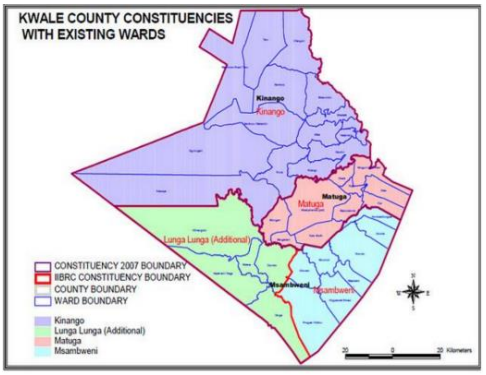
Policy brief: Improving health through better collaboration with the many informal healthcare providers in Kwale County

In 2018 and 2019 research teams within North Coast Medical Training College carried out four studies related to health and healthcare provision in Kwale County. They were funded by the European Union and carried out as part of the project lead by 4Kenya to support the Kwale County government through the provision of integrated medicine. Three of the studies focused on the healthcare seeking behaviour of the Kwale community, local knowledge and the role and practice of informal healthcare providers in Kwale County. Specifically, these studies looked at home deliveries and traditional birth attendants (TBAs), traditional bone setters (TBSs) and their clients, and traditional diets and home remedies prepared for and used by patients with cardiovascular diseases. One study focused on the implementation of the Kenya Mental Health Policy 2015 – 2030 in Kwale County.



In the subsequent pages of this document, an overview is provided of the four individual researches. Each of the researches informed several recommendations. The main issues observed in these studies are summarized below into seven recommendations for the Kwale County government.

Kwale County has invested heavily over the past decade to improve access to primary healthcare. However, the continued widespread presence of informal medicine and the role it continues to fulfil either in absence of, or complementary to the formal healthcare system was clear from all four studies.

From the research on home deliveries & TBAs, it came out that the increased accessibility has led to increased number of facility based deliveries. However, it was equally clear that access to essential obstetric care services 24/7 and at less than one hour walk from peoples' homes is still far from being achieved. Lack of access to the formal healthcare sector, not socio-cultural reasons, were the main reason why women in Kwale County delivered at home. Most were helped by and highly appreciated the TBAs who assisted them as they were available. These TBAs are already to some level recognized by the formal healthcare system but lack support to ensure they can do the best during such emergencies where formal care is not available.

From the research on diets and home remedies it emerged that, while many people in Kwale look for help from formal health facilities for cardiovascular disease, many also use a wide array of traditional medicines to treat such diseases and frequently do not disclose when consulting at formal facilities in anticipation of a negative reaction.

In Lungalunga, traditional bone setting was present and widespread and there was some level of interaction between the TBSs and the formal healthcare system. The practice did not only appear to be born out of poverty, as sometimes perceived; affordable services came out as a factor but perceived better treatment and better outcomes from the TBS practitioners compared to formal health facilities were cited frequently and those attending TBS services were not necessarily from the poorer segments of society.

Improving access to care, quality of care, and access to appropriate medication, also means recruitment of specialists and training of existing staff in areas of need – something that was glaringly missing in the field of mental health. From the available data it was not clear if the national Kenya Mental Health Policy 2015-2030 was legally adapted, through the County Assembly to the local situation in Kwale County, but it was clear that the policy was rather unknown and budgetary resources were not allocated.

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All healthcare costs money. Although funding is an issue across, some areas, e.g. mental health, are clearly underfunded compared to others. Private funds might well be available but need a clear structure for them to be effective in supporting the government agenda.

The studies showed that community members tend to shield their consultations with informal healthcare providers and their use of traditional medicine during consultations in the formal sector. This limits the gathering of important information from patients and communities. Breaking the barriers to release such information will help to provide healthcare effectively. Moreover, more transparency form the patients' side will help reduces wastage of medicines, hence reducing the cost of medicines in the county.

Especially from the studies on traditional bone setting and mental health, it appeared that the formal sector shuns the informal sector. Better mutual understanding will promote community level mitigation of health risk factors, one of the development plan strategies of the Kwale County. Formal health workers need to be made aware of the significant role TBSs play in the management of trauma and accident victims and that in mental health, the alternative healthcare providers seem to be almost completely doing what the formal system is supposed to be doing. Recognition of such alternative systems, as also suggested for example in the Kenya Mental Health Policy 2015-2030, can help regulate and improve the practice of the alternative sector. Encouraging health workers to create rapport with and identify alternative providers and document those in the proximity can be a basic first step towards collaboration and integration. Knowledge sharing by and among informal healthcare providers and training on best practices would be key in dissemination of information and skills to the community and to determine which kind of services can be shared between the formal and the informal system. Examples of such collaboration are available worldwide.

It is important to further document and investigate some of the informal healthcare provision that is existing in Kwale County. Being a form of traditional art which has been passed from one generation to the other, these are cultural assets which can only be preserved for future generations if they are documented systematically. Also, study of specific practices or ingredients in diets and home remedies, ascertain their efficacy, and identification of the active medicinal compounds and their concentrations in such remedies could be beneficial to the progress of medicine.

Recommendation 1: The Kwale County government continues on implementation of its policy to expand access to primary healthcare and make explicit in this policy the need to recruit specialist and train on specialist skills where these are lacking.

Recommendation 2: The Kwale County government to either adapt the KMHP or, if already done, put mechanisms in place to popularize the policy and budgetary resources allocated to implement it.

Recommendation 3: The Kwale County government to expand the promotion of public private partnership as already present in trade, tourism, and industry, to areas of need in healthcare.

Recommendation 4: The Kwale County government to provide policy to support bridging initiatives for emergency situations, like delivery, until the objectives of having 24/7 primary healthcare accessible for all has been fully achieved.

Recommendation 5: The Kwale County to provide policy to integrate non-formal healthcare providers into the formal system to improve referral, improve practices, and enhance skills and knowledge exchange in the community.

Recommendation 6: The Kwale County to provide policy to foster better and friendlier interactions between the health care providers and members of the community.

Recommendation 7: The Kwale County to provide policy to encourage qualitative and quantitative research studies into non-formal healthcare provision.

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Traditional Birth Attendants in Kwale County: A description of practices of traditional birth attendants and an evaluation of factors influencing women to deliver outside the formal health care system in Kwale County

Marianne C. Darwinkel & Paul M. Deche

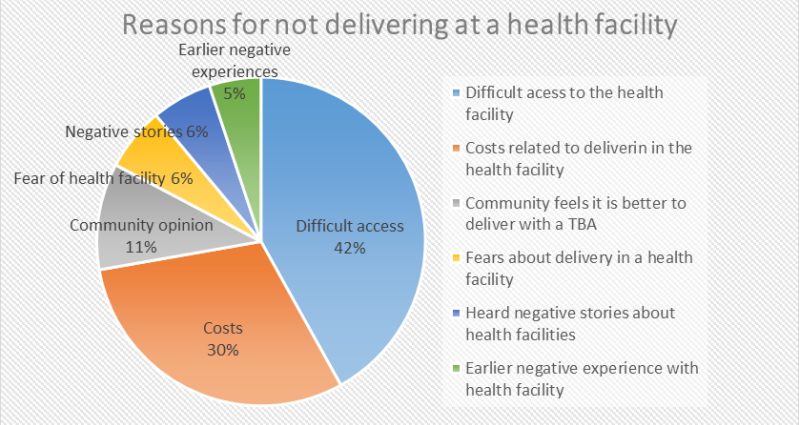
Introduction

Kenyan policies encourage delivery in the formal system as a core safe motherhood intervention to reduce maternal deaths and disability. However, many women in Kwale County – 39% in 2014 - deliver outside the formal system (KNBS et al, 2015), often with traditional birth attendants (TBAs). This study sought to establish the most important factors that make women in Kwale County deliver outside the formal sector. In addition, it established what the current practice of TBAs in Kwale County actually entails. We belief that results from this study on core factors influencing home delivery and the characteristics of TBA practice in Kwale County can contribute to identification of effective interventions, possible better integration of TBAs with the formal system, and the develop policies and guidelines aimed at improving pregnancy outcomes.

Results

The core finding arising from 204 interviews with women who delivered at home and from six focus group discussions with in total 40 TBAs is that lack of access to delivery care at formal health facilities is the single most important reason for the continuation of home deliveries in Kwale County.

The women who delivered at home had on average a reasonably good knowledge on pregnancy and delivery despite that on specific topics the women could still benefit from additional health education (for example family planning and identification of pregnancies with higher risks of complications). In general, the attitudes of these women towards the formal system were positive. For example, overall, the interviewed women agreed that home delivery is risky, that, in general, health workers are friendly when women come to delivery and that formal health workers are more experienced than TBAs. The majority of women who delivered outside the formal healthcare system did so because the formal system was not available or accessible. Most of them (74%) had not planned to deliver at home, would not deliver at home next time and would not advice others to deliver at home.



From the discussions with the TBAs it was clear that their practice used to be strongly embedded in family relations – both in terms of how they acquired skills and in who they assisted during delivery. Some practices still continue widely, like massaging during pregnancy and at the onset of labour, whereas other, like use of traditional medicine by TBAs, appeared more limited to the most remote areas. With the changed government policies and emphasis on facility based, skilled delivery, the practice of TBAs has changed, the embedding in family relations has reduced and has caused a change towards an educative and supportive birth companion role and away from their traditional midwife role. Older TBAs became recognized by the formal system as community health volunteers and some of the generally younger community health volunteers have become recognized as TBAs by their communities. The change from midwife to birth companion has increased costs for TBAs (due to travel to and stay at facilities) but appears to have simultaneously have reduced the willingness of women to pay for their services. Access to delivery services in health facilities was still experienced as far from sufficient, however it was generally acknowledged that it has improved. This lack of access was considered the core reason for continued provision of (emergency) delivery services of TBAs, despite it not being in line with the official government policies. The discrepancy between government policy

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and the real situation in rural areas created tension when it comes to providing TBAs with instruments and consumables for emergency deliveries:

"We are told not to deliver at home but sometime you are called and when you reach there, the mother is already in labour pain and she is pushing. We need those clips, scalpels and gloves. If she is pushing, we help her and then come with her in the dispensary." (Location 6, TBA1)

Based on the above, it is recommended that the Kwale County government continues its policies to improve access to essential obstetric care services 24/7 and at less than 1 hour walk from peoples' homes. Only when essential obstetric care services are available for everyone at any time at less than 1 hour walk, then it becomes relevant to focus on the minority which had other, more socio-cultural reasons, to deliver at home.

It is further recommended that the Kwale County provides policy to support bridging initiatives until the objectives of the above policy have been fully achieved. The most conspicuous could be through supporting the TBAs or the pregnant women with requirements for emergency home delivery. It could also be in different ways, e.g. through providing transport options anytime, anywhere once women go into labour.

Traditional Diets and Home Remedies Used by Kwale People in the Management of Cardiovascular Diseases

Kilian Mwadime & Dorothy Tenai

Cardiovascular diseases (CVDs) top the list of the leading causes of mortality globally (WHO, 2017). Non-communicable diseases (NCDs) in Kenya account for 27% of the total deaths and more than 50% of the total hospital admissions. Out of these, CVDs alone are responsible for 6-13% of deaths (MOH, KNBS, WHO, 2015).

The Kenya strategies for the prevention and management of NCDs only focuses on the use of conventional medicines in the management of NCDs. The Kenyan strategies for NCDs do not mention use of specific traditional diets and home remedies (STDHR). However, based on oral reports by Kwale residents, STDHR are widely used by the locals to manage CVDs and other NCDS. We could not find any documented evidence on use of STDHR in the management of CVDs in Kwale. There is no information on the extent of use of STDHR, neither on details of these diets and remedies, nor on the efficacy, outcomes or possible side-effects. We carried out a study to investigate the utilization of diets and home remedies in the prevention and management of CVDs in Kwale County. The data was collected through 63 structured interviews and 21 focus group discussions

Black nightshade

Tsafe

The two communities have a wider array of traditional medicines than traditional diets for CVDs and both of them lack clear dosages. Traditionally advised diets for CVDs consist of traditional vegetables such as black nightshade and *tsafe*, and which are low on fats, sodium and simple sugars. Most of the traditional remedies are prepared by drying and grinding into power parts of trees, specifically leaves, roots and barks. Others were just boiled without drying or grinding. Examples include: *moringa oleifera*, *mvunje*, *mzuma*, *mkone,* guava leaves, garlic, *kipoza*, *muhingo*, *mgugune*, *mtundukula*, leaves of *mtunda* tree, avocado tree and, blue gum, mtasfeli, aloe Vera, the roots of *kikuro*, *mdhungu*, *mdzala*, *mjongoo*, neem tree, and *msinduzi* trees, barks or roots of *murogirenyi* and *munosungwai* (Maasai names) boiled in water. These remedies are used to treat hypertension, tachycardia, among other CVDs and other NCDs when combined in a particular way.

About 30% of the respondent preferred to use STDHR alone, 20% preferred to combine STDHR with conventional medications and about 50% preferred conventional medication alone. There were no adverse effects associated with the use of STDHR when used alone however, when concomitantly used with conventional medication some respondents mentioned that adverse effects occur and that they can sometimes even be fatal. Despite their usage of STDHR in whichever way they preferred, only a few respondents acknowledged that they inform their physician about STDHR while others openly confessed that they do not tell their doctors because of the hostility the doctors develop after learning about STDHR. The patients receive conventional medication upon diagnosis and during follow ups but they don't use them and only go to the hospitals for check-ups. However they greed that it is important to inform the doctor about STDHR.

Mkone tree

We therefore recommend the following the ministry of health Kwale County:

- To carry out quantitative research so as to establish which specific ingredients are used most in these diets and home remedies ascertain the efficacy of the traditional DHRs, Identify the active medicinal compounds and their concentrations in the various DHRs.
- To put mechanisms in place that will foster better or friendly interactions between the health care providers and members of the community. This will open up an avenue for gathering important information from the community which can help to effectively provide health care services. Moreover, such transparency from the side of community will help reduces wastage of medicines, hence reducing the cost of medicines in the county.

A Study on Fracture Management by Traditional Bonesetters and its Effects to Clients in Lungalunga Constituency, Kwale County in Kenya

Maj (Rtd) Sudi Juma and Emma Muthanje Kuria

Context of the problem

Despite the efforts done by the government to provide modern medical care in the country, some orthopaedic patients in Lungalunga Constituency still seek traditional care from traditional bone setters (TBS) rather than visiting the modern health facilities provided by the Ministry of Health of Kwale County. In Kwale and Kenya at large, the methods and procedures in which the bonesetters use have not been documented nor is it clear how the TBS acquired this knowledge. We therefore carried out an observational study to better understand the practice. Specifically, the objective of this study was to establish fracture management by TBS and its effects to clients in Lungalunga constituency, Kwale County.

Summary of the findings

Traditional bone setting has been practiced in Lungalunga constituency for many years and is widely spread. As 23% of our respondents had never gone to school, one could easily interpret that TBS was widespread because of poverty caused by the illiteracy. However, as we found that half of the respondents were self-employed and had steady income from different trades they were involved in, this suggests otherwise. The factors emerging from the study as contributing to the widespread use of TBS, in descending order of frequency were: perceived better treatment from the TBS compared to formal health facilities; affordable services; perceived better outcomes as compared to those from modern hospitals; TBS are easily accessible; trust in the TBS practitioners and, lastly, parents'

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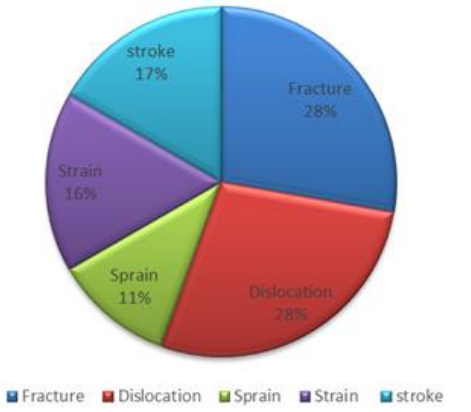
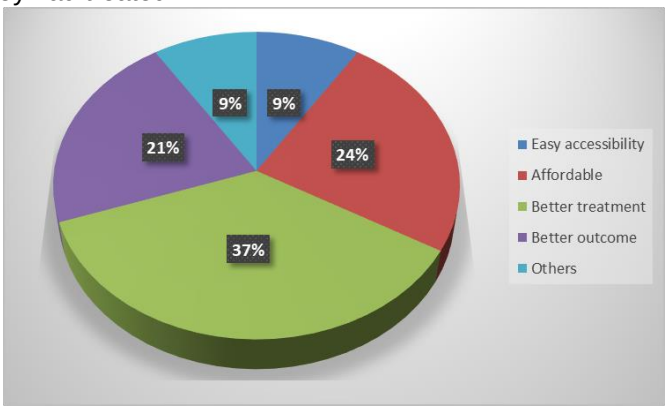
preference once their kids sustain injuries. The referral system of TBS practice appeared to be purely from friends and relatives.



Among the TBS in the study, 80% had practiced for more than 10 years. The practitioners had acquired the knowledge through different means including learning it from the formal health care system and from their grandparents or parents. As the income they earn from practicing bone setting is low, the TBS were involved in other economic activities as well.

In modern medicine, we anticipate for certain complications that are associated with different fractures. The TBS were not bothered with major complications after they had treated a patient. Among the complications known to them were infection of wounds in an open fracture and swelling after application of traditional splints. If such a complication would occur, they would either treat the patients with herbs or send them to the mainstream hospitals. This indicated that the bonesetters did not have sufficient knowledge about complications. To them a fracture healing or pain going away was enough for them to declare a patient had healed.



The fact that TBS practitioners refer their clients to modern hospitals for radiological tests (X-rays) and using analgesics to treat pain can be seen as a sign of incorporation of modern medicine in their practice.

It was clear from the study that in Lungalunga, modern medicine and traditional bone setting coexisted and that there was interaction between the formal health workers and the TBS.

It was also clear that the practice of TBS can be improved to serve the people of Lungalunga better. There was an initial plan of the government to profile all the TBS but along the way that project did not kick off. Looking at the expertise of the TBS, they have hands-on skills for which they are recognized and none of them would want to ruin their reputation. If the Ministry of Health would support them, the TBS practitioners would likely do much better and at the same time they could help the county government to meet its universal healthcare goals faster.

Recommendations

1. **Identify and register TBS and train them on the best practice and management of accident and trauma victims:** Registration of TBS and recognition by the county for their role in healthcare provision could improve their output and help to link the practice to the formal health system. To be able to plan and utilize their service the TBS must be known and identified on a voluntarily basis. This would likely be easy once the benefits become known all TBS. Training of TBS on best practices and sharing of knowledge among the TBS apprentices would be very key and instrumental in knowledge management and dissemination, though needs to take into consideration the illiteracy level among the TBS which may hinder content delivery during formal training(3)

2. **Create awareness among the formal healthcare professionals on importance of the utilization of alternative medicine in management of trauma and accident cases and referral in both formal and TBS:** To create rapport between the conventional health workers and the TBS, improve referral and reduce congestion in formal health facilities, the formal healthcare workers should be made aware of the significant role the TBS play in management of trauma and accident victims. Its only by this that a strong referral system can be set up where TBS can refer patient and so can health facilities that are within the county can comfortable refer clients to TBS.

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3. **Integrate TBS into the formal health care system in Kwale County:** Co-working with formal health system can work like in some developed countries like China and India. For example, in India traditional bone started by K. Kesava Raju in 1881. Now, the fourth generation of his family is practicing this bone setting practice in hospitals at Puttur, Andhra Pradesh, with 300 patients per day(4).

4. **Research on alternative medicine in management of fracture and trauma cases in Kwale County:** Being a traditional art that has been passed from one generation to the other, preservation of this essential skills can only happen if it is known and documented in a systematic way. This is culturally an asset that that need to be preserved for future generation looking at the benefits it comes with in management of accident and trauma case

Implementation of the Kenya Mental Health Policy 2015 – 2030 in Kwale County

Reuben Waswa Nabie

Failure to properly address mental illness has a significant human and financial cost; and will likely lead to mental illness being the largest contributor to the global health burden by 2030 (MOH Kenya, 2018). Integrating mental health into the general health system, and particularly in the primary health care system, is viewed by many policy makers as the most viable approach (WHO, Institute of Psychiatry, Kings College, 2010).

The Kenya Mental Health Policy 2015 – 2030 (KMHP), which is an off-shot of the Kenya Health Policy 2012 - 2030, provides a framework for securing mental health system's reforms in Kenya. It addresses systemic challenges and ensures adoption of emerging trends and technologies to lessen the burden of mental health illness and disorders. Among the roles and responsibilities assigned to the Counties in the KMPH are: integration of mental health into their strategic and integrated development plans, mobilization of resources, capacity building, monitoring and evaluating health programmes within their jurisdiction (MOH, 2015).

An evaluative study was conducted to establish the level of implementation of the KMHP in Kwale County, approximately two year since it was official launched in June 2016. The study set out to assess the views of health workers in 63 sampled public health facilities (dispensaries, health centres and hospital), policy makers at the Kwale County level, and staff at Port Reitz Mental Hospital, being a regional referral centre. The views of facility in-charges or their assistants from all sampled public health facilities in Kwale County were included. Unfortunately, due to limitations in time and resources to secure an appointment with Kwale County health policy makers and to get permission from Mombasa County to interview staff at Port Reitz Mental Hospital, information from those two sources was not obtained. The objective was to establish the influence of county mental health policies on what was going on at the facility level; the level of investment made by the county to support mental health services; the relationship between the formal system health workers and those practicing Complementary and Alternative Medicine and the use of an Integrated Health Information System to collect and collate data for decision making at the policy level.

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The outcomes of the study were reminiscent of the global concern, as expressed by the WHO (2006), that mental health is a neglected area of human health the world over, and more so in the developing world. Asked about their knowledge on policy matters, 82% of the respondents were not aware of the existence of KMHP; 71% affirmed their lack of involved in policy making processes at the county level; 97% were not aware about the budget allocation the county makes to mental health. On investment made for mental health, there was the bare minimal in some facilities, to hardly anything significant in others. Investment aspects looked at included: availability of trained mental health staff; and only 2 are in the county; only 3 staff had attended mental health related seminars organized in other Counties, because none has been organized locally. Supply of psychotropic drugs was very minimal and basic in their use. Specialist investigations such as EEGs, brain scans and psychotherapy were not found within the County. On the relationship between staff in the formal health system and those in Complementary and Alternative Medicine (CAM), there was acknowledgement of the existence of significant CAM activities, by 20% of respondents; and in fact 12% acknowledged receiving referral from the CAM, but no referrals were made from the formal sector to CAM. The health reporting system was manual in most facilities, was not specific to mental health and not integrated in any way, making it difficult to retrieve old data as time goes by.

In view of the observed minimal level of implementation of the KMHP in Kwale County, some policy level changes might be necessary, to integrate mental health into the ongoing expansion of primary health care services, among them being:

Adaptation, through the County Assembly, of the national KMHP to the local situation in Kwale. If this is already done, given that the policy makers' view was not elicited in the study, then mechanisms need to be put in place to popularize the policy and budgetary resources allocated to implement it.

Recruitment of mental specialists and training of existing staff in mental health, as a matter of policy, is crucial in stimulating mental healthcare activities in the formal county health care system. As observed in the study, stigma towards mental patients is not only among community members, but is perpetuated by even health workers for lack of proper training to enable them appreciate mental health a crucial element of human health. Furthermore, issues like participation in policy making, budgeting and ordering of appropriate psychotropic drugs can only happen if the staff is empowered through training.

The CAM system in Kwale County seems to be doing more of what the formal systems is supposed to be doing, in relation to mental health care. Given this reality and the fact that most community members prefer going to CAM for mental and psychological problems, the CAM system should be formally recognized, as suggest in the KMHP. This can help to regulate their practice and continuously improve their practice through research and further training.

Scarcity of resources is also a reason for most Counties not being able to adequately cover "non-urgent issues like mental health", in spite of their far reaching implication on general health of the community and the health system as a whole. Most counties seem overwhelmed by more acute communicable diseases and chronic non-communicable diseases. In view of this, Public Private Partnerships (PPPs) can go a long way in reducing the burden on County meagre resources, by investing in mental health if the county policies are purposely geared towards supporting them.

Bibliography

Traditional birth attendants and home deliveries

Addai, I. (2000). *Determinants of use of maternal-child health services in rural Ghana. Journal of Biosocial Science, 32 (1),* 1-15.

Ayele, D.Z, Belayihun, B., Teji, K., and Ayana, D.A. (2014). Factors affecting utilization of maternal health care services in Kombolcha District, Eastern Hararghe Zone, Oromia Regional State, Eastern Ethiopia. *International Scholarly Research Notices*, Article ID 917058, 7 pages. doi:10.1155/2014/917058

Azuh, D., Fayomi, O., Ajayi, L. (2015). Socio-Cultural Factors of Gender Roles in Women's Healthcare Utilization in Southwest Nigeria. *Open Journal of Social Sciences, 3*, 105-117. doi: 10.4236/jss.2015.34013.

Bergström, S., Goodburn, E. (2001). The role of traditional birth attendants in the reduction of maternal mortality. *HSO&P, 17*, 77-95.

Birungi, H., Onyango-Ouma, W. (2006). *Acceptability and Sustainability of the WHO Focused Antenatal Care package in Kenya. Study report by Frontiers in Reproductive Health Program*. Nairobi: Population Council, Institute of African Studies and the University of Nairobi.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101.

Bucher, S., Konana, O., Liechty, E., Garces, A., Gisore, P., Marete, I., Tenge, C., Shipala, E., Wright, L., Esamai, F. (2016). Self-reported practices among traditional birth attendants surveyed in western Kenya: a descriptive study. *BMC Pregnancy and Childbirth, 16,* 219-225.

Buekens, P. (2003). Review of: 'Traditional birth attendant training effectiveness: a meta-analysis'. *International Journal of Gynecology and Obstetrics, 83*, 121–122.

Campbell O.M.R., Calvert C., Testa A., Strehlow M., Benova L., Keyes E., Donnay F., Macleod D., Gabrysch S., Rong L., Ronsmans C., Sadruddin S., Koblinsky M., Bailey P. (2016). The scale, scope, coverage, and capability of childbirth care. *Lancet*, 388: 2193–208. http://dx.doi.org/10.1016/

Celik, Y., and D.R. Hotchkiss. (2000). The socio-economic determinants of maternal health care utilization in Turkey. *Social Science & Medicine, 50(12),* 1797-1806.

Chadha, V.K. (2006). Sample size determination in health studies. *NTI Bulletin, 42/3&4*, 55–62.

Esena, R.K. , Sappor M.M. (2013°). Factors associated with the utilization of skilled delivery services in the Ga East Municipality of Ghana: part 1: Demographic Characteristics. *International Journal of Scientific & Technology Research, 2(8)*, 184-194.

Esena, R.K., Sappor M.M. (2013b.) Factors associated with the utilization of skilled delivery services in the Ga East Municipality of Ghana: part 2: Barriers to Skilled Delivery. *International Journal of Scientific & Technology Research, 2(8),* 195-207.

Government of the Republic of Kenya. (2007). *Kenya Vision 2030: The Popular Version*. Nairobi: Government of Kenya.

Government of Kenya. (2014). *MDG Acceleration Framework and Action Plan for Kenya: Improving Maternal and Newborn Health.* New York: United Nations.

Itina, S.M. (1997). Characteristics of traditional birth attendants and their beliefs and practices in the Offot Clan, Nigeria. *Bulletin of the World Health Organization, 75(6),* 563-567.

KNBS. (2010). *Kenya demographic and health survey 2008–09*. Calverton: KNBS and ICF Macro.

KNBS, MOH, NACC, KEMRI, NCPD. (2015). *2014 Kenya Demographic and Health Survey: Key indicators*.

Kruske, S., Barclay, L. (2004). Effect of shifting policies on traditional birth attendant training. *Journal of Midwifery and Women's Health*, *49(4),* 306-311.

Leslie, J., and G.R. Gupta. 1989. *Utilization of formal services for maternal nutrition and health care.* Washington, D.C.: International Center for Research on Women.

Mannava, P., Durrant, K., Fisher, J., Chersich, M., & Luchters, S. (2015). Attitudes and behaviours of maternal health care providers in interactions with clients: a systematic review. *Globalization and Health*, *11(36).* DOI 10.1186/s12992-015-0117-9.

Mekonnen, Y., Mekonnen, A. (2002). *Utilization of Maternal Health Care Services in Ethiopia*. Calverton: ORC Macro.

Ministry of Health – Division of Reproductive Health. (2007). *National Reproductive Health Policy.* Nairobi: Ministry of Health, Republic of Kenya.

Moindi, R.O., Ngari M.M., Nyambati V.C.S., Mbakaya C. (2016). Why mothers still deliver at home: understanding factors associated with home deliveries and cultural practices in rural coastal Kenya, a cross-section study. *BMC Public Health* (2016) 16:114. DOI 10.1186/s12889-016-2780-z

National Council for Population and Development. (2015). *Policy Brief No. 46: Reducing Maternal Deaths in Kenya*. Kenya: NCPD.

Saldaña, J. (2009). *The Coding Manual for Qualitative Researchers*. Thousand Oaks, CA: Sage Publications Ltd.

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Sarker, B. K., Rahman, M., Rahman, T., Hossain, J., Reichenbach, L., & Mitra, D. K. (2016). Reasons for Preference of Home Delivery with Traditional Birth Attendants (TBAs) in Rural Bangladesh: A Qualitative Exploration. *PLoS ONE*, *11*(1), e0146161. http://doi.org/10.1371/journal.pone.0146161.
Sibley, L.M., Sipe, T.A., Brown C.M., Diallo, M.M., McNatt K., Habarta, N. (2007). Traditional birth attendant training for improving health behaviours and pregnancy outcomes. *Cochrane Database of Systematic Reviews*, *3,* Art. No.: CD005460. DOI: 10.1002/14651858.CD005460.pub2.
Smith, J.B., Coleman N.A., Fortney, J.A., Johnson, J.D., Blumhagen, D.W., Grey, T.W. (2000). The impact of traditional birth attendant training on delivery complications in Ghana. *Health Policy and Planning, 15(3),* 326-331.
Starrs, A.M. (2006). Safe motherhood initiative: 20 years and counting. *The Lancet, 368(9542),* 1130-1132.
Thattle, N, Mullany, L.C., Khatry, S.K., Katz, J., Tielsch, J.M., Darmstadt, G.L. (2009). Traditional birth attendants in rural Nepal: Knowledge, attitudes, and practices about maternal and newborn health. *Glob Public Health, 4(6),* 600–617. doi:10.1080/17441690802472406.
Titaley, C.R., Hunter, C.L., Dibley, M.J., Heywood, P. (2010). Why do some women still prefer traditional birth attendants and home delivery?: a qualitative study on delivery care services in West Java Province, Indonesia. *BMC Pregnancy and Childbirth, 10(43).* https://doi.org/10.1186/1471-2393-10-43
United Nations.(2000). http://www.un.org/millenniumgoals/ (downloaded 27/11/17).
Wamalwa, E. W. (2015). Implementation challenges of free maternity services policy in Kenya: the health workers' perspective. *The Pan African Medical Journal*, *22*, 375. http://doi.org/10.11604/pamj.2015.22.375.6708
Wanyua, S., Kaneko, S., Karama, M., Makokha, A., Ndemwa, M., Kisule, A., Changoma, M., Goto, K. and Shimada M. (2014). Roles of traditional birth attendants and perceptions on the policy discouraging home delivery in coastal Kenya. *East African Medical Journal, 91(3),* 83-93.
WHO. (1992). Traditional birth attendants—A joint WHO/UNFPA/MCH statement. Geneva: WHO.
WHO. (2015). Trends in maternal mortality: 1990 to 2015: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division.
Witter, S., Adjei, S., Armar-Klemesu, M., Graham W. (2009). Providing free maternal health care: ten lessons from an evaluation of the national delivery exemption policy in Ghana. Global Health Action, 2(1), 1881. DOI: 10.3402/gha.v2i0.1881

Diets & Home Remedies

Ahmed, H. A. (2012). *Prevalence of Cardiovascular Diseases Risk Factors in Urban* Garissa Residents. UoN Research archives. Retrieved online: http://erepository.uonbi.ac.ke/handle/11295/6910
Celermajer S. D., Chow, K. C., Marijon, E., Nicholus, A.M. & Kam, W.S. (2012). Cardiovascular diseases in the developing world: Prevalence, patterns and the potential of each disease detected. *Journal of the American College of Cardiology 60(14),* 1207-1216. doi org/10.1016/j.jacc.2012.03.074
Chege, P.M. (2016). Multiple cardiovascular diseases risk factors in rural Kenya: evidence from a health and demographic surveillance system using the WHO STEP-wise approach to chronic diseases risk factor surveillance, *South Africa Family Practice*, *58:2,* 54-61,doi: 10.1080/20786190.2015.1114703
Hawkes, C. (2006). Agriculture and food policy for cardiovascular health in Latin America. *Prevention and control; 2(3):* 137-147. https://doi.org/10.1016/j.precon.2007.04.002
Institute of Medicine. 2010. *Promoting Cardiovascular Health in the Developing World: A Critical Challenge to Achieve Global Health*. Washington, DC: The National Academies Press. https://doi.org/10.17226/12815.
Jenson, A., Omar, A.L., Omar, M.A., Rishad, A.S., Khoshnood, K. (2011). Assessment of Hypertension Control in a district of Mombasa, Kenya. Global Public Health;6(3):293-306.
Kenya economic report, Kenya vision 2030, The Kenya Institute for Public Policy Research and Analysis (2017). Sustaining Kenya's Economic Development by Deepening and Expanding economic integration in the Region. Online retrieved: http://kippra.or.ke/wp-content/uploads/2017/05/KER-2017-Popular-Version-1.pdf
Aminde L.N., Takah N., Ngwasiri C., Noubiap J.J., Tindong M., Dzudie, A. and Veerman J.L. (2017) Population awareness of cardiovascular disease and its risk factors in Buea, Cameroon doi: 10.1186/s12889-017-4477-3 retrieved online: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5460458/
Mathenge W, Foster A, Kuper H. (2010). Urbanization, ethnicity and Cardiovascular risks in a population in transition in Nakuru, Kenya: A population - based survey. Pubmed 10, 569. doi: 10.1186/1471-2458-10-569
MOH Kenya, KNBS, WHO. (2015). Kenya Stepwise Survey for non-communicable diseases risk factors.
Richard Walden, Brian Tomlinson (2011). Cardiovascular disease.In.Benzie IFF,Wachtel -Galor S,editors. *Herbal Medicine:Biomolecular and Clinical Aspects*. 2nd Ed. Boca Raton (FL): CRC Press/ Taylor & Francis; Chapter 16.
Mbewu A. and Mbanya J.C. (2006). *Diseases and Mortality in Sub-Sahara Africa: Cardiovascular Disease.* Retrieved online: https://www.ncbi.nlm.nih.gov/books/NBK2294/
Suroowan S., Mahomoodally F. (2015) Common phyto-remedies used against cardiovascular diseases and their potential to induce adverse events in cardiovascular patients. *Clinical Phytoscience*, 1:1 doi: 10.1186/s40816-015-0002-3
Webb, D. (2013). Phytochemicals' Role. Good Health. *Today's Dietician*; 15(9): 70.

WHO.(2007). *Prevention of cardiovascular disease; guidelines for assessing and management of cardiovascular diseases.* WHO, http://www.who.int/mediacentre/factsheets/fs317/en (downloaded 30/11/17)
WHO. (2017). Media center; *Fact sheet: the top ten causes of death*
https://homeremediesfor.com/cardiovascular-disease/ (30/11/17)

Traditional bone setters

Agaja, S.B. (2000). Prevalence of limb amputation and role of TBS in Nigeria. *Nig J Surgery 7: 79*.
Agwata J.R. (2015). *Knowledge, Attitudes and Practice of Traditional Bone Setting in Iftin Division, Garissa.* University of Nairobi. Dissertation November 2015 (Unpublished).
Atkinson, W. (2012). Tetanus Epidemiology and Prevention of Vaccine-Preventable Diseases *(12 ed). Public Health Foundation. pp. 291–300.* ISBN 9780983263135. Archived *from the original on 13 February 2015. Retrieved 19 November 2017.*
Burris, M. and Christenson, K. (2007). *Ears to the Ground; An exploration of African Culture and Health*. PATH, Lenana Road- Nairobi.
CHAPS (2000). *The Culture and Health Grants Program for Africa*. PATH, Lenana Road- Nairobi.
Dada, A.A. (2011). Review of the practice of traditional bone setting in Nigeria. *Africa Health Sciences*, *2*(2), 262–265.
Ekere, A.U. (2003). The scope of extremity amputations in a private hospital in the south-.south region of Nigeria. *Niger J Med 12*: 225-228.
Eshete M. (2005). The prevention of traditional bone setter's gangrene. *J Bone Joint Surg Br; 87(1)*:103-3.
Ministry of Health. (2010). Reversing the trends. *The Second National Health Sector Strategic Plan*.
Ministry of Health (2014). *Kenya Health Policy 2014-2030.* Ministry of Health Afya House Cathedral Road, Nairobi.
Nwachukwu B.U., Okwesili I.C., Harris M.B., Katz J.N. (2011) Traditional bonesetters and contemporary orthopaedic fracture care in a developing nation: Historical aspects, contemporary status and future directions. *Open Orthop J.* 5(1):20–6.
National Organization for Rare Disorders (2005). *Osteomyelitis*. https://rarediseases.org/rare-diseases/osteomyelitis/ *Retrieved 7 January 2018.*
OlaOlorun, D.A., Oladiran, I.O., Adeniran, A. (2001). Complications of fracture treatment by traditional bone setters in Southwest Nigeria. *Fam Pract. 18(6)*:635-637. https://www.ncbi.nlm.nih.gov/pubmed/11739353 [Accessed 30th November, 2017]
Omololu AB, Ogunlade SO, Gopaldasani VK (2008) The practice of traditional bonesetting: training algorithm. Clin Orthop Relat Res 466: 2392-2398.
Omololu B, Ogunlade SO, Alonge TO. The complications seen from the treatment by traditional bonesetters. West Afr J Med. 2002 Oct-Dec; 21(4):335-7. Comment in: West Afr J Med. 2003 Dec; 22(4):343-4; author reply 344.
Ongugo, P., Mutta, D., Pakia, M. and Munyi, P. (2012). Protecting Traditional Health Knowledge in Kenya. International Institute for Environment and Development, London.
Onuminya JE. The role of the traditional bonesetter in primary fracture care in Nigeria. South African Medical Journal, 94 (2004) 652.
Owumi BE, Jerome T (2012) Yoruba traditional bonesetters: the practice of orthopaedics in a primitive setting in Nigeria. J trauma 20: 312–322.
Panda AK, Rout S. (2011) Puttur kattu (bandage) - A traditional bone setting practice in South India. *J Ayurveda Integr Med.* 2(4):174–8.
Singh P, Singh P, Bindra S. (2015) Traditional bone setting: Origin and practice. *International Journal of Therapeutic Applications.* 2015;(November):18–23. ISSN 2320-138X.
Tapasa, K. P., Dharma N. M. and Niharika, P. (2017). Fracture Management by Traditional Bonesetters: A Hospital Based Observational Study, Journal of Medical Science and Clinical Research Volume 05 Issue 10 October 2017: 29177 -29182
Thanni LO (2000) Factors influencing patronage of traditional bone setters. West Afr J Med 19: 220-224.
Udoh, A. E. and Chinedu, R. E. (2011). Complications of fracture and dislocation treatment by traditional bone setters: A private practice experience. The Nigerian Health Journal. 2011 Oct-Dec; 11(4): 131-138.
Udosen, A.M., Etiuma, A.U., Ugare, G.A. (2005). Femoral Artery Aneurysm, a Complication of Traditional Bonesetting: A case report. NigJSurg.
Warungu, J. (2016). *Letter from Africa: Doctors take on traditional healers in Kenya.* http://www.bbc.com/news/world-africa-35870179 [Accessed 30th November, 2017]
World Health Organization (2000). *Promoting the Role of Traditional Medicine in Health Systems: A Strategy for the African Region 2001-2010*. Harare, WHO. Document reference AFR/RC50/Doc.9/R.

Mental health

Ministry of Health. (2005). *Reversing the Trends: The Second National Health Sector Strategic Plan of Kenya – NHSSP II 2005–2010*. Nairobi: Ministry of Health.

Assad, T. et al. (2015). Role of traditional healers in the pathway to care of patients with bipolar disorder in Egypt. *Internal Journal of Social Psychiatry*, *61(6):*583-90. doi: 10.1177/0020764014565799.

Bitta, M.A., Kariuki, S.M. & C.R.J.C. Newton (2017). An overview of mental health care system in Kilifi, Kenya: results from an initial assessment using the World Health Organization's Assessment Instrument for Mental Health Systems. *International Journal for Mental Health Systems, 11(28).* https://doi.org/10.1186/s13033-017-0135-5

AbouZahr, C., & Boerma, T. (2005). Health information systems: the foundations of public health. *Bulletin of the World Health Organization*, *83*(8), 578–583.

Bukusi, D. (2015). *Kenya Mental Health Policy 2015 - 2030. Towards attaining the highest standard of mental health.*

Campbell S, R. M. (2000). Defining quality of care. *Social Science and Medicine*. PubMed, 51:1611– 1625.

Council of Governors. (2018, March 31st). Retrieved from The Council of Governors: http://cog.go.ke/

Daily Nation. (2016). *Health experts warn of mental illness crisis*. Nairobi: National Media Group.

Dowrick C, G. L. (2009). Researching the mental health needs of hard-to-reach groups: managing multiple sources of evidence. *BMC Health Services Research*, 9: 226.

F.A, H. (2009). Psychology well-being: Evidence of its causes and consequences. *Applied Psychology: Health and Well-Being*, 137 - 164.

Fahad Riaz Choudhry, V. M. (2016). Beliefs and perception about mental health issues: a meta-synthesis. *PMC*, 2807–2818.

Galderis, S., Heinz, A., Kastrup, M., Beezhold, J., & Sartorius, N. (2015). Towards a new definition of mental health. *World Psychiatry*, 231 - 233.

Gomez, J. (1987). *Liaison Psychiatry: Mental Health Problems in the General Hospital*. Benkenham, UK: Croom and Helm Publications.

Gross, I. B. (2011). Don't hide your happiness. *Journal of Personality and Social Psychology*, 738 - 748.

Health Policy Project, F. G. (2014). *Devolution of Healthcare in Kenya: Assessing the County systems readiness in Kenya: A review of selected counties*. Nairobi.

Hensher M, P. M. (2006). Disease Control Priorities in Developing Countries. Facility Management, 1230 - 1231.

Hodgson et al. (1996). Effective Mental Health Promotion: A literature review. *Health Education Journal*, 55-74.

Kareem, P. A. (2018, February 11). *Primary, Secondary and Tertiary Healthcare*. Retrieved from Arthapedia: http://www.ies.gov.in/myaccount-profile-view.php?memid=234

Kenyan Government. (2010). *Constitution of Kenya.* Nairobi: Government Printers.

KNA. (2018, March 11). *Kenya Launches Mental Health Policy for the year 2015-2030*. Retrieved from Kenya News Agency: http://kenyanewsagency.go.ke/en/?p=118926

Knapp M, M. F. (2006). Economic barriers to better mental health practice and policy. *Health Policy and Planning*, 157 - 170.

Luoma M, Doherty J, Muchiri S, et al. (2010). Kenya health systems assessment 2010. Bethesda, MD: Health Systems 20/20 Project.

M. Funk, C. L. (2009). Improving the quality of mental health care. International Journal for Quality in Health Care, 415–420.

Marangu, E., Sands, N., Rolley, J., Ndetei, D., & Mansouri, F. (2014, October 10). Mental Health In Kenya: Exploring optimal conditions for capacity building. African Mental Health Foundation, pp. 1-5.

Marangu, et al. (2014). Mental healthcare in Kenya: Exploring optimal. AOSIS Open Journal, 1-5.

Mburu, M. (2007). Stigma towards mental illness and the mentally ill in rural Kenya. Nairobi: University of Nairobi.

Mental Health America. (2018, October 1). The State of Mental Health in America. Retrieved from Mental Health America: http://www.mentalhealthamerica.net/issues/state-mental-health-america

Ministry of Health. (2016). The Kenya Mental Health Policy. Nairobi: Ministry of Health.

MOH. (2014 - 2018). Kenya Health Sector Referral Strategy. Nairobi: MOH.

MOH Kenya. (2018, March 11). *Towards Attaining the Highest Standard of Mental Health*. Retrieved from MOH: http://healthservices.uonbi.ac.ke/sites/default/files/centraladmin/healthservices/Kenya%20Mental%20Health%20Policy.pdf

MOH, K. (2015). *Kenya Mental Health Policy*. Nairobi: MOH.

Mosadeghrad M, A. (2012). A conceptual framework for quality of care. Mater Sociomed, 251 - 261.

Musisi S., T. J. (2001). Psychiatric consultation liaison at Mulago Hospital. *Makerere Univ Med School Journal, 35:*4–1.

Nattras, N. (2005). Who consults Sangomas in Khayelitsha? An Exploratory Quantitative Analysis. Social Dynamics, 161 - 182.

Ndetei M., L. I.-O. (2009). The prevalence of mental disorders in adults in different level general medical facilities in Kenya: a cross-sectional study. *Annals of General Psychiatry, 8:* 1.

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Ndetei, M., Khasakala, L., Kurya, M., Mutiso, V., Ongecha-Owuor, F., & Kokonya, D. (2009). The prevalence of mental disorders in adults in different level general medical facilities in Kenya: a cross sectional study. Annals of General Psychiatry.
Njenga, F. (2007). The concept of mental disorder: an African perspective. *World Psychiatry*, 166–167.
O. Sankoh, S. Servilie, M. Weston. (2018, February 16). Mental Health in Africa. Retrieved from The Lancet Global Health: https://www.thelancet.com/journals/langlo/article/PIIS2214109X(18)30303-6/fulltext#articleInformation
Office of disease prevention and health promotion. (2018, JUNE 6). Access to health services. Retrieved from HealthPeople.gov: https://www.healthypeople.gov/2020/topics-objectives/topic/Access-toHealth-Services
Ombete, O. W. (2016). *Assessment of Correlates of Stigma in Mental Health Nursing*. Nairobi: University of Nairobi.
Patel V, B. G. (2013). Grand Challenges: Integrating Mental Health Services into Priority Health Care Platforms. PLOS Medicine, 1371.
Rashod, S., & al, e. (2017). Mental health service provision in low and middle income countries. *Health Service Insights*, 10.
Rethink Mental Illness. (2018, June 6). Rethink.org. Retrieved from Talking Therapies - Types of Therapie. https://www.rethink.org/diagnosis-treatment/treatment-and-support/talkingtreatments/types-of-therapy
Rogers A, H. K. (1999). *Demanding Patients? Analysing the Use of Primary Care*. Milton Keynes: Open University Press.
Shield, T. S. C. G. (2003). Quality indicators for primary care mental health services. *Qual Saf Health Care*, 100 - 106.
Silvana Gardelisi, A. H. (2015). Toward a new definition of mental health. *World Psychiatry*, 231–233.
Sorsdahl, et. al. (2011). Traditional healers in the treatment of common mental disorder in South Africa. *Journal of Nervous and Mental Disorders*, 434 - 441.
USAID. (2012). *Measure Evaluation Special Report: Improving Data Use in Decision Making - An Intervention to Strengthen Health System.* Chapel Hill: USAID.
USAID (2014). Resource Guide: Data Analysis and Guide. Washington DC: USAID.
WHO (2001). New Understanding, New Hope. Geneva: NMH Communication.
WHO (2005). Mental Health Policy and Service Guidance Package: Improving Access and Use of Psychotropic Medicines. Geneva: WHO press.
WHO (2005). *Mental Health Policy, Plans and Programmes*. Geneva: WHO press.
WHO (2005). *Promoting Mental Health: Concepts, Emerging Evidence and Practice*. Geneva: WHO press.
WHO (2006). *Working Together for Health.* Geneva: WHO press.
WHO (2009). *Mental Health Systems in Selected Low- and Middle Income Countries*: a WHO-AIMS cross. Geneva: WHO press.
WHO (2014). *Social Determinants of Mental Health*. Geneva: WHO press.
WHO (2018). WHO. Retrieved from Prevalence of Mental Disorders: http://www.euro.who.int/en/health-topics/noncommunicable-diseases/mental-health/data-andresource
Jenkins, R., Kiima, D., Njenga, F., Okonji, M., Kingora, J., Kathuku, D., & Lock, S. (2010). Integration of mental health into primary care in Kenya. *World psychiatry: official journal of the World Psychiatric Association (WPA)*, *9*(2), 118–120. https://doi.org/10.1002/j.2051-5545.2010.tb00289.x
Woldetsadik, M. A. (2018). *The Rand Blog. Retrieved from Mental Health Care in Sub-Saharan Africa: Challenges and Opportunities*: https://www.rand.org/blog/2015/03/mental-healthcare-insub-saharan-africa-challenges.html
Zabow, T. (2007). Traditional healers and mental health in South Africa. *International Psychiatry, 4(4),* 81-83. DOI: https://doi.org/10.1192/S174936760000521X.