the scholarship. Undoubtedly, girls and female adolescents would not have achieved a better score without the scholarship, and would most likely not have finished elementary and secondary school.

The results show that a respectable number of beneficiaries are located in the upper deciles of the *Enlace* score. This means that poverty conditions and low family educational capital will not necessarily produce negative results. Covariance analysis shows, at a preliminary level, that education characteristics have greater weight than individual traits of beneficiaries. It is relatively easy to assume that the effects that the school provides for students with low family educational capital are greater than for students with greater capital. This explains why strengthening the quality of schools, especially schools attended by the poor, is so important.

LIMITATIONS OF THE STUDY

The strength of this paper is that it analyzes census-like data of educational results from 6th grade elementary students and 3rd grade secondary students, and allows identification of nearly 80% of beneficiaries who studied in those grades. It robustly measures the differences between *Enlace* results of beneficiaries and non-beneficiaries in each of the modalities from elementary and secondary schools. Its greatest weakness is the lack of contextual data, which made it impossible to study the impact on beneficiaries and non-beneficiaries of different school-level variables, such as composition of the student body, which includes social, economic, and cultural backgrounds, which are relevant.

IMPLICATIONS FOR THE PROGRAM

Despite limitations in terms of information, one may infer that even though scholarships that families receive have documented impact on access and permanence at school, it seems unlikely that scholarship and health and nutrition support will be sufficient to close gaps related to school achievement between beneficiaries and non-beneficiaries, even in the shortest gaps among schools in the same modality. Additional compensatory measures promoted by the education sector are required at both the state and federal levels.

Full educational benefits of the Program will be achieved only if more vigorous compensatory actions are performed along with educational plans that are more appropriate to characteristics of rural localities. This would ensure the improvement of education in marginalized and dispersed schools, especially in indigenous schools.

The results presented here do not intend to challenge the positive impact that the Program has on the children who go to school. First, it should be taken into account that education offers a vast range of learning and knowledge appropriation processes as well as abilities and attitudes that standardized tests are unable to capture. School offers people possibilities that their families cannot, not only as far as socialization is concerned but also as far as the understanding of the social and natural world. This, which is valid for any child or adolescent, is even more so for

families whose educational capital is extremely weak. The Program's positive impact is even more relevant in the case of women, who would hardly achieve the benefits of the comprehensive formation that school offers without educational scholarships. Therefore, education in itself is an enormous step.

Poverty conditions and low family educational capital will not necessarily produce negative results. Education characteristics have great weight. It is relatively easy to assume that the school can provide more benefits to students with low family educational capital than to students with greater capital. This explains why strengthening the quality of schools, especially those attended by the poor, is so important.

This paper's core implication is that there is a need for a more fruitful coordination between federal and state education authorities and the Program.

SWOT Analysis

PRIORITY	DESCRIPTION	ANALYSIS SOURCE
	STRENGTHS AND OPPORTUNITIES	
STO1	The Program's female beneficiaries achieve higher educational results than male beneficiaries in all elementary school modalities, both in Spanish and Mathematics. This advantage is also present for Spanish in secondary school, while the differences for Mathematics in secondary school are minimal. This result appears to be a consequence of the Program's gender-based approach.	DGEP database
STO2	About a fifth of the beneficiaries is located in the three deciles with better scores from the *Enlace* test, which demonstrates that even when living in adverse conditions, beneficiaries can achieve better learning results.	DGEP database
STO3	SEP's disposition and interest in distributing the supports from the Quality Schools Program (PEC) with more equitable criteria. This makes it possible to equitably improve the quality of schools. One of the greatest challenges is ensuring the second and third equity principles, which relate to the distribution of resources to improve the quality of education and to the quality of the learning results.	External evaluation of PEC
STO4	Appropriate focus of AGE, which will allow caring for elementary schools with a high rate of beneficiaries.	Conafe database
STO5	Spread of the AGE program to tele-secondary schools. This started during the current school cycle. According to the experience of AGE in elementary schools, a greater participation of parents could be expected, as well as an improvement in school inputs and learning achievements.	Rules of Operation for AGE at tele-secondary schools
STO6	Spread of the National Reading Program (PNL), independent of marginalization characteristics of localities and the modality. The learning of Spanish shows severe deficiencies and an inequitable distribution of achievement. In this respect, initiatives that foster reading can be of great benefit, especially in marginalized areas, where families can only count on scarce cultural goods.	DGEP database
STO7	Appropriate focus of the *Oportunidades* Program, which will allow caring for the most educationally deprived children and adolescents.	DGEP database and *Oportunidades* Program

PRIORITY	DESCRIPTION	ANALYSIS SOURCE
	WEAKNESSES AND THREATS	
WT1	Extremely low results in indigenous elementary schools. The differentiated results between indigenous speakers and non-indigenous speakers at these schools are amazing. This is the modality specifically designed to give indigenous children a head start and it is here where their disadvantage with respect to non-indigenous children is greatest, at least in the case of beneficiaries.	DGEP database and *Oportunidades* Program
WT2	Stratification of learning results when considering conditions of poverty, modality attended, and school organization.	DGEP database and *Oportunidades* Program
WT3	Extremely low results in multi-grade schools. These schools show shortcomings related to the teaching-learning processes that have been reported in several studies.	DGEP database and *Oportunidades* Program
WT4	Extremely low results at Conafe's Community Courses and at indigenous schools without beneficiaries.	DGEP database and *Oportunidades* Program
WT5	Insufficiently equitable distribution of some educational programs, especially in the case of elementary schools.	DGEP database and *Oportunidades* Program
WT6	Risk of questioning the Program's long-term efficacy, because a high proportion of beneficiaries do not satisfactorily achieve elementary and secondary education goals.	DGEP database and *Oportunidades* Program

PRIORITY	RELATIONSHIP	RECOMMENDATION	RESPONSIBLE SECTOR
		RECOMMENDATIONS	
R1	WT1 to WT5	Intervene more vigorously in the improvement of the quality of the educational offer where there is a high concentration of *Oportunidades* beneficiaries. More resources to support the learning process, design of strategies for teaching at multi-grade schools, and teachers in the indigenous modality that master the language spoken at the locality where they teach.	Educational
R2	WT1	Indigenous schools require special attention. An adequate outlook consists in strongly developing a proposal for intercultural education.	Educational
R3	WT2	Have the educational sector use the ratio beneficiaries/registration as a permanent indicator and as an equity criterion, along with the educational modality, for allocation of resources, programs, and monitoring. Including, within the Program's indicator matrix, an indicator related to the provision of special didactical support and to the implementation of different educational programs in schools with a high proportion of beneficiaries, especially at the disperse rural environment, should be considered.	Educational
R4	WT3	Revise the allocation of resources at a state level, considering multi-grade organization and difficulties related to service delivery.	Educational and Finances
R4	WT4	Design strategies to take care of students in Community Courses in localities without secondary schools.	Social
R6	WT5	Foster the participation of a greater number of schools with a high concentration of beneficiaries in PEC and other educational programs.	Educational
R7	STO6	Conafe's compensatory programs have had a central role in the redistribution of resources for schools; this will be reinforced by the spread of AGE to tele-secondary schools. It would be convenient to revise the amount allocated to elementary schools, as well as the expenses involved.	Educational, Finances
R8	WT6	Open discussion on the meaning of the low results, their relevance in relation to anti-poverty policies, and the need for educational actions that go beyond the granting of scholarships.	Educational, Social, Finances

References

1. Demeuse M. *et al*. Informe sobre tendencias sociales y educativas en América Latina 2007. UNESCO, IIPE - UNESCO Sede Regional Buenos Aires, OEI, Madrid, 2005.
2. Schultz. Impacto de Progresa sobre las tasas de asistencia a la escuela en la población de la muestra de evaluación, 2000. Washington, DC: IFPRI, 2000.
3. Parker. Evaluación del Impacto de Oportunidades sobre la inscripción escolar: primaria, secundaria y media superior. Evaluación de Resultados de Impacto del Programa de Desarrollo Humano Oportunidades. México: INSP-Oportunidades, 2002.
4. Behrman, Sengupta y Todd. Progressing through PROGRESA: An Impact Assessment of a School Subsidy Experiment. Washington, DC: IFPRI, 2001.
5. Parker. Evaluación del Impacto de Oportunidades sobre la inscripción escolar: primaria, secundaria y media superior. Evaluación de Resultados de Impacto del Programa de Desarrollo Humano Oportunidades. México: INSP-Oportunidades, 2002.
6. Todd, Wolpin. Using a Social Experiment to Validate a Dynamic Behavioral Model of Child Schooling and Fertility: Assessing the Impact of a School Subsidy Program in Mexico. Pennsylvania: University of Pennsylvania, 2005.
7. Skoufias, Parker. Conditional Cash Transfers and Their Impact on ChildWork and Schooling: Evidence from the PROGRESA Program in Mexico. IFPRI. FCND Discussion Paper No. 123, 2001. Washington, DC, 2001.

Explaining the Educational Impact of *Oportunidades*: Stakeholders, Factors & Processes

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The objective of evaluating the impact and results gathered in this document is two-fold: a) to discern the possible differential impact of Oportunidades on indigenous and non-indigenous households exposed to the Program over a period of ten years, and b) to analyze the role of educational service providers as points of intersection between the Program and long-term beneficiaries. In addition, said services will be analyzed in terms of conversion factors needed for the human capacities that the Program stimulates in the beneficiaries to become reality.

Thus, several databases were used to identify localities and beneficiaries, both indigenous and non-indigenous, whose situations after a decade of exposure to Oportunidades could be contrasted with others who were never incorporated into the Program. For the purpose of maximizing the differences among intervention variables in the study, an analytical sample was designed with very precise criteria for the households participating in the case studies: indigenous or non-indigenous and long-term beneficiaries or non-beneficiaries whose characteristics in 1998-1999 were as similar as possible. In particular, the households must have had children (first- or last-born) who were between second and fourth grade during 1998-1999. These youths constitute the interest group whose educational and work trajectories will be analyzed to detect the possible impact of or weaknesses in the differential activities and capacities of beneficiaries and former beneficiaries of Oportunidades.

Instruments were used to obtain the most precise "snapshot" possible of the situation in each household in 1998 and 1999. The techniques used included guides for interviewing different members of the households; these guides were designed to obtain clear and detailed information about domestic and individual trajectories in the areas of education and work/employment. Other instruments consisted of guides for interviewing educational services providers. Finally, a specially developed cartography was used to detect gaps and strengths in the coverage of Oportunidades and educational services in the regions studied.

The results of the study underscore possible differential impacts among not only indigenous and non-indigenous beneficiaries of the Program, but also among very heterogeneous rural populations with contrasting capacities for meeting the requirements to take advantage of the support from Oportunidades by matching those requirements with external conversion factors such as those services whose use is fostered by the Program.

The information presented in the present document is supported, in part, by the human capacities approach to substantiate the statement that different persons with contrasting capacities need different types and quantities of support to reach similar levels of well-being.[1-3] Thus, the way in which the diversity of the country influences the possibilities for Oportunidades to make an impact is underscored, thereby identifying the need to adapt the Program to such diversity.

The results of this study are summarized below. First, the principal conclusions of the evaluation of the Oportunidades Program's educational impact are presented, followed by a SWOT analysis (summarizing strengths, weaknesses, opportunities and threats) of that evaluation:

- Differentiated results are reported for Chiapas and Oaxaca on one hand and Chihuahua and Sonora on the other. The increase in and densification of educational coverage in the southern states has produced significant benefits and has even resulted in a loss of importance for boarding schools. In contrast, the educational effects of the Program in Sonora and Chihuahua are less robust, and its advantages are evident in broader offerings of boarding schools as an educational alternative for populations from very disperse localities.
- These findings uncovered an encouraging result related to the central objectives of the evaluation (the differential impact of the Program and the role of educational services): in Oaxaca and Chiapas, the Program has contributed to prolonging the educational trajectories of children and youth, and that impact is greater –not less– for indigenous individuals than for non-indigenous individuals. Furthermore, among both indigenous and non-indigenous individuals, the positive impact is greater for females than for males. Therefore, the Program has contributed to narrowing two gaps in education in the southern region –ethnic and gender. Where Oportunidades coverage and educational services were less dense, the interethnic and gender gaps remained (albeit decreased) in Chihuahua and Sonora, especially in the case of indigenous females, rather than reversing themselves as in the regions studied in the south. Therefore, the hypothesis about the differential impact of the Program can be refined or reformulated as follows: The positive impact of prolonged educational trajectories for indigenous females is reduced where educational coverage and coverage of Oportunidades are less dense.
- Many localities exist in the northern regions where there are more schools (especially at the elementary education level) than health centers, and thus fall within the radius of action of the former, but outside that of the latter. This means that the criterion requiring a locality to have both services in order to be incorporated into the Oportunidades Program so that its components function in a comprehensive manner could be problematic, especially in Chihuahua; that is, many indigenous students from rural localities without nearby health centers do not have the support of the Program in spite of their need for it and the fact that they live close or relatively close to elementary schools.
- In bilingual elementary schools and tele-secondary schools in indigenous localities in the southern states, we found that more than 90% (and on occasion nearly all) of the students are beneficiaries of the Program. Furthermore, in elementary and secondary schools, especially in Chiapas, we found a greater number of girls (who in some cases constituted more than 60% of the school population) than boys. However, the percentage of beneficiaries is less in northern schools (ranging from 30 to 47%); in the case of the elementary schools studied in the Pima region of Yepachi-Maycoba, no Oportunidades beneficiaries were found.
- Nevertheless, the presence of inter-institutional collaboration was identified, which involved private and public entities at the municipal, state and federal levels focused on various aspects such as the provision of scholarships and boarding schools and the capacity-building of students at various educational levels. Such strategies are directed at the decrease in educational disadvantages experienced by indigenous students in rural areas, and some strategies can mitigate the problems stemming from low educational coverage and lack of academic scholarships from Oportunidades (especially in the Sierra Tarahumara).
- Even where educational offerings are sufficient, infrastructure and maintenance are found to be lagging and schools lack resources. In the four states considered, important factors were identified in the existing educational gap between urban and rural areas–particularly those affecting the indigenous population since this population is, in many cases, found to be in rural areas. Elementary schools, which are usually the oldest, are more poorly equipped, maintained and renovated; because of their characteristics and missions, tele-secondary schools in rural areas depend to a great extent on certain audiovisual resources and an adequate electricity supply, as well as ventilation and air conditioning in hot regions–but such resources are usually deficient or non-existent. Thus, the establishment of tele-secondary schools and their relative abundance in Chiapas and Oaxaca would, in principle, decrease the inequalities between rural and urban areas in terms of coverage and educational offerings, but deficient infrastructures perpetuate or increase such inequalities when compared to technical high schools in urban centers and municipal capitals.

- School dropout is due, in part, to problems with educational coverage more than coverage by the Oportunidades Program itself, as the students with scholarships who drop out of school are usually those who must travel long distances from small localities where there are no schools to reach the school they attend. When such traveling becomes problematic (for example, due to transportation costs or the need for children to help with farm work), Program scholarships are not a sufficient incentive to stay in school.
- On the other hand, factors that cause (and justify) school absenteeism have less weight where Oportunidades Program scholarships exist in combination with the presence of schools, since in such cases absenteeism does not lead to desertion but rather is combined with periods of attending school.
- Not completing study programs and school activities and obligations reduces the opportunities for the Oportunidades Program to make an impact with respect to the creation of capacities though the prolongation of educational trajectories since scholarships are maintained primarily through certification of attendance.
- Nevertheless, thanks to higher levels of schooling attained by female youths (including higher education), females acquire new life aspirations and expectations that lead them to create informal alliances, conceiving of strategies and showing initiative to obtain diverse sources of support for and opinions favorable to the prolongation of educational trajectories. Therefore, academic progress should be measured not only in terms of better performance on nationally standardized tests, but also through a broader world vision that results in increased school attendance, especially with respect to high school education.
- The Oportunidades Program decreases the differences between indigenous and non-indigenous students with regard to attendance and staying in school. Nevertheless, the educational lag among indigenous students, which originates in elementary schools with severe deficiencies and inadequate teaching methods, tends to perpetuate itself in secondary schools, where resources are scarce and educators show little willingness to work toward decreasing the disadvantages that indigenous students have compared to non-indigenous students. Remaining in school does not decrease the disadvantages for students who are lagging at the secondary and high school level; rather, it prolongs these disadvantages and reproduces them as a result, in part, of the low educational level that also affects these schools.
- The problematic dynamic between segregation and the homogenization that characterizes elementary schools that are part of the "indigenous education system" or "bilingual education" is the source of one relevant finding. Very often, what distinguishes an indigenous school from one that is not indigenous is the school population itself; in practice, the study programs corresponding to the bilingual or bicultural system are abandoned. Classes in indigenous schools are taught in Spanish beginning in the first year of elementary school (sometimes under the premise of improved Spanish fluency) and satisfy homogenous educational programs that do not entirely assure the educational continuity of the students, an incentive now provided by Oportunidades scholarships. However, the disadvantages in education and language with which indigenous students enter secondary school raise questions about the effectiveness of this method, as well as that of the traditional bilingual method in schools where it is still used.
- Evidence was obtained about social relationships between teachers and the students' parents, as well as community strategies aimed at reducing teacher absenteeism (especially in rural and indigenous communities) or taking advantage of the presence of teachers for extracurricular tasks (helping with administrative paperwork, helping students after class hours, etc.). Nevertheless, such relationships and strategies are not homogenous, nor are they free from the differences and tensions that exist in the heart of the communities themselves.
- A lack of communication between staff in the rural schools and the local and regional representatives of the Oportunidades Program was identified. There is little or no contact with educational liaisons, and all of the information about the Program that is available to educational staff comes indirectly from radio and television or through contacts and activities related to very detailed administrative tasks involving contact with regional educational supervision centers. Therefore, the experience that teachers have with Oportunidades is usually limited to reporting absences and sending forms to the authorities in the supervision centers. The lack of dissemination

of information among the diverse actors in the educational sector negatively influences knowledge about the Plataforma de Jóvenes (youth program) component of Oportunidades, as well as the general objectives of the Program.

- Greater coverage and more offerings on the part of elementary schools and the recent creation of schools at higher levels of education (from secondary to university level) contribute to explaining generational differences among members of the same domestic nucleus with respect to the amount of schooling attained. Students from younger generations have more opportunities for instruction than their parents and even their older siblings thanks to the presence of educational institutions in their own locality.
- Particularly in scenarios where there is an accumulation of advantages, the average schooling attained by beneficiaries of Oportunidades increases the later they begin to receive the scholarships. Such advantages consist of resources derived from additional domestic income (money from family members who emigrated, monetary contributions from first-born siblings, etc.) as well as the presence, abundance and proximity of elementary and secondary schools. In other words, youths who begin to receive scholarships later (for example, who had begun secondary school before the household was admitted to the Program) have in some way already been "selected–they have overcome the difficult obstacles typical of moments when students from the most vulnerable population groups drop out of school, leading to what is referred to as an "accumulation of advantages."
- The Program achieves the postponement of age at first union and first pregnancy in most cases (for more than 60% of youth beneficiaries, according to data from various regions), which constitutes a significant change with respect to the previous generation.
- The Oportunidades Program does not directly influence the quality of education or the professional capacity-building of the beneficiaries; the increase in school attendance and the prolonged educational trajectories do not mean that the student learns more. Nevertheless, as a result of this prolongation of educational trajectories, former beneficiaries end up with relatively more skills (and degrees) that enable them to obtain jobs with slightly better conditions.

The evaluation identifies the following actions to help the Program achieve a greater impact in the educational sector:

RESPONSIBILITIES OF THE OPORTUNIDADES PROGRAM

- Establish a differentiated system of scholarships for those youths who have to travel out of their localities of origin in order to study. Including an additional financial sum in the Oportunidades scholarships in these cases is very complex, but would without doubt introduce greater equality in terms of support by being consistent with the human capacities approach and the heterogeneity that requires different types and amounts of support and resources for certain individuals and groups. In the event that the administrative difficulty is unmanageable, there should at least be clarity about the challenge presented by the disadvantage.
- Reconsider the conditions under which it is possible to grant an Oportunidades scholarship to families that require one so as to incorporate into the Program beneficiaries residing in localities covered by educational services but not health services. Although that would break with the objective of contributing to the comprehensive creation of human capacities, it is more just to contribute to the creation of capacities in education alone than not to contribute to the creation of any capacities at all.
- Build the capacities of youths who are former Oportunidades beneficiaries to be RECCOS (Responsables de Capacitación a Comités de Promoción Comunitaria [Responsible for the Capacity-building of Committees for the Promotion of Communities]) or educational promoters who become part of the Program staff rather than the existing educational liaisons; these former beneficiaries could serve as points of contact and disseminate information about the Program's educational activities and the opportunities offered by prolonging education.
- Obtain a true intersectoral collaboration between the Program and other strategies and levels of government in

educational services. Oportunidades should be systematically linked with not only other scholarship programs and the creation of educational infrastructure, but also with strategies that work in conjunction with schools to improve teaching quality and academic achievement.

RESPONSIBILITIES OF EDUCATIONAL AUTHORITIES AND SERVICES

- Increase the offerings of boarding schools at every level of education in regions where coverage of educational services is reduced in order to prolong educational trajectories for those who must leave their communities and regions of origin to attend school.
- Encourage authorities at the Consejo Nacional de Fomento Educativo (CONAFE, National Committee for Fostering Education) to open new schools for promoting education and new schools in small population centers located in more remote places.
- Replace the subsystem of indigenous/bilingual education as a curriculum that is segregated from the rest of the Secretaría de Educación Pública (SEP, Secretary of Public Education) with a truly intercultural and heterogeneous system, beginning with basic education; adapt the regular school system itself to really address the diversity of users of educational services.

SWOT Analysis

Before discussing the SWOT analysis and the recommendations derived from that analysis, the following should be clarified: the strengths and weaknesses will be considered here to be internal or attributable to the Oportunidades Program itself, while the opportunities and threats will be considered to be external to the Program. Therefore, the recommendations suggested with respect to the latter relate to social policy or educational services in the broadest sense rather than to the Program itself.

TOPIC	STRENGTHS AND WEAKNESSES/OPPORTUNITIES AND THREATS	RECOMMENDATIONS
Educational coverage	**Weakness:** Many indigenous rural communities, especially in Chihuahua, do not have health services and therefore have not to date been able to be considered as candidates for the *Oportunidades* Program's educational scholarships, in spite of having schools nearby or relatively nearby.	Reconsider criteria for eligibility by separating the shared responsibilities of health and education; increase coverage of the Program to poor indigenous households whose children and youths can attend schools (at least elementary schools), even if there are no health services.
Educational offerings	**Threat**: The scarcity of elementary schools still persists in many regions (especially in Sierra Tarahumara, Chihuahua).	Encourage the CONAFE authorities to open new schools for promoting education and new schools in small population centers located in more remote places. In indigenous regions, CONAFE's community courses themselves could adopt the bilingual intercultural version offered by PAEPI.
Educational offerings	**Weakness:** Though within the action radius of elementary and secondary education schools, youths from many localities must migrate or travel regularly to said schools, which involves additional costs (transportation, housing, food).	Introduce within *Oportunidades* a differentiated system of scholarships that provides additional amounts for those who must travel to study.
Educational offerings	**Threat:** Few secondary and high schools have residential facilities, and those that do have no state or federal support.	Create the boarding school model for secondary and high school level education.

Educational offerings and coverage	**Opportunity:** Educational institutions and programs exist at federal and state levels that compensate for poor coverage of education and of the Program in northern regions (Sierra Tarahumara, Chihuahua) or support the prolongation of educational trajectories for beneficiaries of *Oportunidades* and non-beneficiaries.	Increase coverage of the *Oportunidades* Program in these regions since, for example, in the Pima region of Yepachi-Maycoba (the states of Chihuahua and Sonora), there are elementary schools with precarious infrastructure and resources whose students do not have *Oportunidades* scholarships.
Educational offerings and coverage	**Threat:** The widespread presence of elementary schools in southern states has led to the abandonment of boarding schools, although there are still not enough in northern states to support prolonged educational trajectories for those who have to leave their regions and communities of origin to study.	Convert boarding schools into secondary education schools in southern regions (where the number of schools at that level is still insufficient) and increase the offerings of boarding schools at all levels in the northern states.
Educational quality	**Threat:** Poor teaching quality (especially in rural and indigenous elementary schools) results in students lagging behind at higher educational levels and, for the few who obtain work as service providers in equally deficient schools, in work performance. This results in no real positive or sufficient effect of prolonging educational trajectories.	Certify schools to achieve quality in overall performance according to various indicators. Nevertheless, it is necessary to first work in a truly intersectoral manner with the schools, linking educational processes and content to improvement programs (such as those found in Sierra Tarahumara). This would strengthen subject matter such as mathematics and Spanish and provide capacity-building at the high school level for taking university admissions tests.
Educational quality	**Threat:** Poor or non-existent methods in "indigenous/ bilingual education," Segregation of indigenous students in schools where Spanish is taught and \ methods are the same as regular schools. The combination of segregation and homogenization does not guarantee performance and continuity of indigenous students in secondary schools, where they are found to be at a disadvantage compared to non-indigenous students.	Replace the indigenous/bilingual subsystem (as a program segregated from the rest of the public education system) with a truly intercultural and heterogeneous system, beginning with basic education; adapt the regular school system to truly address this diversity.
Educational quality; internal school processes	**Weakness:** Intersectoral collaboration does not exist; instead, there is sectorization in the educational actions of the *Oportunidades* Program. These are directed exclusively toward school assistance and permanence, but the gap continues as far as quality and resources between rural and urban and indigenous and non-indigenous schools. Therefore, prolongation of educational trajectories exists, but there is not enough creation of or improvement in capacities.	The Program should be systematically linked not only other scholarship to programs and the creation of an educational infrastructure, but also to strategies that work in conjunction with school to improve teaching quality and academic achievement. Convert *Oportunidades* into part of a broader and truly intersectoral model.
Internal school processes; school-community relations	**Weakness:** In light of the extensive practice of not reporting absences so as to not damage relationships with students' parents and avoid the loss of *Oportunidades* scholarships, there is the possibility of weakening elements pertaining to shared responsibilities, in particular, certification of school attendance. In addition, the apparent impact of *Oportunidades* on decreasing indices for failure in elementary and secondary schools reflects an inclination of schools to fail *Oportunidades* beneficiaries less often. Together, this can result in diluting the impact of *Oportunidades* and converting the Program into solely a mechanism to transfer income.	Grant a component of educational scholarships based on academic performance, not only on assistance, as long as the evaluation criteria are adapted to the social and cultural diversity of the students and avoid homogenization and unvarying use of Spanish. This could be done by providing a base amount as the scholarship and increasing it according to academic performance or achievement beginning in high school. Alternatively: Certify schools. This recommendation affects the educational sector as well as the Program. Achieve quality in overall performance for various indicators and provide *Oportunidades* scholarships to all students once they achieve a certain level.
School-community relations	**Threat:** Various factors that contribute to school absenteeism external to the school exist, as do factors not pertaining to the *Oportunidades* Program: adverse weather conditions, student health problems, need for children and youths to do housework and agricultural work, emigration, etc.	The impact that the *Oportunidades* Program may already have on increased student attendance in school can be strengthened if, with the agreement of the local secretaries of education, the academic calendar and school hours are adjusted. In the colder regions of the Sierra Tarahumara, for example, extend winter vacation and delay starting time.
School-community relations	**Strength:** Factors that cause and justify school absenteeism have less weight where there are *Oportunidades* Program scholarships, since in those cases absenteeism does not result in desertion, but rather is combined with periods of school attendance.	Not applicable

Educational trajectories of children and youths	**Threat:** Various domestic factors persist in making continuity and academic achievement difficult for youth, such as traditional gender and role divisions within the household. The parents' decision has weight (need for youths to do domestic and agricultural work and generate monetary income), and there may be little help from parents in providing a space to do homework. **Weakness:** The Program does not affect the capacities and needs of older generations directly, resulting in a diminished possibility for youths to break the cycle of intergenerational reproduction of poverty.	Consider the possibility of the Program working in a more intersectoral way with other strategies to stimulate more directly the capacities of the parents, educational components for adults, strategies directed toward literacy and job-related capacity-building for parents, and credit for productive activities by parents (microbusinesses, agricultural production, etc.).
Educational trajectories of children and youth	**Strength:** The Program has contributed to closing two important educational gaps: ethnic and gender. Thus, the prolongation of educational trajectories is greater among indigenous than non-indigenous individuals and among females than males. These positive impacts are relatively greater in regions and localities where Program coverage is broader due to the broader coverage of educational and health services (Chiapas and Oaxaca).	Not applicable
Educational trajectories of children and youth	**Opportunity:** In scenarios where there is an accumulation of advantages, the average schooling reached by *Oportunidades* beneficiaries increases the later they begin to receive scholarships (for example, during secondary education instead of elementary). Such advantages consist of resources derived from additional domestic incomes (money received from family who emigrated, monetary contributions from first-born siblings, etc.), as well as the presence, abundance and nearness of elementary and secondary schools.	Eliminate scholarships in elementary education when such advantageous scenarios exist (but not when the population is dispersed and there is a scarcity of schools) and concentrate resources at the secondary and high school level and the *Oportunidades* Plataforma de Jóvenes (youth program).
Educational trajectories of children and youth	**Opportunity:** The prolongation of educational trajectories and the increase in average schooling to which *Oportunidades* contributes take place especially in situations where there are sufficient educational offerings (for example, nearby secondary schools or in the locality itself).	Include an additional amount for secondary education scholarships in situations where students have to travel to municipal capitals or other localities to attend school.
Educational trajectories of children and youth	**Opportunity:** There are youths who are interested in high school or higher education whose initiative for attaining said levels enable them to play an effective role in education as liaisons who serve as points of contact for the dissemination of information about the educational support and components of the Program (for example, the *Oportunidades* Plataforma de Jóvenes, youth program).	Substitute existing educational liaisons (whose experience with secondary and high school education is limited) with youths who are former *Oportunidades* beneficiaries who could be trained as RECCOS or promoters and, thus, be incorporated into the Program to strengthen the link between different actors and dissemination of information related to the educational components of the Program.
Educational trajectories of children and youth	**Strength:** Through academic scholarships and prolongation of educational trajectories, the Program has contributed to postponing or weakening the reproduction of the traditional pattern (in terms of age at first union and job placement) via younger beneficiaries and former beneficiaries. These youths exercise their new skills primarily through emigration, in jobs in sectors similar to traditional sectors (construction, services) but in positions and with salaries that are slightly more advantageous.	Not applicable
Educational trajectories of children and youth	**Threat:** The emigration of former beneficiaries with better capacities presumes a decrease in human resources in their rural areas of origin. This tends to reproduce the cycle of marginalization and poverty at a regional level.	Consider the possibility of stimulating the capacities of the parents themselves more directly; educational components for adults, strategies directed at literacy and job-related capacity-building for parents; credit for productive activities by parents (microbusinesses, agricultural production, etc.)

References

1. Nussbaum M. Women and Human Development: The Capabilities Approach, Cambridge: Cambridge University Press. Spanish Edition (2002), Las mujeres y el desarrollo humano, Barcelona: Herder, 2000
2. Robeyns I. The Capability Approach: a theoretical survey. Journal of Human Development 2005;6(1):93-117.
3. Sen A. Development as Freedom, Oxford: Clarendon Press, 1999.

Operational Evaluation of the Quality of Oportunidades' Program services in rural areas

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This document presents the report of the operational and quality assessment of services provided by the Human Development Program *Oportunidades* performed as part of its external evaluation for 2007-2008.* The purpose of this assessment is to make proposals for improving the performance of core processes of the Program through the National Coordination office and its structure in the Mexican states.

To this end, the operation of the Program in fiscal years 2007 and 2008 was analyzed using information collected through surveys of rural households in 2007 and other databases, such as bimonthly indicators for Monitoring, Evaluation, Management and Results, *"Public relations,"* and the *"Puntos Centinela"* reports. Additionally, the results of statistical analysis were complemented by qualitative information collected in fieldwork conducted in four Mexican states included in the ENCEL sample (Chiapas, Durango, Michoacán and Veracruz).

The field research enabled the evaluation team to have direct contact with the operators of the Program and with staff from the health and education sectors and municipal governments, as well as beneficiaries. The information obtained through in-depth interviews and semi-structured interviews, direct observation, and discussions in focus groups enabled the team to assess the conditions under which the services are delivered to beneficiaries. The evaluation was also contextualized and reinforced with a series of interviews with officials in the National Coordination offices and an extensive review of documentary information such as external evaluations, the Rules of Operation, operating manuals, and research and technical papers.

The subjects agreed upon with the authorities of the Program for consideration in the evaluation are: the implementation and efficiency of the Model of Attention by Area (MOZ); causes of loss of households and dropout of student beneficiaries; quality of Program services; knowledge, perception and client satisfaction; improvements in the management of the census of beneficiaries as a result of the introduction of the MOZ; quality and veracity of the certification of co-responsibilities; the strategy of strengthening the Social Network; and effects of the elimination of the Municipal Liaison position from the Rules of Operation. The following is a summary of the main sections of the report, which are the subjects of the evaluation, and their background.

THE PROGRAM AND ITS OPERATIONAL SYSTEM

Oportunidades is the main instrument of the Mexican government's social policy aimed to reduce poverty. Its operation began in 1997 and has grown steadily, so that it currently serves five million households. This is reflected in the increase in funds for this purpose – from 2000 to 2008, the Program's budget increased almost fourfold and reached around 38 billion pesos last year.

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* Henceforth, *Oportunidades* Human Development Program, *Oportunidades,* or simply *The Program* will be used as synonyms.

This Program is an innovative concept in poverty-related public policy, mainly because it seeks to address the structural causes of poverty and low investment in human capital by focusing its actions on the poor and fostering co-responsibility from the beneficiaries. *Oportunidades* is based on the concept of integration and complementarity of education, health, and nutrition, the three critical areas in the formation of basic human capital. The Program delivers direct cash transfers to mothers conditional on their children attending school and the family attending medical consultations and self-care workshops in the local health centers.

In this way, the general aim of *Oportunidades* is to support those families living in extreme poverty while improving the skills of their members and expanding their options for achieving better living conditions through improved education, health, and nutrition options. In addition, the Program is linked to new services and development programs that foster the improvement of the families' socio-economic conditions and quality of life.

Oportunidades is implemented by a diversity of actors at the national, state, regional and municipal levels. At the national level, there is the Program's National Coordination, which is responsible for defining the policies and standards of operation and coordinating, planning and following up on those operations. At the state level, the State Coordination is responsible for implementing the model of operation and monitoring the Program. The state governments are involved in the technical committees of the state Programs and, together with the delegations and representatives of federal programs, are responsible for operating and providing education and health care services for the beneficiary population. At the regional and municipal levels, the Registration and Attention Centers (CARs) and their respective Attention and Service Desks provide services directly to beneficiaries. At the municipal level, local governments provide logistical support and security for various operations conducted by the Program, mainly the delivery of benefits.

In general, the institutional arrangement is complex and requires coordination and participation of all actors at different levels. However, the Program has established mandatory guidelines for the participating agencies and mechanisms for monitoring all operational processes at each level of care.

Among the operating elements of the Program, the following processes should be emphasized: the selection of communities and identification of families; the incorporation of beneficiaries; the certification of co-responsibilities; the delivery of economic support; operational monitoring; and the training and dissemination of information activities by the Social Network. The first two processes are essential to ensure appropriate targeting of beneficiaries. The certification process is also crucial because achieving the Program's objectives depends largely on the accuracy and quality of the certification. The delivery of economic support is another major task in the structure of the Program. Operational monitoring is one of the Program's most important elements because it can detect ongoing problems and solutions. Finally, the constant communication and continuous development of skills maintained with *Oportunidades'* members are strategic contributors to the construction of the Social Network.

MODEL OF OPERATION BY AREA

Established in 2005, the MOZ is an operating system that brings the Program into contact with the public in each Mexican state to provide and improve care for Oportunidades' target population. To this end, the model focuses its activities on improving the quality of care responses for beneficiaries, correcting errors and updating the census, and strengthening organizational activities and community involvement.

The implementation of the MOZ, according to the National Coordination's diagnostics and the opinion of the players interviewed, was necessary and strategic since in the early years of the 2000-2006 term, the priority for the Program was the incorporation of new families in order to increase coverage. It was agreed that before the MOZ was implemented, the quality of care and services was poor; the presence of the Program at the local level was weak, there was no accountability, and there were some indications of manipulation of the Program, lack of identification, a lack of a sense of belonging on the part of the beneficiaries and, in general terms, reduction of impacts.

These problems originated mainly because of the concentration of the entire operation of the Program from offices located in the state capitals, without direct contact with beneficiaries beyond the delivery of remittances. The social

workers involved generally worked in different communities throughout the year, and as a result, the beneficiaries were unable to recognize them. This prevented, among other things, a systematic follow-up of requests.

In response, the MOZ involved the installation of a Registration and Attention Center in each of the 130 service areas distributed throughout the Mexican states, incorporating the health jurisdictions of the Health Department (SSA). Each CAR is a station of operational control with its own facilities, personnel and information processing capacity. Additionally, more than 10,000 strategically located Attention and Service Desks have been installed to increase the traditional contact with the beneficiaries.

Thus, the MOZ has expanded the Program's structure, but it has also involved new operational processes according to the dynamics introduced by this model and the development of a set of information systems that currently support the daily operation of Oportunidades. These elements constitute the strategy articulating – through CARs – the actions performed in each service area.

While there is room for improvement, the beneficiaries now receive better care and have more information about the Program, supplied by the centers established or strengthened by the MOZ. However, beginning in 2008 the Program's National Coordination decided to suspend the installation of the Attention and Service desks (MAS), arguing that they were serving small populations at a high cost of installation. This idea has only been partially confirmed by the results of the evaluation: the information compiled in the field showed that MAS located in well-connected municipalities or communities were useful and were frequented by the target population, particularly because the beneficiaries came to them, creating savings in time and costs. That did not happen in MAS facilities in remote and solitary communities that were difficult for beneficiaries to access, so they preferred to go to the MAPs.

In the opinion of the evaluators, it is important to review the decisions of the National Coordination in order to reassess the schedule and areas of some of the MAS by implementing a different strategy to increase the volume of operation based on areas and schedules (e.g., at the beginning of the school year). Installing MAS in different places may also be considered if it is felt that the influx of beneficiaries does not justify this amount of attention.

Moreover, the dynamic of the operations under the MOZ scheme also has its own characteristics and behaviors, which are discussed below:

Availability of resources for operation. *Oportunidades* has been noted by various studies as a program that operates with low costs (just over 6% of its budget). However, the results of the evaluation show that it is important to consider increasing its resources, particularly at the level of CARs, for optimum performance. Of all resources, the human element is the most important – while the *Oportunidades'* officers are committed to the Program's objectives and have experience and social sensitivity, the evaluation found some members of the staff working under unfavorable conditions, which translated into high mobility, low wages for the workload as compared to other federal agencies, lack of social security, and important delays in the delivery of travel expenses, which often undermine motivation to perform necessary tasks.

The evaluation also indicated that the number of personnel operating the Program remains insufficient. In past years, the Program has correctly created new positions at the State Coordination level, such as technical support, supervisors, links to sectors, and Public relations assistants, among others. However, most of the responsible parties agree on the need to create at least two positions in the CARs: 1) a person responsible for public relations and 2) a person responsible for administration. Some CARs, where the volume of operation is larger, could use both positions, while in smaller CARs a single officer could assume both roles.

In terms of material resources, the evaluation shows that dissemination and promotional materials, stationery, and furniture are available. However, in general it is necessary to invest in administrative infrastructure and equipment, especially vehicles, computer equipment, and communication equipment (telephone and internet). It is necessary to ensure the availability of functional facilities for staff in the CARs (some of these centers are housed in municipal facilities with different constraints).

Linking the operations of the CAR, the state office, and the National Coordination office. Most stakebeneficiaries recognize that MOZ represented progress in the decentralization of functions. However, with the aim of ensuring consistency and standardized regulatory processes, the planning and programming decisions continue to be made from headquarters in Mexico City. Under this system, a recurrent and growing problem caused by delays in the release of financial and material resources by the National Coordination office (e.g., information, surveys, informatics systems, equipment, vehicles, and travel expenses) has been reported in the states, which significantly affects the Program's operation in some regions.

Response time at the Attention and Service Desks. The MOZ has made significant progress in bringing the care centers closer to the population they serve. However, the response times for certain procedures, especially those involving changes in the census, remain lengthy. A lack of information handled by the promoters, flaws in the review of medical files, and some potential weaknesses in coordination between the operational area and the census may extend the normal care period. Additionally, it was noted that there are beneficiaries who do not know the length of time that is required to resolve their medical procedures. This lack of knowledge is reflected in the negative rating the patients gave to the care.

Public relations and social oversight. The assessment results permit the conclusion that public relations and social overview have improved with the MOZ by increasing contact points with the public. However, while the State Coordination level has a specific area called "public relations", there is little clarity as to what is to be considered under this concept since it includes virtually every type of involvement with citizens (information, procedures, grievances, complaints, etc.). As a consequence, among other things, the public relations activities are underevaluated. At the level of CARs, nobody is directly in charge of public relations, and as a consequence this function is assumed by different employees, which diverts them from their primary functions. In addition, these employees do not always have all the information needed to respond to requests or complaints from patients, nor the skills to provide the best care.

For their part, the beneficiaries are becoming acquainted with a higher level of care and beginning to demand services, and the Reccos have played a relevant role in training CPC members. However, much remains to be done to ensure that beneficiaries report irregularities since many of them are afraid to be ridiculed or subject to reprisals. It has been reported that some complaints may not even be resolved, and if a response is ever obtained, it arrives too late.

Client satisfaction with the Program. Various surveys consulted for the assessment confirmed the beneficiaries' adequate satisfaction with the Program. For example, of the beneficiaries surveyed in *Puntos Centinela,* 98.2% said that the attention provided by the *Oportunidades* staff at different levels was good. Focus groups perceived that the beneficiaries are satisfied with the treatment given by the *Oportunidades* staff, but in almost all groups, a larger proportion of recipients are better acquainted with the local representative or a similar officer.

Important developments have occurred since three years ago, when the MOZ was introduced. At that time, according to the 2005 assessment, only 93.6% of the beneficiaries felt that staff had responded adequately. Moreover, there was a widespread view among the beneficiaries that contact with the *Oportunidades* staff was limited, and they were not able to distinguish the officers from the people who delivered the financial remittances. Today, 93.3% of the beneficiaries surveyed (2007 *Puntos Centinela)* have direct contact with the staff and are able to identify them. There have also been significant advances in the understanding of the Program structure because in 2005, 85% of the beneficiaries did not know what a MAS was and 90% said the same about CARs, while now, the vast majority of beneficiaries know of the existence of these bodies.

In this framework, the evaluation results permit the assumption that although the MOZ still faces significant challenges, it has generally been a successful system for the operation of the Program because it has:

a) Brought contact points closer to the population within the states, both permanent (CARs) as well as mobile (with the extinct MAS), and substantially increased the number of MAPs. Recently, the Committees Attention

Desks (MACs), which are part of the strategy of strengthening the Social Network, were added to the contact points.

b) Decentralized the operation of the Program in favor of CARs, providing resources and more decision making capacity. CARs' implementation of actions has been accompanied by increased staff training and development of software systems, which have contributed to better monitoring of the processes and higher work systematization.
c) Improved public relations through increased contact and communication with beneficiaries. A significant change, effective in several states, has been the exclusive assignment of personnel to areas covered by their own respective CAR, which has allowed the beneficiaries to build better relations with the Program's staff members and has helped to improve the monitoring of cases.
d) Increased beneficiaries' knowledge about the Program through various elements created or strengthened by the MOZ. However, some areas still require improvement.

One of the most important challenges to be solved by the Program within the framework of the MOZ is the definition of indicators to measure the quality of processes and to complement the assessment of compliance with the operational goals. This is because while *Oportunidades* is highlighted by the government as a Program that works with well-defined quantitative targets, it does not have fully incorporated qualitative indicators.

THE PROJECT FOR STRENGTHENING THE SOCIAL NETWORK

Several studies have shown that the presence of social capital is a public good that can enhance the impact of the resources invested in social development. In this context, the formation of social networks is a tool that builds social capital and stimulates, within a group or community, mutual trust and the establishment of closer relations.

Oportunidades' Social Network began to form with community assemblies in rural areas benefiting from the Program, during which each area appointed a community promoter. In 2002 the Community Development Committees (CPC) were established, and promoters were replaced by CPC members. In the following years, events were held to train the CPC members. In 2006, the project entitled *Oportunidades* for Community Meetings was implemented in six Mexican states. By 2007, this initiative was renamed "Project for Strengthening of the Social Network" (Freso) and was implemented in 24 states. In 2008, it was implemented throughout the country.

Oportunidades aims to strengthen the social and community fabric in order for citizens to carry out joint actions to overcome their condition of poverty. In this context, the Social Network is promoting the creation of organizations for the beneficiaries and establishing solidarity relations and creating links between the beneficiaries of the Program.

The design of the network is based on the linkage between the authorities and the Program beneficiaries represented by the CPCs' members. Meetings are held within the CPCs and the working tool is the MAC. The CPCs' members collaborate pro bono on the development of their own communities. To strengthen the operation of this network, *Oportunidades* encourages four strategies: i) continued attention to CPCs, ii) monitoring and guidance of beneficiaries, iii) correspondents, and iv) links with the sectors.

The following are the results of the evaluation regarding the performance of the Social Network:

Performance of Community Development Committees: The committees are now a solid base for sustained development of the Social Network. The Network has a wide distribution and is present in the Program operations. The participants correctly identify the different actors involved in the Freso, and there is a significant sense of belonging on the part of the stakebeneficiaries. The main benefit of the CPCs, according to the Reccos and other agents interviewed, is their ability to provide information and guidance to beneficiaries in areas such as knowledge of their entitlements and obligations, the Program's work, and fulfilling their responsibilities.

Furthermore, according to information provided by the beneficiaries surveyed by ENCEL, the CPCs are well known; 68% said they know or have heard of the CPCs or their members, and 94% said they know the CPC members in

their community. The visit to the states confirmed the importance of the members' work and the great potential to develop actions in favor of the beneficiaries of *Oportunidades.* Of the beneficiaries surveyed, 64% claimed to have participated in activities proposed by the CPCs in the last two months and declared that if they had any problems or questions related to *Oportunidades,* they would first turn to the members (49%) to try to solve them. The smooth functioning of the network is threatened by the implicit problems of recruitment, retention, training, and proper direction of the members.

According to the members interviewed, 73.2% maintained frequent interaction (at least once a month) with their respective beneficiaries. The most frequent activity at the promoters meetings is providing advice to the beneficiaries on the delivery of remittances, discussing details about activities, or having meetings with the beneficiaries to transmit information about *Oportunidades.*

In summary, there is a significant level of awareness among the beneficiary population of how the CPCs operate and the roles played by other actors, such as the members, the Reccos, and the beneficiaries themselves. The CPCs are an effective tool in promoting community participation and a powerful mechanism for communication and rapprochement between the Program and its beneficiaries.

The role of the members: The results of ENCEL 2007 show that most of the members (88%) have been trained and guided by the Program. The main training topics are: registration and accountability (51%), right to food (38%), strengthening the Social Network (34%), and verification that all grantees receive their scholarship (34%). The general opinion of these members (93%) is that the training is useful or very useful; 94% said they have had meetings with the beneficiaries to convey information and that this had been easy (42% on average).

Today, with the MACs' support, the members' activities within the CPCs have a clear agenda with specific objectives and viable methods. However, some members have shown a degree of indifference, resulting in absenteeism and lateness to meetings. In this regard, information obtained through ENCEL shows that 66.7% of the sessions at the desks observed in operation started late. There is also evidence that an undue burden of responsibility for the members discourages their participation. Also, some members face difficulties in communication because they are illiterate or speak a dialect unknown to the trainers; some lack the capacity, time, or interest for better participation. Disagreement and conflict among beneficiaries is often a factor that discourages community work and reduces the scope of actions undertaken by different groups. Also, there is the risk that some members may assert dominance over their beneficiaries, undermining the objective of the committees.

Importantly, there is a lack of operating procedures to carry out supervision and monitoring of the activities that take place in the MACs and in meetings of the promoters and the beneficiaries.

The role of the correspondents: According to ENCEL 2007, about 80% of the members surveyed said that in their town, there were no High School students acting as *Oportunidades* correspondents. Similarly, there are currently 3,700 active correspondents, who cannot cover the 70,000 CPCs. This seems to demonstrate the lack of progress in this line of work.

The problems detected in the field show that this strategy is still in its early phases and requires more infrastructure and more incentives for youth participation, availability of computers, and access to the internet. These elements are not always present in all communities, making it difficult to launch the initiative.

However, of those members who recognized the existence of the correspondent in their areas in ENCEL 2007, the majority (56%) said the support provided by the correspondent was good. They acknowledged that the main activity of the correspondent is to provide input for the website of the Community Development Committee (43%), to help the members submit complaints and acknowledgements via email (23%), and to transmit requests from the beneficiaries to the *Oportunidades* officials through the website (19%).

Committees' Attention: ENCEL 2007 reported that 63.2% of the MACs started their operations only in the third bimester of 2007, so this project is still maturing. However, according to the interviewees, so far these bodies

have had significant achievements: i) increased chances for communication for both promoters and beneficiaries on issues of interest; ii) more information for those involved and the development of new forms of work and organization; iii) increased participation of beneficiaries and recognition of their responsibilities; iv) despite the difficulties in obtaining the participation of members, there has been progress in achieving better performance through increased contact with the Program and follow-up on their necessities, and v) change in the attitude of people, increased attendance, and willingness to learn.

However, MACs' effectiveness is being limited by the level of resources provided to fulfill their duties. Almost half of the staff interviewed (on average 48%) thought that the MACs' working conditions were insufficient or inadequate. They believe that the most important limitations are the lack of adequate space for training, lack of furniture and other material support, as well as a lack of vehicles and financial per diem.

They also noted the excessive workload of the Reccos and the little support that different areas of the Program offer for this work. The assessment suggests that improving the performance of the MACs requires, among other things, better planning and forecasting of topics for each reunion, plus more days to plan the meetings.

CERTIFICATION PROCESS OF CO-RESPONSIBILITIES

The permanence of the beneficiary families in the Program and their continuing support depend on the crucial process of certification of co-responsibilities. However, the quality and veracity of the process relates not only to actions taken by the Program, but also has to do with work done by the education and health sectors.

In terms of design, a mature operational process is involved that includes specific timeframes and accurate routines of execution. The sectors and institutions involved have clarity on the functions to be performed to establish relations and provide a coordinated follow-up to the target population's fulfillment of their responsibilities. However, according to the assessment findings, many of the actors interviewed by ENCEL 2007 and field workers argue that the main proceedings, doubts, and complaints submitted to the Program include those related to problems in the certification of co-responsibilities. They all admit that it is difficult to carry out their responsibilities because of a lack of good information among the beneficiaries, the staff's poor performance, especially in the health sector, and conditions attributable to the circumstances of the beneficiaries.

The results of the evaluation show that the lack of competence among the health sector staff was a major cause of dropouts among the participants in the Program. The data analyzed show that from 2003 to 2007, approximately 53% of average annual suspensions were for this reason. Similarly, in the results obtained by ENCEL 2007, 23.9% of the suspensions were due to this cause. In education, this led student beneficiaries to drop out, and a number of students did not register. The above-mentioned failure is impacted by attitudes among the population and factors that limited compliance with responsibilities and proper registration.

Operational aspects related to the Program's authorities: The Program has to provide accurate and timely information to the beneficiaries in order to influence the fulfillment of their responsibilities. To this end, permanent guidance and training activities are foreseen. ENCEL 2007 shows that about 70% of the interviewed members made efforts to improve the enforcement of responsibilities, and 51.1% reported receiving training on issues related to enrollment and responsibility.

Other work within the Program's scope of action includes coordination with the sectors in the states. Today, such coordination is reflected in the timely delivery of inputs required for certification, developing materials for dissemination and support for staff training in the different sectors, and in the receipt and data entry of the formats submitted. *Oportunidades* provides the formats for the sectors, which results in greater efficiency by reducing delays or failures.

With regard to the quality of training provided to the sectors, the impact of the Program is limited. The current operational system establishes institutional barriers by holding the same sectors in each state responsible for preparing and informing their respective staffs. *Oportunidades* focuses on the production of materials and proposals of the

most appropriate strategies to accomplish this function. This arrangement does not achieve the desired levels of training to provide quality services. The *Puntos Centinela* 2007 survey shows that 27.6% of teachers interviewed did not know how many unjustified absences would result in suspending an *Oportunidades* scholarship; 16.5% of teachers require more information to enroll and register students; 84.2% were not convened to receive training about *Oportunidades* for the school year; and 61.1% believed that they needed more training.

Furthermore, it is necessary to supplement the current system with spaces for institutional coordination to address the problems detected. Spaces suitable for this dialogue are provided by the State Technical Committees. However, it is necessary to designate points of contact between the Program's authorities and the state sectors at the local level. In some CARs, there are interagency working groups that, in the opinion of the Program's staff, contribute to solving problems and increasing the transparency and quality of the operation.

Recepients' fulfillment of their responsibilities: The results of ENCEL 2007 show that despite being informed continuously on their performance obligations, beneficiaries are still to some extent misinformed about how to comply.

The beneficiaries have limitations due to their socioeconomic status; for example, obstacles they face include high transaction costs arising from the remoteness of the health unit (4.3%), transportation costs (2.1%), and in some cases, an inability to communicate adequately because they speak a dialect that is not understood by the clinic staff.

One aspect worth noting is that although the Reccos frequently stress to members and beneficiaries the importance of compliance with their responsibilities, in some cases they are met with lack of interest and seen as a mere formality. In other cases, the members are no longer satisfied by the attitudes of the health staff, which in some cases do not provide care or merely seal the card to record attendance.

In that sense, to the extent that the information strategy and the guidance provided to the beneficiaries through the *Oportunidades'* Social Network are progressing and mechanisms are defined to improve the quality of care and services by sectors, the Program will witness in the short and medium terms a better attitude and greater participation of beneficiaries. This will be reflected in better results in reducing the rates of suspensions and the number of beneficiaries who fail to comply with their responsibilities. It is important to mention that important synergies were found between the Freso and the certification process of co-responsibilities and that the interventions by promoters have been very important to encourage compliance among beneficiaries.

Operational aspects in the health sector: Based on ENCEL information, the *Puntos Centinela* surveys, and field work, it was concluded that there is an important area for improvement in the quality of service afforded by the health sector. For example, the beneficiaries are not always adequately informed on the dates of their medical appointments or a talk about a health issue, registration dates, or the need for any document. In addition, field workers gathered evidence that in some cases the staff treat the beneficiaries with neglect. Specifically, some beneficiaries said that they have to wait too long for their consultations and that the health talks are excessively long, which affects their daily activities.

Similarly, a few cases have been reported of failures by error or omission to record attendance and some situations in which the staff asks for some payment as a record of attendance. This must be urgently addressed because even if it is not a widespread problem, it undermines the image of the health sector and the reliability of the Program.

Another interesting fact that is reported in the surveys, although in a very low proportion (1.1% of beneficiaries surveyed), is that the beneficiaries were asked to perform a task in exchange for receiving medical consultations. Among the tasks they were asked to complete were: to assist in the health care unit or in the community (14.6%); to use some method of birth control (5.3%); to complete a cleaning job (0.6%); or to contribute some financial gift (71.3%). This situation was corroborated when interviewing beneficiaries in some communities where the doctor and nurse abuse their powers and require multiple activities by the recipient, threatening to remove them from the Program. These types of actions are contradictory to the objectives of the Program and are not in line with the spirit

of helping the needy. In general, there are various operational conditions in the area of services provide by the health sector that create obstacles for the fulfillment of the co-responsibilities on the part of beneficiary families.

Operational aspects of the competence of the education sector: The information obtained by the *Puntos Centinela* from principals, teachers, and members shows that it is necessary that the education sector staff receive information and training on the process of certification of responsibility and the Program in general. Although the staff who have received training on the Program describe it as useful, only a very small group of staff associated with the certification has been trained, which is due to unwise decisions and budgetary restrictions in the education sector and lack of interest among the staff at the schools.

The survey shows that a lack of information on the overall operation of the Program persists, a finding that was confirmed during the field work with the teachers and principals interviewed. For example, the teachers say that they do not know what to do when some students' names are missing from the attendance list and their scholarship is cancelled. Also, teachers are not aware of the appropriate procedures to document cases in which students change schools. In general, the information they receive is limited, and it is transmitted only through official letters sent by the education sector.

With regard to the timing of receipt of the E1 form necessary for registration in the Student Beneficiary Program, ENCEL shows that in 17.9% of cases, the receipt occurred before starting school; in 45.9% during August; 33% in September; 0.7% in October; and 2.1% had not received the format at all. This result indicates that there is no strict adherence to delivery times of forms, which results in delays of the registration process since the schools lack the necessary documents at the beginning of each school year and are unable to register grantees.

In sum, the education sector faces problems caused by a lack of information, and it is necessary to rethink the training strategy because ENCEL 2007 concluded that 16% of teachers surveyed are unwilling to receive training after their working hours.

Other relevant aspects of accountability encountered in the field were failures in the electronic certification system. Sometimes the software crashes when information is being updated, and the names of students are not included in the student beneficiaries' rolls. The schools are unaware of this situation.

CAUSES OF HOUSEHOLD DROPOUT

The Program faces the challenge of incorporating the population that meets the eligibility criteria and keeping them active in the Census of Beneficiaries (PB). However, the development of this census depends primarily on the proper execution of standard procedures of *Oportunidades*, on the interest of the Program's target population, and on the fulfillment of responsibilities by beneficiaries.

An analysis conducted for the 2003-2007 period with information on the Indicators for Monitoring, Evaluation, Management and Program Outcomes highlights that the most important growth patterns were presented in the fifth bimonthly period of 2003 and 2004, with percentage changes of 3.2 and 10.2%, respectively. It is important to note that since the time the Program reached the target of five million families by the end of 2004, new enrollment activities have been limited to the replacement of suspensions reported in the PB. Between 2005 and 2007, the total number of suspensions was offset by an equal number of enrollments and has become smaller and smaller each year. This is desirable because the Program's objectives are achieved with the retention of the same beneficiaries.

Evolution of suspensions from the census: Between 2003 and 2005, the total number of suspensions increased by 40% from just over 211,000 to 296,000, while the period from 2005 to 2007 showed a reduction of 32% to 201,000. In the case of the first period, the increase in the number of suspensions is present even within the framework of expansion, which was to meet a target of five million families. This reflects massive work for the inclusion of beneficiaries in the Program, but also indicates that the suspensions mainly last for an indefinite period and, in large part, they are caused by errors of inclusion.

Regarding the evolution of the suspensions according to definitive versus indefinite duration, it appears that both types have declined between 2004 and 2007 and that some changes have occurred in the relative percentages of each type of suspension. In 2005, the definitive suspensions represented 19.2% of the total movement recorded in the year, while in 2006 and 2007 they accounted for 9.1% and 8.8%, respectively. According to information obtained in interviews with officials in the states, since the target coverage was reached, operations to detect errors of inclusion have been carried out, which explains part of the definitive suspensions. Moreover, the reduction of indefinite suspensions is consistent with, among other factors, beneficiaries' greater compliance with accountability, arising from a better understanding of the *modus operandi* of the Program; and improvements in the standard procedures for certification of co-responsibility and care procedures.

Evolution of suspensions according to cause: The main causes of suspensions reported in ENCEL 2007 are: failure to attend health consultations (23.9% of beneficiaries); errors or inappropriate actions by *Oportunidades* staff (4.5%), and finally, the family's socioeconomic level gave them no right to receive benefits (3.7%). As noted, in the majority of these cases the responsibility lies primarily with the beneficiaries; however, the Program can affect these motivating behaviors to encourage permanence.

It is noteworthy that a high percentage of the beneficiaries surveyed in ENCEL 2007 (62.2%) gave answers that fell under the choice of "other causes". Of that total, 25.6% said that despite receiving notice, they were unaware of the cause of their suspension. This could be due to problems of access and dissemination of information in a timely manner. It is important to address this situation as this group of beneficiaries, most of whom are dissatisfied due to lack of information, could reasonably affect the image of the Program.

Examining the breakdown of "other causes", it is striking that several processes were implicated that can be directly related to the Program. It was observed that 19.2% of the recipients said their suspension was caused by errors in the completion of documents; the same percentage indicated ignorance of the cause or a lack of explanation for the suspension, and 6.8% of respondents expressed disagreement with the cause. Failures in the quality and timeliness of information sent to beneficiaries regarding the specific causes of their situation harm the image of transparency and quality of the Program. It is important to improve social promoters' and the Reccos' access to specific information about the causes of suspensions and also to include these in the procedural issues addressed by the MACs' training program.

Evolution of definitive suspensions by cause: Previous evaluations have repeatedly detected that errors of inclusion are among the leading causes of definitive suspensions. This was confirmed by the analysis of indicators for Monitoring, Evaluation, Management and Program Results 2003-2007, which was conducted for the evaluation. Nevertheless, the 2005-2007 period showed a significant reduction in suspensions for this reason from 99.7% to 70.1%. The latter figure is accompanied by an increase in suspensions due to the end of the cycle in the Benefit Differential Scheme (EDA) in the same period (14.7%), which together imply new spaces for incorporating families who meet eligibility criteria.

It is noteworthy that the errors of inclusion have decreased in recent years with the introduction of the MOZ, which established correction processes based on better field verification; opened new Attention and Service Desks to correct possible errors; integrated verification processes through sample surveys; and improved the process of gathering information for inclusion in the Program. For example, in 2005 nearly 59,000 of this type of error were detected through the MAS; 73% of them were confirmed as errors that caused definitive suspensions.

There are areas of opportunity in terms of the information provided to beneficiaries on the grounds of suspension; recipients get little clarity from the official sources authorized to brief them on the causes of their suspensions, including their socio-economic status and other factors; moreover, beneficiaries do not read the notices and information given to them at the desks. In addition, improvements in operational processes to detect errors of inclusion may be determinant in the suspensions of beneficiary families, which are reflected in the census of beneficiaries and contribute to improving the targeting. The significant increase of suspensions on the grounds of "the family

no longer meets the eligibility criteria" and "completion of the cycle in the Benefit Differential Scheme" requires operational processes that detect and timely inform the beneficiaries of changes in their socio-economic conditions and achieve an adequate output of the Program.

Evolution of suspensions from the census for an indefinite period, by cause: These suspensions represent about 87% of suspensions and involve the main activity of updating the census. According to the Program's indicators and information provided by the census area, the main reasons for suspensions are the failure to comply with the responsibility in the health sector and non-withdrawal of remittances.

The breach of responsibilities in health: Throughout the existence of the Program, this has been the main reason for indefinite suspensions, which occur more frequently among beneficiaries who have entered the Program since 2005 (36.8%), while among the beneficiaries enrolled before 2005, the rate is 22.2%. This difference may exist because beneficiaries enrolled before 2005 have a better grasp of Program procedures and know how to best fulfill their responsibilities.

According to ENCEL, 25% of interviewees who were on suspension reported that they had left the Program for reasons related to the health care unit and 75% for other causes. Among the most common causes related to health care units were misinformation regarding the dates of conferences or consultations and the distance between home and the health care unit (4.3% of responses). Inappropriate treatment by staff was indicated in the same proportion of cases as the cost of transport (2.1%). All of these causes are related to operational processes of the health sector.

Seventy five percent of the causes of failure to fulfill health-related responsibilities were classified as "other causes." These include the prolonged illness of one or more members of the household and having to go to work. This demonstrates that from the perspective of the beneficiaries, compliance with their health care responsibilities implies an opportunity cost that is not justified in many cases. In other words, because of the time required for consultations or conferences and the distances to be covered, beneficiaries have to choose between receiving their wages or the Program's remittances.

Another cause of suspensions is classified as "other errors in the health care unit," meaning the mistaken recording of absences from health consultations or conferences (5.14%), the beneficiary registering in a health care unit other than the one to which they were assigned, or failure of the health care unit staff to register the beneficiaries in reprisal for not being paid or completing some task that had been requested. This last point deserves special attention because, in the opinion of the recipients, it constitutes acts of corruption, inappropriate conditions to deliver the remittances, and mishandling of the Program.

After health care failures, the most important cause of indefinite suspensions is the non-use of support payments, which occurred at frequencies of between 11.8 and 28.8% in the 2003-2007 period according to the Program's indicators. ENCEL divided the causes of non-use of support into two broad categories. The surveyed population said that 37% of the reasons for not withdrawing their payments are related to *Oportunidades* personnel or the paying institution, and 63% were due to other causes.

The causes related to personnel are related to logistics: 12.8% of beneficiaries did not receive information about the date and place of delivery, and in 6.4% of cases there were delays in receiving the support and documents. These situations could be due to operational failures of the Program related to the dissemination of information on dates and communities of MAPs or difficulties in following schedules for installation of the distribution points, among others. In addition, interviewees indicated distance and costs of transportation as grounds for not using the support.

Among the reasons for not using the support, the leading cause was – in 63% of the cases – the temporary migration of the beneficiary (21.3%), a finding that was corroborated in the field. The prolonged illness of the beneficiary was also grounds for not using support in 8.5% of cases. In 6.4% of cases, the beneficiaries said they did not withdraw support because: 1) the beneficiary passed away and was not replaced, 2) the beneficiary had to work, or 3) she had to babysit. In summary, the "other" reasons for not withdrawing support focus on lapses in

dissemination of information and errors in completion or data entry of forms. From the perspective of the beneficiaries, the distance to points of delivery, temporary migration, and change of address are the main grounds for not collecting payments.

GROUNDS FOR NON-REGISTRATION AND DROPPING OF GRANTEES

In late 2007, the Program had a census of some 5.1 million grantees. However, it is estimated that they represent only 60.1% of the eligible children of beneficiary families aged 8 to 17 years in basic education and 16.3% of students between 14 and 20 years of age in High School. This evaluation examines the causes of this phenomenon.

Enrollment in school and access to scholarships. ENCEL results show that 94.7% of children aged 8 to 13 of the beneficiary families surveyed were enrolled in school the previous year. However, it appears that there is a degree of regressivity in the registration: while 95% of respondents living in towns with very low to very high poverty rates were enrolled in school the previous school year, in the highly marginal towns they totaled 92.4%.

Of the total number of interviewed Program beneficiaries from 8 to 13 years of age who were enrolled in school, 86.3% said they had an *Oportunidades* scholarship the previous school year. For Only 88.4% of young students between 14 and 24 years of age, of the total beneficiaries eligible for an *Oportunidades* scholarship because their families were covered by the Program, received a grant in the three months preceding the interview.

Grounds for non-registration of grantees. The reasons for not having been granted scholarships are mainly related to the Program's operation. According to ENCEL, 23.8% of responses were related to the beneficiaries' knowledge of their entitlements and the registration procedures and 17.3% to options related to abuse, corruption or mismanagement.

With regard to causes related to knowledge about entitlements and registration procedures, in 17.7% of the cases the students did not know they were eligible to be granted a fellowship. This cause of non-registration of grantees is more frequent among students who live in places with very high poverty. Moreover, 4.1% thought they would have access to the scholarship just because *Oportunidades* covered their families. Finally, 2.0% said that they did not know they had to do something in addition to enrolling the child in school. The information gathered in the field through group interviews with beneficiaries and grantees confirms that there is a degree of misinformation regarding the procedures for accessing grants. Additionally, grant beneficiaries perceive the registration process as "very complicated."

Regarding the 17.3% of causes associated with corruption, mismanagement, or abuse, 15.1% were cases in which the child was registered but the scholarship was not granted, and in 2.2% of the cases the school refused to register the child. With regard to the first type of cases, again their highest incidence is in the highly marginal communities. In cases where registration was sought but the fellowship was not granted (9.1% mentioned above), 86.7% did not request further explanation.

Causes of dropping of grantees: There are causes related to lack of knowledge of registration procedures and compliance (13.8%) and related to corruption, abuse, or mismanagement (8.3%). With regard to the first type of cause, 8.3% forgot to register and 5.5% exceeded the number of absences allowed. Both cases are reported with greater incidence in areas of very high deprivation. Regarding the second case, 4.8% stated that they had registered the child, but did not receive the scholarship. Second, 1.4% stated that the school would not register the child.

Information obtained in the field shows that there are cases in which the scholarships are lost by "leap-grade." There are schools, especially those belonging to CONAFE, that require a certain number of pupils to make up a class, and therefore the students are up-graded or down-graded according to the school's needs. Among the students interviewed, that practice has meant losing their scholarships for a school year. Additionally, in some cases the school was intending "to help" a student by registering him or her in the third grade despite being in second grade.

The problem arises when the student in fact fails the third grade and loses the scholarship. Finally, we should note that 62.7% of cases of dropping of fellows were reported to have occurred for "other reasons," the major cause specified being the family's dropping out of the Program (8.3%) and the child having failed school (15.2%).

MAIN CONCLUSIONS

Today, *Oportunidades* has as one of its main objectives the improvement of the quality of services provided to its beneficiaries and has achieved the goals of promoting the accessibility, timeliness, effectiveness, efficiency, and transparency in the provision of its services.

In terms of **accessibility,** the Program has brought its services to the population through the MOZ. The expansion of the operational structure, including the establishment of the CARs and the different Attention and Service Desks, has reduced overall costs and time of transfer and facilitated beneficiaries' access to different services. The service provided by the CARs is much appreciated by the recipients as well as the State Coordination staff. However, some of the CARs are still distant for a subset of the beneficiary population.

The Program tried to increase the accessibility of its services through the MAS. Suspending them meant the loss of an important structure for the implementation of the strategy called "*Oportunidades* closer to you." This is because: 1) times and points of possible contact with the Program were limited (instead of monthly contacts, they became bi-monthly under the MAPs) and 2) the availability of personnel to meet the needs of the population was reduced in the MAPs compared to the MAS. Regarding the towns of higher marginalization and dispersion, the efforts have proved inadequate. For example, the MAS, which had more clients, were located in well-connected towns and in municipalities.

One of the main contributions of the strategy for Strengthening the Social Network was the rapprochement with the CPC members. They receive more personalized attention from the Reccos, and thus, opportunities have been opened up for the dissemination of useful information to beneficiaries in terms of procedures.

The position of Municipal Liaison was originally included in the MOZ as a permanent contact point for people covered by *Oportunidades*. By doing away with this position, the Program has lost an effective element of accessibility and proximity to the beneficiaries. While the current heads in charge of social policy areas in the municipalities are no longer doing paperwork for the Program, they are performing the tasks of providing information and guidance to the beneficiaries as well as providing support to various *Oportunidades* state authorities, even though the Program does not formally recognize them.

In terms of **timeliness** of care to the population, in general compliance was found with the timetables for the installation of the different services desks. Delays were usually caused by logistical shortcomings, such as a lack of public safety guarantees or disorganization of the bodies in charge of paying. Sometimes, the delivery of remittances takes a long time given the large number of people served.

A central aspect of the quality of care is the timing of resolution procedures, but by limiting the role of the Municipal Liaison and eliminating the MAS, the opportunity for contact at the local level is reduced to the MAP, i.e., once every two months. The only alternative available to the beneficiaries is to travel to the CARs, with the consequent costs in time and money. In terms of timeliness in providing information, the personnel in charge of the Attention and Service Desks have no access to SIOO, making it impossible for them to know some of the causes of the problems faced by the beneficiaries. This situation is especially evident when complex processes must be completed.

CARs respond to all of the beneficiaries' requests, even if this means postponing some scheduled activities by the staff. This is done in an attempt to provide appropriate service, but it imposes a cost in terms of efficiency by delaying the fulfillment of other goals. It should be stressed that there is no specific position in the CARs responsible for public relations.

In terms of **effectiveness,** the Program does not have indicators to measure the qualitative dimensions of the goals. In other words, the number of operations executed is monitored, as well as compliance with deadlines and a

set of standard procedures, but in many cases there are neither quality standards nor information for their appraisal. This situation is illustrated by cases where the National Coordination office delayed processes and systems informatics; the CARs meet the goals, but with a greater margin of error.

Another example illustrates that the Program has not been very effective in the transmission of information to beneficiaries. While efforts are made to bring information to beneficiaries through notices, letters, banners at the Attention and Service Desks and the Program offices, the use of the Social Network, and even home visits, the goal of providing accurate and timely information to recipients has not yet been fully achieved.

In the same way that the operating culture of the Program focuses on meeting goals, the population seems to be more motivated to comply with requirements to continue receiving financial support than for the benefits of staying in school or changing their health habits. This has led *Oportunidades* staff to question the desirability of the Program's monitoring not the beneficiaries' compliance with the process, but the actual understanding of their responsibility.

Relating to **efficiency,** the Program has made significant efforts to maintain a low level of operating expenditure, which other studies have described as effective. However, when analyzing the costs incurred in providing services, it is important to include not only accounting costs, but also the economic costs.

The Program is designed with an operational system, which implies that the main processes and activities are released from central areas to all states and CARs. As a result, the needs and conditions of each region are not reflected adequately in the definition of goals and care strategies.

In general, the Program's operational staff at the state and CARs levels believes that the operational goals established by the National Coordination can be achieved in a timely manner, despite the constraints of existing staffing and other resources, with some additional efforts. But delays and inconsistencies in the activities of the central office aggravate the already heavy workload of the staff in the states and raise additional operating costs.

The rotation of the operating staff and the subsequent loss of experience and investment in training are also a source of inefficiency in the Program's operation. This rotation is largely due to the current patterns of recruitment for certain positions, which provide neither job security to staff nor employment benefits because their wages generally do not correspond with the workload.

In terms of **transparency,** the quality of the public relations is a topic on the *Oportunidades'* working agenda. The implementation of actions to strengthen this service is evident: the existence of personnel in charge of public relations; the participation of such personnel in the state technical subcommittees for the opening of complaint mailboxes; the social promoters' and Reccos' responsibility to encourage submission of complaints; and the creation of mobile mailboxes and recording activities in an informatics system. However, the citizens' culture of submitting complaints is still weak. In addition to misinformation regarding the existing channels for complaints, the fear of reprisals persists as the population maintains the belief that anonymity is not kept, especially when there is no response to their complaints or allegations.

SWOT Analysis

DOCUMENT: OPERATIONAL AND QUALITY ASSESSMENT OF THE SERVICE PROVIDED BY OPORTUNIDADES
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TOPIC	STRENGTH AND OPPORTUNITIES/WEAKNESS OR THREAT	RECOMMENDATION REFERENCE OF THE RECOMMENDATION
	STRENGTH AND OPPORTUNITY	
Model of Operation by Area	The MOZ is a wise and necessary innovation in Oportunidades' operational scheme. Its implementation has improved the care provided by the Program and has timely responded to the current stage of development, i.e., building, maintenance and care of the broad census of beneficiaries.	Not Applicable
Model of Operation by Area	Through the MOZ, advances have been made in decentralizing the Program, strengthening its capacity in local areas, improving care for the target population, and taking greater control and advantage in the processes and information flows.	Not Applicable
Model of Operation by Area	The MOZ has contributed to strengthening the Program's presence at the local level, which helps to shield it against interests other than socioeconomic development.	Not Applicable
Model of Operation by Area	In general, the Oportunidades' staff shows sensitivity and social commitment in the execution of their work and extensive experience in the Program. Part of this staff is continually trained on management and operation issues. In recent years, new positions have been created (public relations, training, etc.) that reinforce the Program's operational structure.	Not Applicable
Model of Operation by Area	The bodies that make up this model of operation (MAP, MAC and MAS) are located in appropriate places and have had positive results in health care for beneficiaries, who receive more information and direct and faster service.	
Model of Operation by Area	The MOZ provides a better and more comprehensive operational structure for bringing care to citizens and promoting social oversight. There are personnel in charge of public relations in the State Coordination, the number of mailboxes (fixed and mobile) as well as follow-ups increased, there is greater promotion of complaints by promoters and Reccos, and actions of public relations are recorded in a system.	Not Applicable
Model of Operation by Area	Planning and programming tasks are centralized. This is a Program strength that allows it to ensure national implementation of operational criteria and contributes to protecting the Program against potential political manipulation by other levels of government.	Not Applicable
Strategy of Strengthening the Social Network	While the project for Strengthening the Social Network is of recent implementation, there is widespread dissemination and identification of most of its actions by the beneficiaries. Meanwhile, the CPCs are a powerful tool for communication and rapprochement between the Program and its beneficiaries.	Not Applicable
Strategy of Strengthening the Social Network	Substantial progress was reported in the members' training strategy since the creation of the Committee's Attention Desks and the establishment of Reccos. This action complies with its work program and has begun to institutionalize.	Not Applicable
Strategy of Strengthening the Social Network	In general terms, relations of trust and increased communication between the Program and its beneficiaries have been achieved through Freso. For example, the beneficiaries feel more confident to ask the CPCs members for information about the Program than to other officers.	Not Applicable

Certification Process of Co-responsibilities	The procedures and routines that make up the certification process are designed with a clear structure and specific definitions of the activities to be implemented by those responsible for the Program, the sectors, and beneficiaries.	Not Applicable
Certification Process of Co-responsibilities	Significant synergies have been found between the Project of Strengthening the Social Network and the certification process of co-responsibilities. The CPCs' involvement in guiding and informing the beneficiaries about their responsibilities has supported compliance.	Not Applicable
Certification Process of Co-responsibilities	There is a receptive attitude on the part of the health and education sectors to improve the whole process. Additionally, some institutional arrangements are in place for implementing actions.	Not Applicable
Certification Process of Co-responsibilities	There are developments at the CEO level and to a lesser extent at the CARs in coordination with the health and education sectors to improve care for beneficiaries and quality of service and to correct the perceptions that the beneficiaries have of those sectors.	Not Applicable
Causes of suspension of households	The number of definitive suspensions from the census has been reduced, allowing greater expectations for the beneficiaries' continuity. This sets a basis for achieving the Program's projected impacts in terms of reversal of the causes of poverty.	Not Applicable
Causes of suspension of households	There is evidence that the actions carried out under the MOZ and the Project of Strengthening the Social Network have positive impacts on the response to complaints and errors of inclusion, contributing to better targeting of the Program.	Not Applicable
Causes of suspension of households	The MOZ and the Project of Strengthening the Social Network provide an important framework for the dissemination of information on procedures, rights, obligations, claims and complaints, co-responsibilities, dates, and points of delivery of benefits. This will reduce the expected number of suspensions due to a lack of information on the Program.	Not Applicable
Causes of non-registration and loss of grantees	The ratio of total grants issued to grantees has increased, which shows the beneficiaries' greater respect for their responsibilities and better knowledge of the requirements for compliance.	Not Applicable

TOPIC	STRENGTH AND OPPORTUNITIES/WEAKNESS OR THREAT	RECOMMENDATION REFERENCE OF THE RECOMMENDATION
	WEAKNESS OR THREAT	
Model of Operation by Area	The MOZ human resources policy has some deficiencies in its application to operational staff. This internal factor limits the effectiveness of MOZ and would preclude Oportunidades' efficient operation.	To implement a comprehensive human resources policy to encourage the Program's staff currently working under contract for fees. To hire staff on a more permanent basis and to include basic perks in order to maintain a more stable team and reduce high turnover costs. To authorize new positions, especially at the CARs level; for example, it is necessary to appoint staff with the specific responsibility for public relations.
Model of Operation by Area	There is low investment in infrastructure and administrative facilities, which hinders working conditions conducive to the efficient implementation of the Program's tasks.	To assess the feasibility of increasing the operating costs of the Program to invest in infrastructure and management teams. Specifically, it is necessary to devote more resources to ensure appropriate working conditions at the CARs' facilities, vehicles, computer equipment, and communications, among others.
Model of Operation by Area	There are recurring breaches by the central office in the release of processes, systems, and resources programmed, which significantly affects operation at the state level.	To institute joint efforts within the areas of the National Coordination to ensure the timely release of resources and systems required for operation. This means increasing the officials' awareness at the central level, improving coordination between areas, and accelerating the training of recently recruited staff.
Model of Operation by Area	The decision to suspend the operation of the MAS was made with a single criterion that did not distinguish the needs of different regions. In this sense, the absence of the MAS has negatively impacted the daily operation of the Program in some communities in the states.	To reinstall the MAS in those communities and during the months of the year when the volume of operation justifies it in order to expand the opportunities for contact with the Program and provide a higher quality of care. For the most remote and solitary communities, it is suggested to reinforce the MAPs through additional staff and better coordination with the MACs. To implement additionally special operations to address problems and extraordinary procedures.
Model of Operation by Area	Responding to the beneficiaries, especially in procedures involving census changes, still takes a long time, due in large part to the promoters' lack of information or mistakes in the completion of care sheets.	To bring new electronic tools to social promoters and Reccos to provide more accurate information and timely attention to beneficiaries at the desks. More oversight and care are needed in completing the sheets, as well as better coordination between the areas of the census and operational coordination in order to obtain expedited responses for the procedures. To prioritize at CARs those procedures that may result in suspensions.
Model of Operation by Area	The relationship with the municipalities is ambiguous since the elimination of the Municipal Liaison. The personnel who assume these functions now do not have sufficient training or information.	To recover the position of Municipal Liaison at the municipal level in the Rules of Operation, given that the Program has no such permanent local position. To establish the exact scope of their duties to support the Program. To include that position in training plans and information.

Model of Operation by Area	Oportunidades is working positively within a pattern of goal achievement, but there are no indicators or benchmarks by which to assess the quality of the processes undertaken to achieve those goals.	To define a set of indicators and benchmarks to monitor the quality of services and processes performed by the Program.
Model of Operation by Area	The main external factors that limit the effectiveness of the MOZ are the conditions under which the education and health sectors provide services at the local level and their demonstrated lack of involvement in and knowledge of the Program.	To increase training and awareness and a rapprochement between the CARs' and the sectors' staffs at the local level to help improve the quality of care, which has fallen from the Program's scope.
Model of Operation by Area	The efforts to train members are limited by the level of resources received, which is often perceived as limited and inadequate in terms of the tasks that must be addressed.	To increase the operating costs in order to invest in equipment and improvement of working conditions for the Project for Strengthening the Social Network. It is not necessary to have the lowest operating cost but the most efficient.
Strategy of Strengthening the Social Network	The Program has not implemented monitoring and evaluation mechanisms to determine the effectiveness of the training process and the quality of information provided to members by the Reccos and to beneficiaries by the members.	To implement monitoring and evaluation mechanisms that allow the measurement of MACs' qualitative aspects and their effects on the development of the Social Network. To conduct case studies in different regions and states to obtain analysis and feedback on decision-making on actions already implemented.
Strategy of Strengthening the Social Network	The members are a key element in the Program's operation; however, the incentives to ensure their participation are extremely limited.	To develop non-monetary incentives to encourage participation in and cohesion of the CPC groups. Continuous improvements should be made in the contents of training programs to make them attractive for members and reinforce their social status within the community.
Strategy for Strengthening the Social Network	The correspondents' strategy reported limited progress. Its success requires external factors that influence program implementation (provision of computer equipment, the presence of the student population, an internet connection).	To strengthen the recruitment and training of grantees by designing better incentives for their participation. The provision of computer equipment can be the result of agreements with associations, schools, and municipal governments, among others.
Certification Process of Co-responsibilities	Most of the problems in responsibilities lie in the health sector, where the beneficiaries' increased demand meets with problems in the quality of service and weaknesses in the certification process.	To revise negotiations with the health sector to increase its involvement in the Program. To reinforce coordination mechanisms and monitoring of service quality and achieve concrete agreements to improve the quality of services and adherence to regulations.
Certification Process of Co-responsibilities	Given that the Program's National Coordination and its structure have no direct responsibility for the provision of education and health services or the certification process of co-responsibilities, an efficient implementation of these tasks is left to the ability and willingness of these sectors.	To consult with the health and education sectors to review, design and implement the necessary institutional mechanisms to ensure monitoring, tracking, attention , and coordination with stakebeneficiaries in the certification of responsibilities.
Certification Process of Co-responsibilities	Despite the actions implemented to train and inform the staff of the health and education sectors, information gaps still prevail in relation to the certification process of co-responsibilities. These gaps result in inefficiencies in the provision of such services and lack of sensitivity regarding the needs of the Program.	To increase contact with the sector authorities to define together a training agenda considering the needs of the health and education sectors to improve services and increase general knowledge about the Program's operation and importance as well as the role of sectors. To reach agreements for a closer relation of Oportunidades' staff with those responsible for the provision of education and health services at the state and local levels.

Certification Process of Shared Responsibilities	The beneficiaries' constraints (forgetfulness, neglect, family and work restrictions, etc.) affect their personal fulfillment of responsibilities. To many, the responsibility will be considered only an administrative procedure to gain access to bi-monthly support delivered by the Program.	To intensify the training of heads of households in terms of the requirements to fulfill their responsibilities. To disseminate information to beneficiaries on the non-monetary benefits of discharging their responsibilities in terms of development of their family and disease prevention. To achieve greater control over the quality of the certification processes of co-responsibilities, it is necessary the beneficiaries know their entitlements and obligations as well as the responsibilities and powers of health and education staff.
Causes of drop in households	The quality and agility of the procedures is limited by a lack of access to SIOO and SIIOP information at the Attention and Service Desks. Due to ignorance of the beneficiaries' status, arrangements are made or documents requested that do not solve the problem and ultimately can result in suspensions.	To provide sufficient information (from SIOO and SIIOP) to the personnel in charge of public relations to guide the beneficiaries and refer them to the appropriate channels. This will improve service quality through better processing of paperwork and will reduce suspensions.
Causes of drop in households	There is evidence that there are still errors of inclusion in the Census of Beneficiaries, which limits the impacts of the Program by the inadequate targeting of resources.	To continue efforts to improve the census. The procedures and mechanisms for monitoring the eligibility of beneficiaries and recertification should be updated and clarified.
Causes of drop in households	Procedures for the conduct of recertification activities are not clear and no channel exists to communicate survey results to the recipients, which can lead to errors of inclusion and lower numbers of eligible beneficiaries.	To disseminate information about recertification and official sources to report to the beneficiaries the results of surveys. The Social Network could conduct this task.
Causes of drop in households	Heads of households are not informed adequately and timely about their transfer to EDA (which means a decline in support), their output of the Program, nor the implications of the above. As a result, the beneficiaries spend their money to travel to the MAPs even when they do not receive the expected support.	To implement processes aimed at the timely and appropriate notification of cessation to beneficiaries. The beneficiaries of the Program should not be informed about their cessation and the consequent end of support during a visit to the MAP. It is important to give them a specific notification and a thank-you letter (not just a notice on the receipt of payment). The same recommendation applies in the case of transfers to EDA.
Causes of drop in households	Structural problems cause the failure to fulfill health care responsibilities, given the realities faced by beneficiaries. There are also significant areas of opportunity in execution, improving processes for disseminating information related to dates and communities of workshops and events, as well as recording attendance and treatment of beneficiaries.	To reach agreements with the health and education sectors in order to offer alternatives to the beneficiaries at the state and local levels to fulfill their responsibilities according to their reality (increase in available consultation times, install mobile health care units, etc.). To explore the alternatives to leverage the Social Network for the dissemination of information regarding dates and communities of workshops and meetings. This means more coordination between the Oportunidades and the health staffs at the local level.
Causes of drop in households	The absence of formal mechanisms for interaction between Oportunidades' staff and the health sector staffs at the local levels prevent the flow of information on the status of beneficiaries.	To install inter-institutional working groups at the CARs to provide better quality services by reducing both the necessity to travel for beneficiaries who have problems receiving their support and the time required for processing.

Causes of drop in households	Information dissemination relating to the date, time, and place of delivery of benefits can be improved. Failure of beneficiaries to receive this information constitutes a major cause of suspensions due to their not withdrawing support.	To intensify efforts in disseminating information about the date, time, and place of delivery of benefits to reduce suspensions due to non-withdrawal. It is necessary to delegate these efforts to the CPC members and the municipality's staff responsible for the Program.
Causes of drop in households	Temporary migrants are unable to withdraw their remittances, and as a result, they face suspension from the Program. In view of the growing phenomenon of migration, it is important to explore alternative methods of delivery of remittances in these specific cases.	To implement processes to enable beneficiaries to choose to receive remittances without being present in the MAPs, such as opening bank accounts or appointing a legal representative, in order to reduce dropouts from the Program due to temporary migration.
Causes of non-registration and suspension of grantees	The proportion of grantees is smaller in highly marginal areas than in low and high poverty areas. In other words, there is evidence of some degree of regression in access to the Program's educational scholarships.	To increase the dissemination of information about the existence of the scholarships and the mechanisms of access, especially in communities with high poverty.
Causes of non-registration and suspension of grantees	Among the reasons for not having been granted a fellowship are ignoring the fact that grants are available and failure to complete follow-up procedures.	To establish and disseminate information about the procedures and official sources among the beneficiaries to follow up the steps taken in the education sector relating to the Program's fellowships.
Causes of non-registration and suspension of grantees	Teachers contribute little information and guidance on procedures to solve problems related to scholarships, mainly due to lack of awareness and training. Sometimes students are not awarded grants because the schools fail to register the children and because of other problems related to their attendance record.	To reinforce awareness-raising activities and training of teachers so they support and inform the beneficiaries and conduct appropriate and timely actions to record attendance in order to substantiate compliance of responsibility. To promote the rapprochement of the CARs' staff with the local education sector.

Coverage and Operation of *Oportunidades* in Inter-Cultural Indigenous Regions

Juan Luis Sariego Rodríguez

Preliminary questions and hypotheses

As its main goal, this document has collected the results and recommendations of the joint qualitative evaluation study of the Human Development Program *Oportunidades* Program, which was carried out in 11 intercultural indigenous regions in the states of Chiapas, Chihuahua, Oaxaca, and Sonora. The two central topics that are analyzed are the Program's coverage and operation in these regions. Regarding the coverage, the central questions we aimed to answer were as follows. First, what differences are observed in the coverage provided by the *Oportunidades* Program in indigenous and mestizo communities* with differing conditions of social well-being?‡ Second, what factors influence these coverage differences? Regarding Program operation, the central issue is what the main obstacles to the Program's effective and integral operation are. Among other operational aspects, we investigated the type of relationships the different Program representatives (in particular, social promoters and the members of the local Community Development Committees) establish with the beneficiary families, highlighting their relevance in terms of achieving the goals and objectives of the Program. Also are analyzed the difficulties the beneficiary families encounter when completing the bureaucratic procedures linked to their participation in the Program.

Our general initial hypothesis, supported mainly by the results of the four regional studies, is that coverage, although unequal by regions, is relatively widespread in medium and large rural communities but tends to be more scarce when the communities' demographic density decreases and their dispersion and geographic inaccessibility increases. Low or unequal coverage can also be caused by an environment of violence, lack of public safety, and discrimination for religious or political reasons. All these factors tend to work in the detriment of isolated and scattered small population settlements that, in several of the regions in this study, are predominantly populated by indigenous families. By the logic established by the Program's Rules of Operation, the communities without access to health and education services do not receive *Oportunidades* benefits, which is reflected in the regions where the lack of such services is most noticeable.

We also posit as a hypothesis that, due to the lack of resources and time, the Survey of Socioeconomic Characteristics of Rural Households (ENCASEH, *Encuesta de características socioeconómicas de los hogares rurales*)

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* "In this report, we define everyone in a household as indigenous when the head of household or his/her spouse speaks an indigenous language; everyone in a household as mestizo when the head and his/her spouse do not speak an indigenous language. We consider indigenous communities as those where 40% or more of the population lives in indigenous households; mestizo communities as those where 61% or more of the population lives in mestizo households; and confidential communities as those with one or two homes for which there is no information about the ethnicity of their inhabitants".

‡ Although we will precisely define how we understand the concept of coverage and the possible ways to measure it in the Methodology section, it should suffice to say for now that we equate it to the offer of the Program's assistance to families who meet the conditions of poverty, marginalization, and social development established by the *Oportunidades* Rules of Operation.[1] As for the term "social well-being," to which we will also refer below, we use it here to encompass well-being in terms of poverty, marginalization, and social underdevelopment.

was performed with haste in some regions and communities with a high degree of dispersion of families, causing some errors in the results. In addition, the selection of beneficiary families was affected in some communities by the intervention of local authorities or the staff of health and educational institutions, which did not always allow for the inclusion of all the families whose socioeconomic characteristics make them eligible to receive the Program's benefits.

In terms of the Program's operation, we postulate the hypotheses that the Program:

a) operates with lower quality and efficiency in conditions of demographic dispersion and geographic inaccessibility of the communities;
b) Its operation depends on the location, density, and staff availability of the Attention and Registration Centers (CARs – *Centros de Atención y Registro*); and
c) Its operation is presumably more efficient and agile in those places where the quantity and presence of social promoters is higher, their workload is reasonable, and their interaction with the beneficiary population is closer and more frequent.

In addition, we posit the hypothesis that monolingualism (in an indigenous language on the part of some beneficiaries and in Spanish on the part of the Program's personnel) is an obstacle in the relationship between the members of the households in indigenous communities and the *Oportunidades* Program.The Program's operational dynamics are also hindered when the flow of reliable information between the Program's representatives and its beneficiaries is precarious or not very appropriate in cultural and linguistic terms.

As for the Community Development Committees' members, our main hypothesis is that, despite the mechanisms for the control and monitoring of their roles and tasks set in place by the Program's Rules of Operation,* their behavior alternates between two extremes. On the one hand, there are members who do not fulfill their responsibilities or do it only occasionally (when remittances are distributed), show a passive attitude towards their commitments, and expect them to be fulfilled by the *Oportunidades* promoters, health staff, or education staff. This situation is more frequent among members who are in charge of education matters. On the other hand, there are also members who occupy a leadership role among the beneficiaries, in four circumstances: the distribution of remittances, the dissemination of information, the certification of the fulfillment of the Program co-responsibilities, and the health workshops. Only in exceptional cases, does this leadership results in some degree of empowerment expressed in the favoring of beneficiary acquaintances or alignments within the factionalist logic that characterizes rural life.

One last hypothesis refers to the logic of the procedures and paperwork linked to the Program's operation. Because written communication systems are not very common in several of the indigenous societies mentioned in this study, we postulate that this fact is an obstacle to obtaining and managing the official documents that are indispensable in many of the procedures required by *Oportunidades*. In addition, the fact that many of the indigenous beneficiary families only communicate verbally in one native language constitutes a barrier not only when resolving bureaucratic procedures but also in attending health workshops and clinics, which are closely linked to the fulfillment of the Program's co-responsibilities requirements. Furthermore, in the specific case of the "Youngsters with *Oportunidades*" (Jóvenes con *Oportunidades*) component, our hypothesis is that there are serious obstacles, such as the lack of timely information and poor attention from the banking institutions that administer this fund, for young former scholarship recipients to successfully claim this benefit.

Methodology

To conduct this qualitative evaluation of the long-term impact of *Oportunidades* on rural indigenous areas, we divided the report into two sections: one refers to coverage, and the other refers to operation. The former takes

* It is important to note that some of the *members* currently working were elected to their position before the current *Oportunidades* rules went into effect.

up more space because its analysis forced us to review a broad group of variables and statistical and cartographical references of a regional character that were not included in the previous micro regional studies. In turn, the latter is basically supported by the findings derived from those studies and, hence, started out from more elaborated and synthesized data.

With respect to coverage, it is important to establish a definition for this term. In this study, we use the term "coverage" to signify the offer of benefits (food and education benefits, elderly-person and energy subsidies) from *Oportunidades* to families and persons who live in precarious conditions of well-being, poverty, marginalization, and social underdevelopment.

As per the *Oportunidades* Rules of Operation, the Program's coverage has inherent limitations, as it is currently only applicable to persons living in communities where they can access health and education services, a basic condition for the fulfillment of the requirements the Program sets for its beneficiaries. All families living in communities where health and education services are not accessible are therefore excluded from coverage. In other words, given the Rules of Operation, the lack of coverage to families who live in communities without such services would not be attributable to *Oportunidades*.

These conditions are important when studying and evaluating the Program's presence in indigenous regions because, as we will try to show, there are communities in several of the regions in this study with no access to such services, especially health services, which implies they are excluded from the Program's benefits.

It is appropriate to make some clarifications in regards to the measurement of the coverage to which we will refer throughout this study. Although the central goal of the Program is to support families in precarious conditions of well-being, there are two complementary approaches to measuring the coverage. The first one is referred to the coverage of families or households (indigenous or of mestizo), and the second one is concerned with the coverage of communities. In the first case, we measure to what proportion and differential degree the Program welcomes indigenous and mestizo families that fulfill the conditions of poverty, marginalization, and social underdevelopment among its beneficiaries in the studied regions. A study of this nature, although it is undoubtedly the most appropriate for the goals of this evaluation, faces obstacles that are hard to overcome and go beyond the limits of this report. There are no broken-down official statistics that indicate either the ethnicity or the poverty condition of the families living in those regions. To solve this problem, it would be necessary to conduct a survey similar to ENCASEH in every household, both beneficiaries and non-beneficiaries, in those communities, to verify whether the selection of the former and the exclusion of the latter were correct according to their levels of poverty. This task is beyond the limits of this study, which is basically a qualitative one.

There are also problems in measuring the coverage by households because the concept of household as used by *Oportunidades* and the National Institute for Geography and Statistics (INEGI – *Instituto Nacional de Estadística y Geografía*) appear to be similar but in reality are not comparable in any way. This disparity is probably due to the fact that *Oportunidades* counts the family nuclei as a different households if each has a beneficiary mother, regardless of whether they reside within the same home. While the INEGI's Second Population and Housing Count (hereafter, Second Count) would consider them one household if they did.

In trying to measure the Program's coverage at the level of household and community, we also faced the obstacle that, even though *Oportunidades* reports the number of households that received attention, it does not specify what percentages of the household's members receive scholarships or elderly persons' subsidies.

For all these reasons, it was impossible to conduct an analysis of the coverage differences by households that would simultaneously include the variables of the families' ethnicity and poverty level.* As we note below, we did produce some estimates that allowed us to approach the solution to this question.

The second approach to the problem of measuring differences in coverage by ethnicity and poverty levels concerns itself with the communities instead of the families. In the case of communities, we enjoy the advantage of having

* In the future, we dare suggest that it would be important to conduct this type of studies of coverage differences by household, level of social underdevelopment, and ethnicity, including qualitative and quantitative approaches.

data on their poverty levels and ethnic composition. For poverty levels, we resorted to those provided by National Council of Evaluation of the Social Development Policy (CONEVAL – *Consejo Nacional de Evaluación de la Política de Desarrollo Social)*,* which groups social development levels in three categories: very low-low, medium, and high-very high. We were aware that in the last ten years *Oportunidades* has used the National Population Council (CONAPO) marginalization indices first and the CONEVAL and INEGI data later. We also established a new indicator, the *average regional index of social underdevelopment*, which is the average of the social underdevelopment indices of the municipalities in a particular region. For the variable of the communities' *ethnicity*, we resorted to the Second Count and, in particular, the information that refers to the percentage of the population in a community that lives in households where the head of household or their spouse speak an indigenous language.

However, in this approach to analyzing the coverage differences by community, there was the problem of information related to confidential communities. These are small settlements (one or two households) on which the Second Count only offers information on the total population, without any indication about their ethnic, social, or economic characteristics. Additionally, CONEVAL does not offer information about their social underdevelopment level and index. This limitation was a not minor one, as the percentage of confidential communities is quite significant in some of the indigenous regions in our study.‡ We chose then to place the confidential communities in a separate category, different from those of indigenous and mestizo communities. As a result, in terms of ethnicity, communities in a region can either be indigenous, mestizo or confidential. In terms of social underdevelopment, it is also necessary to set confidential communities as a separate category because we do not have social development information on them.

Considering the methodological advantages granted by the analysis of coverage differences by community, we granted it more relevance in this study as compared with the coverage analysis by household or family, even though we included the latter in our evaluation. Specifically, we made some estimates of the percentage of *Oportunidades* families within the total number of families who live in the municipalities, communities, and regions, for which we resorted to an average number of persons by household and region. We also estimated the proportion of the population living in communities where *Oportunidades* does not operate and compared it with the total population in those places. For this analysis, we compared data from the Second Count with those from the *Oportunidades* census of beneficiaries, specifying which communities in each region the Program is not present and then adding up the populations from each of these communities.

It is very important to note that this coverage analysis responded to a cross-section or synchronic approach (and not a longitudinal or diachronic one) that aimed to portray the current situation. However, it is clear that through its years of operation, the Program has modified and improved its coverage procedures, as much in the identification of communities (with the use of better cartography and better data on population, marginalization, and social underdevelopment) as in the procedures for the selection of beneficiary families (through a better design and application of ENCASEH). It would therefore be inappropriate to judge the current situation without taking into account those changes.

Having asserted these points, we want to clarify that the coverage study was done in two complementary stages of analysis: the first stage corresponds to the 11 regions§ in the states of Chiapas, Chihuahua, Oaxaca, and Sonora, which contain the 12 micro regions that were studied in the regional evaluations;[2-5] the second stage refers to the micro regions themselves.

Regarding the first stage, it is important to specify why the 11 regions were demarcated and how it was done. Because the communities included in the micro regions are composed mainly of indigenous inhabitants, we decided that we would group the micro regions and the communities within them in the context of broader interethnic and

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* Although we could have chosen to use the CONAPO marginalization index, we opted to use the CONEVAL social underdevelopment one. We did this considering that not only, as we noted above, the *Oportunidades* Rules of Operation refer to this statistic as the criterion for selecting communities but also because we think that the concept of social underdevelopment encompasses more aspects of poverty than the concept of marginalization does.

‡ In Chihuahua's Tarahumara *Sierra,* for example, 53.5% of the 6,747 communities recorded by the Second Counta in 2005 were confidential.

§ There are 12 micro regions and only 11 regions because two micro regions were chosen in Tarahumara *Sierra* in the large municipality of Guachichi, Chihuahua.

intercultural regions, in which indigenous and mestizo communities coexist, to better measure the coverage differences between indigenous and mestizo communities. This demarcation was done by taking into account geographic, linguistic, ethnic, economic, and historic criteria, and special relevance was given to ethnic factors. In this way, we delimited what we will call "11 intercultural regions" that encompass the originally studied municipalities or micro regions. The resulting regions are the following:

- Mayo Valley, in the state of Sonora
- Yaqui Valley, in the state of Sonora
- Guarojía region, in the state of Sonora
- Tarahumara *Sierra,* in the state of Chihuahua
- Pima region, in the border between the states of Chihuahua and Sonora
- Chol region, in the state of Chiapas
- Tojolabal region, in the state of Chiapas
- Chiapas highlands
- Oaxaca's Coast
- Mazatec *Sierra* and Gorge, in the state of Oaxaca
- Northern Mixe *Sierra,* in the state of Oaxaca.

These regions are composed of 118 municipalities, with a population of nearly 2.5 million people.*

In a second stage of analysis, we look at coverage in the 12 micro regions where the analysis of coverage, operation, health, education, and work topics was conducted. The relevant micro regions were selected considering the following factors:

- Families were exposed to *Oportunidades* since 1998 or 1999 (and therefore had access to health and education services, although not necessarily in all the communities in the micro region), because the intention was to evaluate the Program's long-term impact;
- The regions were characterized by their population's ethnic diversity, including monolingual indigenous, mestizo, and monolingual mestizo persons;
- Beneficiary and non-beneficiary families existed in those ethno-linguistic categories;
- Each micro region had rural communities with no more than 2,500 inhabitants.‡

The micro regions, listed with their municipal location, are the following:

- Huírivis in Yaqui territory and within Guaymas municipality, Sonora
- La Bocana, in Mayo territory and within Etchojoa municipality, Sonora
- San Bernardo, in Guarojío territory and within Álamos municipality, Sonora
- The Yepachi, Piedras Azules, and La Salitrera communities within Temósachi municipality (Chihuahua) and Maycoba and El Kipor, within Yécora municipality (Sonora) in the lower Pima territory
- Samachique, in Tarahumara territory and within Guachochi municipality, Chihuahua
- Norogachi, La Ciénega de Norogachi, Cochérare, Riquéachi, Santa Cruz, Mesa de Paréwachi, and Tuchéachi communities in Tarahumara territory and within Guachochi municipality, Chihuahua
- El Aguaje, San Isidro de las Huertas, Corazón de María, Pedernal, and El Escalón within San Cristóbal de las Casas municipality in the Chiapas highlands
- Saltillo, Chacalá, La Libertad, El Encanto, and Bello Paisaje communities within Las Margaritas municipality, in the Tojolabal region of Chiapas.

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* In this study, we will not attempt to define in detail the geographic, ethnic, historic, ecologic, economic, and social characteristics of each of these regions. We refer those interested to the four previous studies on these regions cited above.

‡ The demographic, economic, and social characteristics of each of these micro regions were detailed in the regional studies previously delivered to the *Oportunidades* Program.

- Emiliano Zapata, Álvaro Obregón (Planada), Álvaro Obregón (Loma), and El Porvenir within Tumbalá municipality, in the Chol region of Chiapas
- Mazatlán de Villa Flores, El Corral, El Progreso, San Simón, Coyoltepec, Almolonga, and Piedra Ancha, all of them in Maxatlán Villa Flores municipality, in the Mazatec Sierra and Gorge in Oaxaca
- Several communities in the San Juan Cotzocón municipality, in the Northern Mixe *Sierra* in Oaxaca
- Nuevo Cerro Mojarra and Jaltepec de Candayoc, both in Santiago Jamiltepec municipality, in the Oaxacan Coast, where indigenous, mestizo and *afro-mestizo* populations live

To generate the coverage section, we used the following information sources:

- The quantitative and qualitative information gathered in the previous regional reports for the states of Chiapas, Chihuahua, Oaxaca, and Sonora.
- The *Oportunidades* coverage statistics from the start of the 2008 fiscal year in the municipalities and communities included in this study. These statistics were obtained from: http://www.oportunidades.gob.mx/informacion_general /main_ca.html.[6]
- The population and indigenous population statistics from the 2005 Second Population and Housing Count *(II Conteo de Población y Vivienda de 2005)*.[7]
- Statistics on the index and degree of underdevelopment by community generated by the CONEVAL, which can be found at: http://www.coneval.gob.mx/mapas/. It is important to mention, however, that neither CONEVAL nor the National Population Council record social development and poverty indices for confidential communities of one or two homes.
- Cartography of the municipalities selected to be studied in the four states. For this cartography, we used some basic information delivered by *Oportunidades* in relation to its coverage, to which we added information on geographic characteristics, topography, land use, roads, water streams, educational and health institutions, and DICONSA stores (a distributor for CONASUPO, the National Company for Popular Subsistence), with their respective areas of influence – estimated at a five-kilometer radius – and especially the ethnic (indigenous or mestizo) condition of the communities, as per the criteria discussed above.
- The qualitative information gathered in each of the study areas from interviews and observations with *Oportunidades* staff (state-level coordination offices, Attention and Registration Centers and social promoters), committees' members, educational and health institutions staffs, important figures in the communities, and both indigenous and mestizo beneficiary and non-beneficiary families.

The study of the Program's operation was based mainly on the results of interviews with *Oportunidades'* staff (state-level coordinators, heads of CARs, social promoters), committee members, health and education services personnel, and families that were selected in the original sample of the regional studies previously delivered to the *Oportunidades* Program. Our approach will be focused specifically on the micro regions where we conducted in-depth fieldwork.

The study is completed by a section about the strengths, challenges, and recommendation (SWOT analysis), a bibliography, and an appendix with statistical tables, graphs, and maps.

Results

PROGRAM COVERAGE

a) In a first approach to the topic of coverage differences, we observed in comparative terms that the percentage of communities where *Oportunidades* is present throughout the 11 studied regions was variable, allowing us to state that the coverage by communities is broad and more widespread in the regions in Oaxaca and Chiapas than in those in Sonora and Chihuahua. We refer to three levels of coverage: very high (between 52 and 87%

of the communities) in the six regions in the south of Oaxaca and Chiapas; high (between 30 and 50%) in the *Tarahumara Sierra, Guarojía* area and Mayo Valley; and low (under 25%) in the *Yaqui* Valley and the *Pima* region. This first measurement of the coverage differences was just a first approach to the problem because we were not considering the social underdevelopment level in the communities or whether they have access to educational and health service with the corresponding certification.*

b) Coverage by community did not show a direct relationship with the average regional indices of social underdevelopment, but increased where the proportion of indigenous communities was higher and was inversely related to the presence of small communities categorized as confidential. In other words, the presence of *Oportunidades* is more marked in communities in mostly indigenous regions (as in the indigenous regions in Chiapas and Oaxaca) than in those where the indigenous coexist with mestizo people (as in the indigenous communities in Chihuahua and Sonora). Additionally, the regions with a higher percentage of confidential communities (Sonora and Chihuahua) showed a lower coverage by locality, which is explained by the fact that many of the communities were not eligible for the Program because they did not have access to health and education services.

c) Except in the case of the Mazatec Gorge, the 11 regions and 12 micro regions presented coverage problems among the small and confidential communities, even in the context of broad coverage. In some cases, this situation was explained by the lack of access to health and education services, but there were also confidential communities within clinics' and schools' coverage areas in the *Tarahumara, Pima,* and *Guarojía* regions that did not have access to the Program's benefits. This situation was related to two factors: the communities' isolation and the fact that there was no data on their social underdevelopment and marginalization because they were classified as confidential, which made them ineligible for the Program. In the latter case, we recommend that the Program's Rules of Operation be modified in such a way that those confidential communities –which are mostly indigenous– can access the Program's benefits.

The gathered information lead us to assert a clear conclusion: because of its own logic of targeting on communities and the established norms, Oportunidades tends to slow down its presence as it reaches regions where there is a significant number of small and isolated indigenous communities of one or two homes, where there are high costs of access, lack of services, and the absence of poverty statistics.

d) Although this study is fundamentally diachronic, and therefore it is difficult to make historic inferences, it is probable that the gap between small and isolated rural (confidential) communities that are often indigenous and mid-size communities (much better served by *Oportunidades* and on occasion predominantly of mestizo population) is becoming greater. This trend made us even think of the possible appearance of "two levels of poverty." It is urgent to attend to this social inequity problem by broadening *Oportunidades* coverage in the first type of communities.

e) As for the relationship among coverage differences, the degree of social underdevelopment and the ethnicity of the communities (with the exception of confidential ones), we observed three patterns. First, there were some regions where there was a very high coverage of communities, independent from the level of underdevelopment and where the Program had a slightly higher presence in indigenous communities than in mestizo ones. Such was the case in Oaxaca, the Chiapas highlands, and the Mayo Valley.

The second pattern was that of regions where coverage by indigenous communities is high. It was higher there in than in mestizo communities regardless of the higher index of social underdevelopment of the former. This pattern was observed in the Yaqui Valley and the Tojolabal and Chol regions in Chiapas.

A third, distorted pattern of coverage was present in the Tarahumara Sierra and the Pima and Guarojía regions, where the percentage of communities receiving attention did not increase when social underdevelopment increased.

* The certification is the process by which *Oportunidades* recognize the existence of services of education and health in a certain community.

This was a distorted and unequal pattern because the less poor communities were sometimes favored in the detriment of the poorer ones and some indigenous communities were favored over mestizo ones or vice-versa.

f) Coverage by families was high (over 70%) in the Mazatec Gorge, Northern Mixe *Sierra,* Tojolabal and Chol regions, and the Chiapas highlands. It was medium (between 47 and 67%) in the Oaxacan Coast, the Tarahumara *Sierra,* and the Guarojía and Pima regions; and low (less than 35%) in the Mayo and Yaqui valleys. These figures, however, must be considered with caution because we were estimating a comparison between the total number of families covered by *Oportunidades* and the regional total of families. However, not all of the latter met the requirements to be eligible to the Program, which would explain the low levels of coverage in the Yaqui and Mayo valleys, both regions with low social underdevelopment indices.

g) In most regions the percentage of population that resided in communities not covered by *Oportunidades* was relatively low, oscillating between 5 and 10%, except for the Tarahumara *Sierra,* where it reached 22%. Although communities not covered by *Oportunidades* were few in most regions, they tended to be indigenous and confidential. Two clarifications must be made before we interpret these data. First, we have to consider that the ideal situation is not one in which 100% of the population is part of households and communities covered by *Oportunidades* because there are households and communities in every region that do not fit the poverty and marginalization requirements that make them apt to join the Program's roll. However, the people who live in communities not covered by *Oportunidades* are not the only ones who do not enjoy the Program's benefits. We would have to add to them all those persons who are part of families living in communities covered by *Oportunidades* but are not incorporated into the Program.

h) At the micro regional level, and according to the cartographic data, we verified that *Oportunidades* coverage showed a direct relationship with the health and education services offer. In this sense, this offer is broader and more diversified in the Southern micro regions than in most of those micro regions in the North. The Pima region and the Tarahumara *Sierra* are noteworthy because they have a higher deficit in health and education services.

i) Despite the differences in degree and type of coverage between the 12 micro regions under study, we observed three similarities in all of them. In first place, there was a lack of consistency in the selection procedures of beneficiary households between the guideline established by the Program's Rules of Operation (i.e., ENCASEH should be applied home by home through a households sweep system) and the procedures actually used (quick and incomplete surveys in some homes; community assemblies; lists prepared by municipal authorities by having people sign up; inquiries to services providers; requests and collective pressure actions by potential beneficiaries).

j) The second similarity across all micro regions was the existence of inclusion and exclusion errors, though both were very scarce. The former were a result of the incorrect application of the selection procedures during the enrollment process. The latter were caused by employment, temporary migration, territorial mobility associated with the practice of mobile agriculture, illness, becoming a widow, and the *Oportunidades* staff's lack of information about the area and the customs of the local population. The exclusion errors were also associated with the fact that the families were misinformed on the Program's Rules of Operation and procedures. In some micro regions, people excluded themselves from the Program due to religious or political reasons or rejected the Program's requirements.

k) A third similarity was that, even in some cases where coverage was broad, monolingual indigenous families experience communication problems when trying to receive verbal and written information from *Oportunidades* staff and the committees' members in a accurate, precise and faithful manner. This communication problem was due, in great part, to a lack of bilingual Program staffers and to the fact that information was not available in indigenous languages.

PROGRAM OPERATION

a) All CARs in the studied micro regions faced noticeable understaffing and lack of material resources in trying to fulfill their role. The result was a decrease in the quality of attention they offered the beneficiaries in their coverage areas.

b) The number of social promoters and community training officers was low in all the CARs where the study was conducted, especially in those areas where the population was scattered. Additionally, their working conditions were precarious, and their workloads excessive, although varied according to the size of their coverage area, the condition of the communications infrastructure, and the population's dispersion. Indeed, all promoters worked under untenured contracts for a fee without social security benefits or life insurance (even though they performed significantly risky activities); their salaries were low; constantly traveled on the road on vehicles in poor conditions, even facing the risk of robbery and enjoyed very few days off with their families every month. Despite all this, we found that promoters in all regions showed a high degree of identification with and commitment to the Program and that they punctually attend the benefit distribution events.
c) Except for some of the Chiapas micro regions, we did not find *Oportunidades* staff and promoters in the areas under study who possessed sufficient skills to act as linguistic and cultural interpreters in monolingual contexts. This phenomenon caused miscommunications between the Program's staff and its beneficiaries and becomes evident when it is necessary to transmit information of mutual interest during health workshops and talks, when filing paperwork, and submitting complaints.
d) The committee members' performance in the areas under study showed a typology with two models of behavior: there were those members who took a passive attitude and whose work was limited almost exclusively to helping deliver benefits and those who took a leadership role among the beneficiary women, such as in the delivery of benefits, including the dissemination of information, the certification of the fulfillment of Program requirements, and the health workshops. Among the second type, we found some exceptional cases of empowerment that resulted in the favoring of beneficiary acquaintances or in alignments within the factionalist logic that characterizes rural life. Nevertheless, the first type of members was the most common.
e) Eliminating the municipal liaison [position from the Program's Rules of Operation] generated extremely varied opinions from our informants. Some saw in that decision a signal of the Program's independence from the communities' political life, which is very unstable in some states; others suggested that it resulted in less logistical support to *Oportunidades* from the City Halls.
f) There was a lot of evidence pointing to the fact that *Oportunidades* needs to make a better effort of improving the members' training and instilling in them a higher degree of identification with the Program. In this sense, the recent efforts *Oportunidades* has been making to improve training through the Committee Attention Desks and the growing presence of Community Training Officers (Reccos) should bear fruit in the short term. The study's data showed that the Reccos' work was significantly helping in training the members, especially in regions where the members were bilingual.
g) It is recommended that *Oportunidades* consider the possibility of establishing some sort of compensation or incentive for the members to promote among them a higher degree of identification with the Program and a better performance of their tasks and to avoid problems derived from the collection of "contributions."
h) In all regional studies, we found there were communication problems between monolingual members who speak Spanish and monolingual indigenous beneficiaries. To solve this problem, which directly affects the transmission of information on the Program, the fulfillment of requirements, and the usefulness of the health workshops, we recommend that *Oportunidades* encourages selecting bilingual beneficiaries with cultural interpretation skills.
i) Among some ethnic groups in the indigenous areas under study, there were serious obstacles for potential beneficiaries to possess and submit, in time and in an appropriate manner, the documentation required to apply for enrollment to the Program or any changes in the census. These obstacles happened in the Tarahumara *Sierra* and the Pima and Guarojía regions, where municipal seats are far away from many homesteads, and the indigenous inhabitants do not possess documents such as birth certificates, voter ID card, or personal population registry number (CURP). We suggest that residence certificates issued by indigenous authorities be admitted as valid in those cases.
j) Many beneficiaries were forced to travel long distances on foot or by vehicle to receive their benefits, which caused them to spend amounts of money that were an important part of the benefits received. Long waiting lines were common on paydays.

k) Beneficiaries perceived response times as excessive for changes of address, collection of out-of-schedule payments, and for all general filings that imply a change in the *Oportunidades* census.
l) Many of the former scholarship recipients interviewed note they faced difficulties when they attempted to receive the "Youngsters with *Oportunidades*" benefit. Here, we see a combination of misinformation from the members and Program staffers and poor attention from the staff at the banking institutions involved.
m) In synthesizing our findings, we can say that a series of exogenous factors hindered coverage; these factors were related to situations of lack of public safety, violence, and inner divisions in the communities that were observed to various degrees in all micro regions. However, there are also internal factors, some related to the demand of services and others to the supply of services. Regarding demand, the two aspects that most hinder the Program's operation are the communities' dispersion and the lack of education and health services. Both aspects were much more clearly noticed in the Northern micro regions (Chihuahua and Sonora) than in the South (Chiapas and Oaxaca). In contrast, one external factor that improved the Program's coverage was the fact that the regions it reaches were mostly indigenous ones, which in a way meant that there was a higher identification with *Oportunidades'* goals and objectives by the families in these places.

With respect to supply, it is very important to highlight that the correct application of ENCASEH would significantly help correct potential errors in the inclusion and exclusion of families.

It is also important to insist that *Oportunidades* should hire bilingual, bicultural promoters, training and promoting indigenous members, and use local languages in both the literature and verbally transmitted information. In some regions like the Tarahumara *Sierra,* the Yaqui Valley, and the Pima and Guarojía regions (but not in the micro regions under study in Chiapas and Oaxaca), indigenous authorities could cooperate with *Oportunidades* in some tasks, like the certification and issuance of documentation and proof of identity and residence for the beneficiaries; assistance in finding households when applying ENCASEH; and pedagogic and moral orientation for young scholarship recipients and their families. In addition, hiring former scholarship recipients who are indigenous could contribute to a better operation of the Program.

SWOT Analysis

TOPIC	STRENGTHS AND OPPORTUNITIES/WEAKNESSES OR THREATS	RECOMMENDATION RECOMMENDATION REFERENCE
	STRENGTHS AND OPPORTUNITIES	
Coverage (Regional Coverage)	In general, the Program had very high coverage in the three micro regions in the state of Oaxaca (Mazatec Gorge, Northern Mixe *Sierra*, and Oaxacan coast) and high coverage in those micro regions in the state of Chiapas (Chol and Tojolabal regions and Chiapas highlands) and the Mayo Valley in Sonora. In most of these areas, coverage tended to favor the indigenous population and those families and communities with higher indices of social underdevelopment.	n/a
Coverage (Presence in Indigenous Areas)	In those regions under study where indigenous communities had a proportionally higher presence, the Program's coverage in communities was also higher.	n/a
	WEAKNESSES OR THREATS	
Coverage (Coverage in Confidential Communities)	In all the regions and micro regions under study, there was a noticeable deficit in coverage of the smallest communities (one or two homes), known as confidential communities. In some cases, this deficit arises from the application of the Program's Rules of Operation, which prevent it from serving families in communities without official data on social underdevelopment.	To modify the Rules of Operation so that *Oportunidades* can provide benefits to families living in confidential communities (which lack social development data) within the health and education centers' coverage area and within micro regions with widespread poverty levels.
(Coverage) (Pima Region in Chihuahua and Sonora and Guarojía region in Sonora)	There was a coverage deficit in communities with high and very high social underdevelopment, where the Program had a smaller presence than in those communities with lower development levels. Differences in coverage between indigenous and mestizo communities also existed to the detriment of the former.	To enhance coverage in indigenous communities and those with high and very high social development levels, using updated poverty cartography and applying ENCASEH.
(Coverage) (Tarahumara *Sierra* in Chihuahua)	In the Tarahumara *Sierra*, where the regional social underdevelopment level is very high, less than a third of communities were served by *Oportunidades* and close to an estimated 30% of the population was outside the Program. In addition, the limited coverage favored communities with lower social underdevelopment levels and those of mestizo over the indigenous ones. The coverage deficit was not always related to a lack of access to health and education services.	To considerably broaden coverage and increase its density, favoring indigenous communities and those with higher social underdevelopment. To insist before state and federal education and health authorities that they noticeably increase the offer of clinic services, high school and middle school services.
Coverage (ENCASEH Application)	In a great majority of communities under study, the census and densification processes were not carried out in strict fulfillment of the Program's norms, specifically the application of the Survey of Socioeconomic Characteristics of Rural Households (ENCASEH.)	To ensure that ENCASEH is applied at the interviewed persons' homes, in the new incorporation and densification processes. To avoid community assemblies, enrollment by signing up, or the creation of lists by municipal authorities.

Coverage (Errors in the Exclusion of Indigenous Families)	In all the regions under study, monolingualism and cultural barriers caused indigenous families to be at a disadvantage and be more likely to be excluded when survey interviewers and Program staffers did not speak the local indigenous language. Despite broad coverage, there were inclusion and exclusion errors.	To recruit bilingual staff (in Spanish and each indigenous language) in the regions where enrollment will be conducted, to avoid the linguistic barrier. To prevent the incorporation process from being based on the impressions of survey interviewers, who are monolingual in Spanish and lack knowledge on the corresponding indigenous culture.
Coverage (Procedure for Claims Against Inclusion Errors)	The procedures to file claims against inclusion errors and complaints (use of mailbox or toll free phone line) were inefficient and unusual for small communities where everyone knows one another, where there are difficulties in having access to phone service, or people are not used to using complaint mailboxes. Members also do not report errors in inclusion for fear of retaliation, even when they know the mechanisms and channels to do it.	To design claims systems (verbal or written) that ensure the claimant's anonymity and establish follow-up procedures for claims to ensure that they are dealt with and answered in a reasonable time. To install mailboxes in schools and clinics and that promoters are enabled to receive and respond to verbal complaints on the days they attend events for the delivery of benefits.
(Coverage) (Access to Program Information)	There was no specific public record to report on the ethnicity of the beneficiary families, in order to measure and evaluate the impact of a differential between the indigenous and mestizo populations even though this information was gathered by ENCASEH.	To make the ethnicity of the families in the *Oportunidades* census of beneficiaries a matter of public record.
	STRENGTHS AND OPPORTUNITIES	
Operation (Social Promoters' Performance)	All regional studies agreed that the *Oportunidades* social promoters, while performing an excessive amount of work in quite precarious labor conditions, showed a high degree of identification with and commitment to the Program.	n/a
Operation (Political Autonomy and Effectiveness of the Program)	Despite operating in regions where there were conflicts of electoral, municipal, political, and religious character and even of violence derived from drug trafficking, *Oportunidades* had managed to stay in the margins of these conflicts and had continued to operate regularly – even in areas where the Program staff's safety had been at risk.	To continue maintaining the Program's political independence and provide a reward to staffers who have performed their tasks in an outstanding manner in unsafe and violent environments.
	WEAKNESS AND THREAT	
Operation (CAR Staff and Equipment)	In fulfilling their roles, all CARs in the micro regions under study faced a noticeable lack of personnel and material resources, which caused a lower quality in the attention offered to beneficiaries in their coverage areas.	To increase CARs' expenditures for operating, hiring new staff and providing them with better computer equipment and transportation. To increase the promoters' salaries and incorporate them into the Social Security system.

Operation (Social Promoters and Community Training Officers)	The number of social promoters and community training officers was insufficient in all the studied CARs. Besides, their work conditions were precarious and their workloads excessive, although they varied according to the size of their coverage area, the condition of the communications infrastructure, and the population's dispersion.	To hire a greater number of social promoters and community training officers, taking into account the dispersion of the population and the communications infrastructure in each CAR's coverage area and giving priority to bilingual people.
Operation (Improving the Communication Systems between the Program and its Beneficiaries)	Except for some isolated cases in Chiapas, the rest of the micro regions showed a significant lack of indigenous promoters and, in general, of *Oportunidades'* staff who were able to serve as linguistic and cultural interpreters. This phenomenon was the root of many of the communication problems that arose between the Program and its beneficiaries, and it usually became evident when the latter needed to file paperwork or complaints.	To hire promoters in indigenous regions with the skills to become linguistic and cultural interpreters. To give priority to former scholarship recipients who know the Program's operation logic.
Operation (Training of members)	The training for the members of the Community Development Committees through the Attention Desks and the Reccos, recently established, has yet to provide the expected results.	To hire a higher number of Reccos and insist on providing the members with better training in regards to the Program's requirements and procedures. To increase the number of Committee Attention Desks.
Operation (Members' Performance)	There were many members who did not perform their roles with the expected interest and dedication, which was evidenced by a low degree of identification with the goals of *Oportunidades*. On the other hand, the collection of "contributions" tended to become generalized and could be cause for conflicts and inner divisions among the beneficiaries.	To evaluate the possibility of granting some form of economic reward to members to stimulate their performance and a higher degree of identification with the Program. This reward system would prevent the members' collection of monetary contributions from the beneficiaries, which slim down the latter's benefits.
Operation (Education Members)	The figure of the education members appeared faded in many of the communities under study, many of the members had a low level of schooling, which prevented them from formulating knowledgeable opinions about the problems brought to them by both the Program's scholarship recipients and their teachers.	To consider the possibility of bestowing the education members' tasks on former scholarship recipients who have concluded their high school studies.
Operation (Submission of Documentation for enrollment)	In some of the micro regions under study, the indigenous population faced severe obstacles to possessing the identification documents required in the procedure of enrollment to the Program, as well as for making changes in the census.	To establish deadlines for the submission of documentation for enrollment and modifications in the census of beneficiaries that take into account the indigenous regions' cultural conditions. To admit as legally valid the identification and residence certificates issued by indigenous authorities.

Operation (Delivery of Benefits)	Many cases were documented in which receiving benefits implies travelling long distances, waiting in lines, and transportation expenditures that represented a considerable portion of the benefits paid. Circumstances such as labor migration and the practice of mobile agriculture make it difficult for many beneficiaries to attend the delivery events. The subsequent procedures required to receive the benefits out of schedule are slow and cause beneficiaries to forfeit the benefit and make unnecessary expenses.	To allow the beneficiaries to receive their benefits either in a direct manner or through a bank account or a legal representative.
Operation (Paperwork Processing)	The procedures that the families have to go through enrollment, re-certification, and the collection of owed benefits, change of address, and collection of the "Youngsters with *Oportunidades*" benefit were excessively cumbersome and hard to understand and manage, especially for the indigenous population. These difficulties resulted in some desertions.	To systematically revise and simplify the procedures associated with the delivery of benefits and changes of address for beneficiaries and scholarship recipients. To revise and simplify the procedures associated with the collection of the "Youngsters with *Oportunidades*" benefit.
Operation (Cooperation from Indigenous Authorities in the Tarahumara *Sierra,* Yaqui Valley, Pima, and Guarojia Regions)	In some regions like the Tarahumara *Sierra,* the Yaqui Valley, and the Pima and Guarojía regions (but not in the micro regions under study in Chiapas and Oaxaca), indigenous authorities enjoy a high degree of social prestige and legitimacy. Even when they may have not been asked to cooperate with the Program yet, their support could be very useful.	To request the support of those regions' indigenous authorities in tasks like the certification and issuance of documentation and proof of identity and residence for potential beneficiaries; assistance in finding households when applying the ENCASEH survey; and pedagogic and moral orientation for young scholarship recipients and their families. To hire former scholarship recipients who are indigenous as promoters .

References

1. Oportunidades. Rules of Operation. México: Oportunidades, 2008.Available at: http://www.oportunidades.gob.mx/htmls/reglas_2007.html
2. Agudo A. Documento analítico del estudio etnográfico en Chiapas, Evaluación cualitativa de impacto del Programa Oportunidades, largo plazo, zonas rurales. Número 3, México: CIESAS, 2008.
3. Haro A. Documento analítico del estudio etnográfico en Sonora, Evaluación cualitativa de impacto del Programa Oportunidades, largo plazo, zonas rurales, 2008. Número 3, México: CIESAS, 2008.
4. González-de la Rocha M, Paredes P, Sánchez G. Documento analítico del estudio etnográfico en Oaxaca, Evaluación cualitativa de impacto del Programa Oportunidades, largo plazo, zonas rurales, 2008. Número 3, México: CIESAS, 2008.
5. Sariego JL. Documento analítico del estudio etnográfico en Chihuahua, Evaluación cualitativa de impacto del Programa Oportunidades, largo plazo, zonas rurales, 2008. Número 3, México: CIESAS, 2008.
6. Oportunidades. Listado de localidades y número de familias beneficiarias al inicio del ejercicio fiscal 2008 [List of communities and number of families at the beginning of fiscal year 2008]. México: Oportunidades, 2008. Available at: http://www.oportunidades.gob.mx/informacion_general/ main_ca.html
7. Instituto Nacional de Estadística y Geografía. Second Population and Housing Count. Mexico: INEGI, 2005. Available at: http://www.inegi.gob.mx/est/contenidos/ espanol/sistemas/conteo2005/localidad/iter/default.asp?s=est&c=10395

Conditional Cash Transfers and Expenditures on Energy: Potential Effect of *Oportunidades* Energy Component

Paul Gertler y Alan Fuchs*

In 2007, Mexico's federal government implemented a cash subsidy for *Oportunidades'* beneficiaries to compensate for the increase in energy prices and also to positively impact on the health of these families by promoting the use of cleaner energy sources. The subsidy consists of a monthly transfer of $50 pesos for each household directly benefitting from the *Oportunidades* Human Development Program and constitutes what is known as the Energy Component of the Program.

This study analyzes the relationship between income and the use of energy by low-income households in Mexico and compares those receiving *Oportunidades* support with those who do not. It seeks to measure the effect of an exogenous increase in income on energy spending using socio-economic surveys to estimate short- and long-term elasticities. As is common in the literature, the short-term estimates are made based upon the assumption that the number of durable goods is constant, whereas the long-term estimates model decisions by households to acquire durable goods.

The principal objective of this document is to measure the possible effects of an exogenous increase in income for *Oportunidades* beneficiary households (as an approximation of the impact of the Energy Component) on the households' well-being and on their energy expenditures. A secondary objective is to measure the impact of this subsidy in terms of the quantity of formal or "legal" electrical connections. In addition, this study seeks to provide evidence of the impact that the Energy Component can have on the decisions of households to change from less expensive polluting energy sources to sources that are more expensive but more efficient and less polluting, with the consequent improvement in the health of household members. It is important to stress that it is not the objective of this document to evaluate the impact of the *Oportunidades* Energy Component as such, since the information necessary for such an objective is not available at present. That is, there is not sufficient information about experimental and control groups or about the periods before and after implementation of the Program.

The study uses the *Oportunidades* evaluation surveys for urban zones (ENCELURB), rural zones (ENCEL) and the survey on energy consumption by *Oportunidades* families (ECEFO2007). Using these surveys, information was obtained for total energy expenditures, including electricity, with the exception of gasoline for transportation. The possible effect of Energy Component transfers on energy expenditures was estimated using cross-sectional and longitudinal information.

As a general estimation strategy, the study uses household fixed effects. The principal advantage of this approach is the possible interpretation of the estimator as the "difference of the differences," in which the change in the natural logarithm of monthly transfers for Program beneficiaries is compared to the change in the natural logarithm of the monthly energy expenditures by non-beneficiary households (those who decided not to apply to the Program or where the Program does not yet have coverage). The fixed effects per household refer to characteristics that do not change over time, such as the level of education of the head of household and/or the household preference for a particular type

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of energy. In addition, they allow for the identification of the effect of *Oportunidades* transfers on the average rate of increase in energy expenditures; that is, the income elasticity of demand.

As an alternative strategy for estimating the causal relationship between *Oportunidades* transfers and the change in household spending on gas and/or electricity, we use potential transfers as an instrumental variable for current transfers. These were calculated as a maximum amount per household that could be received given the household structure and age of the children. Potential transfers are correlated with actual transfers (both current and accumulated), but they are not correlated with the error term in the energy expenditure function. Instrumental variable estimates provide a consistent estimation of the causal relationship between the increase in energy expenditures and receiving *Oportunidades* transfers, taking advantage of variations in transfer amounts for each period that the beneficiary households receive transfers according to the number of children attending school, their ages and genders.

A notable result is that the presence of legal electric connections among beneficiary households is virtually universal (more than 95%). Therefore, it is recommended that having a legal connection to an electricity supply not be a determining factor for receiving the subsidy in the second and subsequent years.

The second result to note is that national average household energy expenditures were as high as $280 per month, which is a significant percentage of a household's monthly expenses (around 17.8%); this is the second largest expenditure for households with lower incomes (food is the highest expense). In addition, the combined expenditure for gas and electricity alone exceeds $205 pesos. The average subsidy of $50 a month is 17.86% of the average monthly energy expenditures per household (roughly 24% if considering only gas and electric). An increase in support of $20 monthly per household (from $50 to $70 per month) would represent an increase in the proportion of energy expenditures covered by the subsidy from 17.86% to 25%, on average.

Third, notable differences stand out between short-term and long-term income elasticity as a consequence of the acquisition of durable goods by households with scarce resources. For example, we found that the short-term income elasticity of demand for gas is zero for those households that do not have a gas stove (or any other durable good that uses gas, such as a water heater or boiler) and is 0.016 for those households that reported having a gas stove in 2002 (or in the baseline year).

With respect to electricity, we found that short-term income elasticity of demand was similar (0.009) for those households reporting not having durable goods that use electricity (such a refrigerators, televisions and washing machines) and those households that reported having at least one such machine in 2002.

Long-term income elasticity of demand was greater than short-term for households that reported not having durable goods in 2002 but was less for those who reported having such goods. This is because the calculation for such elasticity takes into account the probability of possessing durable goods. This can be seen in the graphs created from non-parametric estimates showing that the probability of possessing a refrigerator increases as the amount of accumulated transfers increases. We found that long-term income elasticity of demand for LP gas and electricity was 0.017 and 0.005, respectively (significantly different from zero).

These estimates are calculated taking into account the characteristics of the households, controlling for the educational level of the head of household and his or her partner, number of children, ages of the children and household income level. It is worth noting that when using information from the ENCEL 2007, educational level has a positive effect on the probability of possessing goods that use energy, such as refrigerators and gas stoves. Having some elementary education seems to increase the probability of possessing such goods as compared to not having education. In addition, the completion of elementary school indicates an additional increase in this probability, which is even greater when the head of household has completed schooling beyond the elementary level. The gender of the head of household also seems to have a significant influence. In effect, if the head of household is a man, the probability of possessing a refrigerator and/or gas stove is greater. Ethnic origin also influences the probability of possessing refrigerators, but it does not seem to have an influence in the case of gas stoves. For example, if the head of household is indigenous, there a lower probability of possessing a refrigerator, but the probability of that household's possessing a gas stove is not significantly different from the probability if the head of household is not indigenous. The educational level of the head of household seems to influence actual expenditures on gas but not on electricity, whereas the age of the head

of household seems to have a negative influence on electricity expenditures, but no effect on gas expenditures. When analyzing the urban data, we find similar results.

This analysis primarily serves two objectives: 1) to predict the effect of the Energy Component (as well as what that effect would be if the subsidy were increased from $50 to $70 a month) and 2) to demonstrate that income elasticity of demand (or that of *Oportunidades* transfers) for energy is small. With a small income elasticity of demand (inelastic), if the price of energy were to increase, the subsidy for energy consumption would be efficient (it would not change the decisions of the beneficiaries) because households would consider the energy to be a necessity.

Finally, it is notable that this type of subsidy (focused on demand) could benefit more households with scarce resources than the type of subsidies provided by the Federal Electric Commission (CFE per abbreviation in Spanish) could, known as a supply-side subsidy. These are primarily based on the level of electricity consumption per inhabited unit, based on the premise that households with less income consume less electricity. However, that is not the case for the majority of households with few resources, many of which share electric meters. In such cases, electric consumption is greater and these households consequently do not receive subsidies from CFE. Subsidies such as those proposed by *Oportunidades* are better focalized and less regressive.

It is worth noting that, given the available information, it is not possible to measure the secondary effect of the exogenous increase in income on the health of beneficiaries as a result of the change in their energy use. The health of beneficiaries could be affected by many factors. Even when information exists on the exogenous change in income, identifying the isolated effect that could be caused by changing from traditional energy sources (less expensive but more contaminating) to more modern energy sources without controlling for other factors would be futile. To analyze such an effect, it would be necessary to have experimental conditions, such as treatment and control groups, that are exposed to the use of different energy sources for considerable periods of time while keeping all other conditions relatively constant. In addition, it would be necessary to obtain measurements of different indicators, such as the measurement of particles in the air inside the home.

Cash transfers and energy expenditures: possible impact of the *Oportunidades* Energy Component

THEME	STRENGTHS AND OPPORTUNITIES/WEAKNESSES AND THREATS	RECOMMENDATIONS
	STRENGTHS AND OPPORTUNITIES	
Appropriate focus	The Program has an appropriate focus. That is, if the objective is to help individuals with scarce resources, the best way to do that is through the *Oportunidades* Program, which covers roughly 25% of the Mexican population, and nearly all of the households living below the food poverty line.	Not applicable
Opportunity costs for Program beneficiaries	This type of focalization marginally increases the opportunity cost for Program beneficiaries. The implication is that the household will have a greater incentive to fulfill the Program requirements, since if they fail to do it they not only lose the support of the Program, but they also lose the Energy Component.	Not applicable

Size or magnitude of the Energy Component in terms of household expenditures	As we showed using ECEFO, energy expenditures are significant for the household, likely the second most significant expenditure after food. The Energy Component covers a significant proportion of this expenditure (around 18%). Therefore, one of the Program's strength is that it supports families that spend proportionally more on energy, and it does so at an appropriate magnitude.	Not applicable
Low cost of the Energy Component	Related to the previous point, this stresses the low costs for providing the Energy Component. Since the households are already enrolled in *Oportunidades,* extending coverage of this component to households involves extremely low administrative costs.	Not applicable
Low cost of the Energy Component	Another strength related to the above is that instead of subsidizing the cost of electricity or gas in a generalized manner, the resources are invested in a focalized manner, resulting in fewer distortions on the energy market. A generalized subsidy can generate all types of opportunistic behavior on the part of economic actors. For example, the gas subsidy could create intermediaries (buying gas where it is subsidized in order to sell it where it is not, creating income for some individuals) or even scarcity.	Not applicable
	WEAKNESSES OR THREATS	
Weakness of subsidiary programs	The energy component may have a weakness typical of subsidiary programs––it could generate distortions in the decisions made by actors who receive it. For example, let us consider a household in which some member is indifferent about whether or not to work. Before the household received the component, the individual decided to work. However, if that person receives the subsidy, he or she may decide not to work anymore. Therefore, the Program could potentially have undesired effects, such as distortion of the incentives for beneficiaries, that had not been considered or are not consistent with the Program design.	This Program could benefit from community workshops held on self-care to generate awareness among the beneficiaries regarding the health benefits of cleaner and less harmful energy. Another opportunity that could improve the impact and magnitude of the Program would be to coordinate with the CFE (federal electric commission) and/or the central Compañía de Luz y Fuerza (electric company) so that instead of being provided as a result of use, the subsidies would be focused in the way the *Oportunidades* Energy Component does. This could free up resources to increase the magnitude and size of the Program.
Negative impact on health	Another weakness of the Program is that in the short term, it could have a negative impact on the health of some beneficiary households. For example, let us consider that a household does not have a gas stove and therefore that the members cook with firewood. When receiving the subsidy, the individuals are faced with an income effect and a substitution effect. The income effect involves consuming more of what is already being consumed (firewood), whereas the substitution effect involves consuming less (by replacing firewood with gas, for example). If the income effect dominated the substitution effect in the short term (because of households not being able to save enough in order to acquire a gas stove), then the Program could cause households in this circumstance to buy more wood and suffer the negative health consequences (at least in the short-term) due to exposure to gasses emitted by combustion inside the homes. Fortunately, in this study we found very low income elasticity of demand for energy, so this problem or weakness may be minimal.	

Cash transfers	A possible threat to the Program is that it could become a "victim of its own success." That is, if the cash transfers from the *Oportunidades* Human Development Program and to a lesser degree the Energy Component increased the probability that the households will acquire a refrigerator or stove, then the Program would be contributing to generating and increasing the demand for gas and electricity. If we consider that households with fewer resources obtaining these types of durable goods for the first time are acquiring ones that are less expensive and less efficient, the Program could result in a higher than estimated demand for energy.	Investment in technologies that produce more efficient stoves and refrigerators at lower costs is recommended, so as to contain a potentially significant increase in demand for energy in the future. However, we recognize that this objective goes beyond the reach of the *Oportunidades* Program.
ADDITIONAL RESULTS AND RECOMMENDATIONS		
Health risks (community workshops)	The high level of firewood consumed nationally (as high as 83.5% in rural households) represents serious health risks, primarily due to increases in respiratory illnesses and the toxic effects on the environment. In rural areas, only 59.4% of households that are beneficiaries of *Oportunidades* use gas for cooking or heating their homes.	It is recommended to broaden and strengthen the thematic content of workshops with the objective of promoting the use of more efficient and cleaner energy sources that pose fewer risks to the health of beneficiary families. Likewise, it is recommended that the Program more closely coordinate with health and energy sectors, increasing the quality and effectiveness of communication strategies directed toward making energy consumption more efficient.
Increase in energy expenditures and consumption	The study enabled the identification of the following: for those households that have a gas stove, increases in monetary transfers induce an increase, although minimal, in the consumption of LP gas. Although this implies an increase in the expenditure and consumption of energy, it is a situation that is less harmful to health and the environment than an increase in other types of combustibles used to cook and heat homes. Likewise, in those homes that have goods that use electricity, an increase in monetary transfers by the Program represents an increase, although minimal, in electricity expenditures.	The ultimate objective of the Energy Component is to avoid an increase in prices affecting normal energy consumption by beneficiary households. Nevertheless, based on the present study, it is recommended that intersectoral public policies be implemented to achieve more efficient energy consumption by beneficiary households. An example of these could be replacing conventional lamps with energy-saving ones, as well as promoting the use of ecological stoves in rural households.
Positive effects of an increase in income on energy expenditures	The study permitted the identification of positive effects of an exogenous increase in income on energy expenditures. Nevertheless, these effects are modest. A possible hypothesis is the inexistence of a specific corresponsibility associated with an increase in income (which could be an increase in the Energy Component subsidy)	Therefore, it is recommended to broaden and strengthen the thematic content of workshops that have the objective of promoting the use of more efficient and cleaner energy sources that have fewer risks to the health of beneficiary families.

Support from the *Oportunidades* Energy Component	Support from the *Oportunidades* Energy Component is considered important in terms of its magnitude and focalization. This is because the monthly expense on energy by beneficiary families (17.8% of total expenses) is second only to food. The income elasticity of demand for energy is small. Therefore, it can be said that the support of the Energy Component does not create distortions in consumption decisions by beneficiary households (it does not create harmful effects on the energy market since it does not generate a more than proportional demand for energy).	It is recommended to establish closer communication between the Program and the energy sector for the purpose of exchanging information about better ways to disseminate information to promote more efficient energy consumption among families that are beneficiaries of *Oportunidades*. Likewise, it is recommended to create institutional links in order to more widely disseminate information about energy prices and consumption among the beneficiary population, and broaden and deepen the analysis of the topic.

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Executive Synthesis

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