



Strengthening health care systems for better mental health care delivery, Lawal et al.

ISSN 1597-4292

REVISITING THE NEED TO STRENGTHEN HEALTH SYSTEMS IN AFRICA FOR BETTER MENTAL HEALTH CARE DELIVERY

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ABSTRACT

Background: A substantial amount of the world's burden of disease today comes from mental, neurological, and substance use disorders (MNS). In Africa, a high percentage of people are affected by MNS and this is attributed to several factors such as poor leadership and governance for health, inadequate access to and utilisation of health services, especially for mental health, myths associated with mental health, poor knowledge of mental health disorders, stigma towards mentally ill persons, and weak health systems. The weak health system across Africa greatly affects mental health care delivery. This article discusses the state of mental health in Africa. It argues that with the Coronavirus (COVID-19) pandemic which hit in 2020 the focus of many health systems in Africa has been on addressing the pandemic with less emphasis on mental health care delivery.

Method: The article, using a WHO health systems framework, discusses useful ways to strengthen mental health systems in Africa for improved mental health care delivery.

Results: The various aspects of the WHO health systems framework are used to explain how to strengthen mental health care delivery in Africa.

Conclusion: Strengthening health systems in Africa for improved mental health care delivery using the WHO framework is possible and has benefits for Africa.

Keywords: MNS, mental health care, health systems, WHO framework



Print ISSN: 0189-9287 | Online ISSN: 2992-345X

The Nigerian Health Journal, Volume 22 No 2, April to June 2022

www.tnhjph.com

A Publication of Nigerian Medical Association, Rivers State, Nigeria



INTRODUCTION

Globally, it is estimated that 13% of the global burden of disease is caused by neuropsychiatric disorders¹. Mental, neurological and substance use disorders (MNS) continue to impact negatively on individuals, families and the society², especially in many African countries that are categorised as low and middle income countries (LMICs). The burden of MNS in Africa remains a challenge for the health systems of many of the countries on the continent leading to its continued high prevalence. Also, the variations in the way health systems in Africa perform affect mental health care delivery. These variations are a result of the structure of the health systems in many countries and how the many actors in health care delivery³ tend to function without coherence. This is because multiple health providers exist³ and this further makes mental health systems and delivery more complex. In comparison, the mental health systems of high income countries are better placed to deliver mental health services than the health systems of LMICs⁴. These disparities in health systems affect mental health delivery in terms of quality of service delivery, timely delivery of the service, the health financing required, and the way the health information system is structured. These disparities are documented in the Global Burden of Disease 2010 showing that a substantial amount of the world's disease burden comes from mental, neurological, and substance use disorders (MNS)⁵.

In Africa, there is a treatment gap of up to 90% for MNS⁵. This treatment gap is a result of the weak health systems of African countries, and this affects how mental health is delivered and sustained. Although mental health care is capital intensive, programmes geared at reducing the burden of mental health thrive in well-developed health systems compared to weak health systems. In Africa, the burden of mental health affects families, becoming an economic burden on caregivers⁶. This is because the current health systems of many African countries cannot sustain mental health care delivery, forcing the economic burden onto families to bear the cost of care of any family member that is affected. Although a few countries such as Ethiopia and South Africa are integrating mental health care into their primary health care system⁶, the burden remains high in many countries on the continent leading to a significant number of premature deaths². The health workforce for mental health in Africa is insufficient⁸; while poor funding for mental health is also a huge challenge⁹. Myths and the stigma associated with mental health further inhibit health interventions towards reducing the burden on the household and



community¹⁰. In addition, because mental health education remains low and health literacy on mental health is not openly acceptable due to stigma and other cultural beliefs. The use of an appropriate community engagement approach in mental health care delivery is lacking¹¹. In addition, there are no effective and efficient health information systems in place, making the treatment for mental illnesses remain expensive especially for the poor. These numerous challenges affect the mental health system across the continent.

The state of Health systems in Africa

Health systems in Africa are among the least developed in the world¹². This is because many of these countries cannot build and sustain their health systems relying on internal resources without external support. The poor state of health systems in Africa is a result of poor funding for health, poor governance structures, internal political and civil conflict, continued under development, and planning for health care and continued brain drain leaving many African countries with insufficient human resources for health¹³.

Health data/indicators in African countries are poor and among the worst in the world⁷. The maternal mortality ratio across sub-Saharan Africa (SSA) is the highest in the world¹⁴ at 550 deaths per 100,000 in 2015. There is a massive shortage of health workers in SSA which is a major public health challenge¹⁵⁻¹⁷. In addition, the high out-of-pocket expenditure (OOPE) for health care in many African countries reflects that the health systems are grossly underfunded or subsidised by the government, making its citizens to pay for health care services¹⁸⁻²¹.

The poor state of Africa's health systems is one reason why mental health care development has been slow. The state of Africa's health systems has resulted in poor quality of care²²⁻²³. This poor quality continues to affect the health outcomes of Africans. For example, the high rate of infant and child mortality is a result of poor quality of care. Also, the skewed distribution of the health workforce in Africa further affects health outcomes. People in rural areas are grossly affected compared to those in urban areas, yet across many countries there is a lack of adequate and appropriately skilled health workforce²⁴. In terms of health financing, many African country's budgets for health are inadequate, despite WHO recommendations for countries not to spend less than 5% of their total national budgets on health²⁵ Africa's health systems remain weak as



the lack of political will and commitment from its leadership to develop health systems continue to limit its growth and development.

The state of mental Health systems in Africa

In Africa the burden of mental health remains a major challenge and is on the increase²⁶. In comparison to other health priorities on the continent, mental health services are poorly developed²⁷. This silent killer as it is commonly referred to, continues to burden many of the continent's health systems as they find it difficult to tackle. Africa has inadequate human resources for mental health at 1.4 health workers per 100,000 to 9.0 per 100,000 the global average²⁶. Hence, the problem of mental health in Africa is real as it affects families and communities. Studies on mental health in Africa have been conducted to address common mental disorders²⁸⁻²⁹, schizophrenia³⁰, post-traumatic stress disorders³¹⁻³², depression³³⁻³⁵, anxiety³⁶⁻³⁹, suicidal ideation and suicide⁴⁰⁻⁴², mental, neurological and substance abuse⁵, knowledge and attitude of mental illness, prevalence of mental health disorders, epidemiology of substance use and substance use disorders, major depressive disorders in the elderly, multiple pains and mental health, integrating mental health into primary care, traditional and complementary systems of medicine in treating mental health problems, quality care for people with severe mental disorders and mental health care delivery⁴³⁻⁵⁰. These studies conducted across different countries, reflect the magnitude of mental health care delivery as a continental challenge. Yet the burden is on the increase as mental health policies, laws and legislations across many countries are old and not relevant to address the contemporary realities of the mental health challenge on the continent.



Table 1: Mental health workforce per population in selected countries

Uganda	Mental health workforce per population	1.13 per 100,000 population
Kenya	Mental health workforce ratio	1: 528,571 per population

Table 2: Psychiatrist to population ration in selected countries

Nigeria	Psychiatrist to population ratio	0.09/100,000
Kenya	Psychiatrist to population ratio	63 psychiatrists/33.3 million
Ghana	Psychiatrist to population ratio	1 per 1.5 million population

For example, in Nigeria, the existing mental health legislation is the Lunacy Act of 1958 which emanated from the lunacy ordinance of 1916⁵¹. More so, psychiatric services are not readily available in primary health care centres (PHC) because of a shortage of a psychiatric health workforce¹³. In Nigeria, there is a psychiatrist to population ratio of 0.09/100,000⁵². In Uganda, the data shows that the health workforce for mental health is 1.13 per 100,000 population.⁵³ In Kenya, the statistics state that the ratio in 2006 was 1:528,571. This meant that only 63 psychiatrists were available for a population of 33.3 million people⁵⁴. While in Ghana there are around 16 psychiatrists which is 1 per 1.5 million population⁵⁵. In other parts of Africa, the shortage of psychiatric health workers and services is commonplace. This challenge which stems from the weak health systems that operate in many countries continues to affect mental health care delivery on the continent. Hence, there is a need to strengthen health systems in Africa using the WHO framework and other proven strategies that are indigenous in their approach to building a more sustainable mental health system to address the problem.

Strengthening mental health systems in Africa using the WHO health systems framework

The framework describes the building blocks required to develop any given health system. These building blocks are essential elements that must be considered in the quest to build a



health system. The WHO health systems framework has been widely applied to improve health systems globally and in facilities⁵⁶⁻⁵⁷. The elements of the framework are health financing, health workforce, leadership and governance, health information systems, health service delivery, medicines, vaccines, and technology.

Health financing

Health financing is a requisite part of strengthening any health system. Adequate health financing for mental health care delivery will make services more efficient and effective. That is, mental health services will be readily available to health users. Health financing significantly impacts universal health coverage⁵⁸ and health systems development³. To strengthen mental health care delivery in Africa, health financing must be given utmost priority. A new funding mechanism must be initiated to improve mental health care delivery. Public-private partnerships funding for mental health care will improve delivery across Africa. Mental health as a non-communicable chronic disease requires increased health financing, care, and management of people affected by mental illness in Africa.

Health workforce

The health workforce is an important element in strengthening health systems. However, this is lacking for mental health in Africa⁵⁹. But with increased training in psychiatry, the challenge of inadequate health workforce for mental health will be addressed in Africa. That is, training of medical doctors, nurses, health educators, and public health specialists in psychiatry will help to address the lack of mental health workforce in Africa.

Health Service delivery

Reported studies state that health service delivery is of poor quality, inefficiency and ineffectiveness in many African countries⁶⁰⁻⁶³. Therefore, when there is an improvement in service delivery this will positively impact the quality of mental health care delivery in Africa. The quality of health care is a major predictor which influences people to seek and utilise the health care treatment where it is available³. Also, with improved quality of mental health care services especially in primary health centres (PHC) across rural areas and districts of Africa, more people will have access to a professional psychiatry service at a subsidised rate or no cost at all.



Leadership and governance

Transformational leadership and governance structures for health are lacking in Africa. Although many countries have a Ministry of Health which serves as the central coordinating body of public health, the support of the political leadership is needed for the Ministries of Health to thrive. This is because politics will affect the health sector and health outcomes⁶⁴⁻⁶⁵. However, the political will of many African governments to commit at least 15% of their budgetary allocation to health is a major challenge. Many governments in Africa allocate less than 5% to public spending on health. The leadership and governance structure for health in Africa remains weak. This, if not addressed, will continue to negatively affect health outcomes across the continent. As such, the quality of leadership and governance is an important structural determinant of health systems performance⁶⁶. Therefore, for mental health care delivery to be of good quality, the leadership and governance structures must function effectively. Also, by adopting a systematised approach to mental health leadership⁶⁷, mental health delivery will be more effective and efficient.

Health information system

The health information system (HIS) will be relevant for mental health data generation, data compilation, data analysis and synthesis, and for effective communication and use⁶⁸. In Africa, the health information system can be revamped to leverage on advancement in information technology to improve mental health care delivery. The government can collaborate with existing and emerging information and technology companies to design mental health information databases in each country. These will in turn improve the HIS for mental health care delivery. Each patient and person will have their health profile stored in a database located in the Cloud, such that wherever they require mental attention in their respective countries, there is readily available health information on each person. Improving the health information system in Africa will have a positive impact on improving mental health care delivery.

Medicine, vaccine, and technology

Having the right medicines readily available in hospitals and pharmacies will help to improve the treatment of people that suffer from mental health-related illnesses. Adding drugs for the treatment of mentally ill persons to the essential drugs list of WHO is a step in the right direction. More so, the local production of drugs for the treatment of mentally ill persons will increase its availability at an affordable price. Pharmaceutical companies can be made to



understand that their engagement in the production of drugs for treating mental patients is a form of corporate social responsibility (CSR) and their contribution to reducing the burden of mental health in Africa.

As seen in Figure 1 the various aspects of the WHO health systems framework can be used to strengthen mental health care delivery in Africa. With sufficient health financing for health care delivery, mental health will invariably benefit as more funds will be made available to build infrastructure, train the needed mental health workforce and remunerate them adequately. Also, with sufficient funding for mental health, the burden of MNS will be significantly reduced in Africa. With increased financing, the health workforce will be better trained and well paid on the job. This will lead to an increase in the number of psychiatrists in Africa. The health workforce for mental health in Africa can benefit from further training to advance their careers and make them more knowledgeable and better equipped to perform optimally on their jobs. With good training for the health workforce, the health service delivery will be improved. Hence, the quality of mental health care service delivery will be effective and efficient to meet the patient's needs. Leadership and governance for health is at the heart of what makes the health system work for the public. Having a functional leadership that is experienced and specialised in mental health will facilitate developing the right approach to tackling mental health challenges in Africa. The revitalisation of existing health information systems to cater for mental health in Africa is a step in the right direction that is needed to tackle the burden of mental health in the continent. That is, having an up-to-date health information system will benefit mental health care delivery. Lastly, with the required medicines, vaccines and technology, mental health challenges in Africa will be reduced, properly managed and addressed. By making medicines for the treatment of patients affordable based on the right technology, the challenges and burden of mental health in Africa will be addressed.

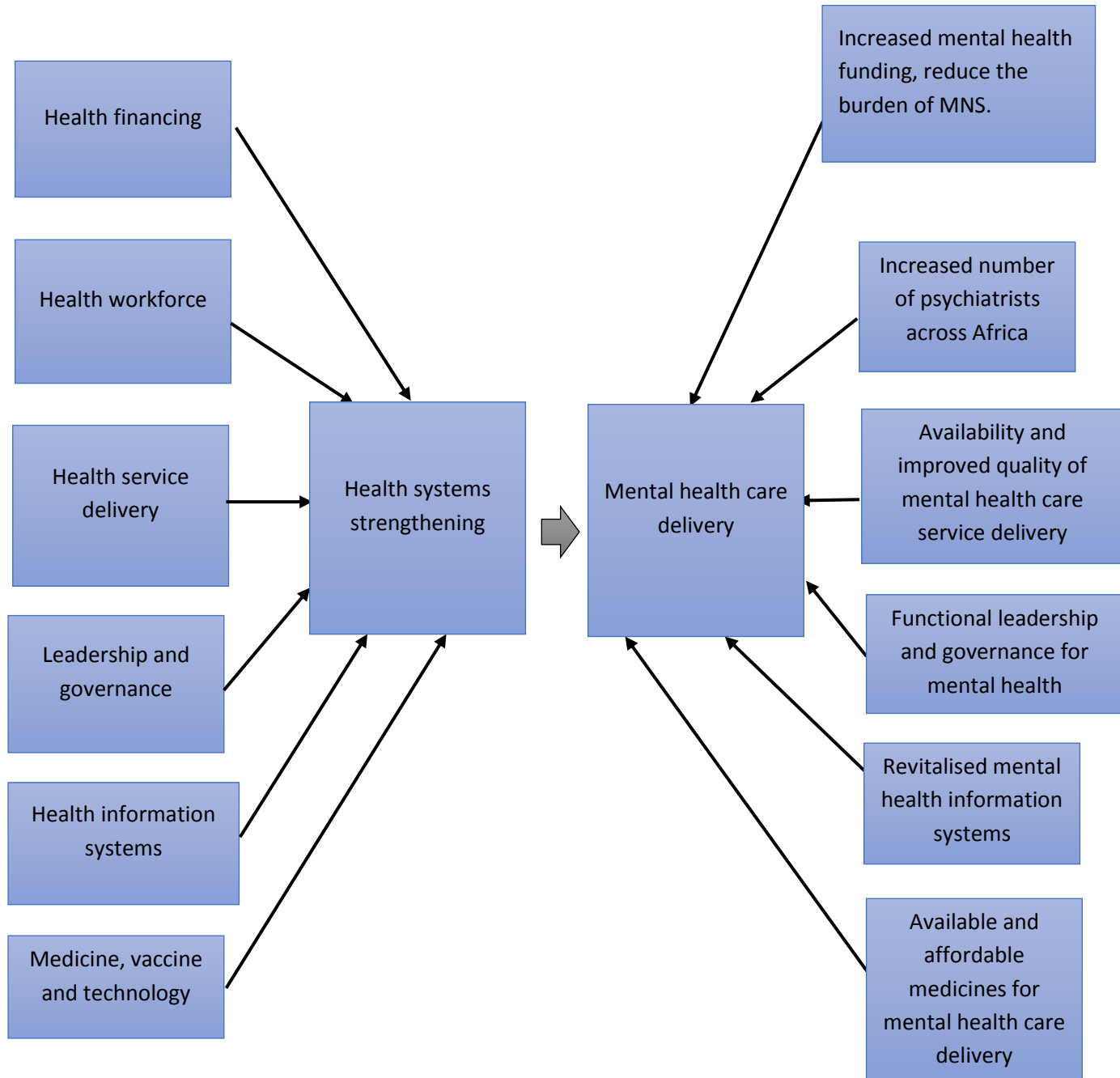


Figure 1: Implications of a health systems approach to strengthening mental health care delivery



Other useful approaches for strengthening mental health care delivery in Africa

Vertical and horizontal community engagement approaches

The use of both horizontal and vertical community engagement approaches is another way to engage communities on mental health issues that affect them¹¹. In South Africa, community engagement has been used in mental health⁶⁹. In communities across Africa, community engagement will be beneficial to improve mental health care delivery.

Leveraging on community health workers (CHW)

Community health workers (CHW) are a useful community resource that can be leveraged to reduce the burden of mental health care in Africa. These actors of health are closest to the people socially in rural communities. The use of CHW as a public health intervention strategy has been most effective in HIV/AIDs⁷⁰⁻⁷¹, and family planning⁷². Training of willing members of the community on the basic care and management of mentally ill persons will be highly effective. Also, leveraging existing community networks and support groups is an essential social capital that can be used to improve mental health care delivery at the grass-root level in many African countries.

Partnership with indigenous health care providers

Orthodox health care practitioners and traditional health care providers working together is another useful way to improve mental health care delivery across Africa. This strategy is not without its many challenges, yet this combined approach has been adopted across Africa to address health issues⁷³⁻⁷⁴, and has been beneficial. This is because people in local communities patronise the services of traditional healers and diviners on health-related challenges, these groups have become the first point of contact for many people in rural communities. Therefore, partnering with them will be beneficial to the people and the entire mental health system in Africa.

Public-private partnerships for mental health care delivery

Also, through public-private partnerships an improvement in mental health care delivery can be realised in Africa. Public-private partnership for health has been used to promote population health in a different context⁷⁵.



CONCLUSION

Strengthening health systems in Africa for improved mental health care delivery using the WHO framework and other useful indigenous measures is possible. These combined approaches can improve the nature and quality of mental health care delivery systems in Africa. They can also improve the existing mental health care services to make them more efficient, and effective in meeting the needs of the people. With a health system that is strengthened, the state of mental health delivery across Africa will be improved.

ACKNOWLEDGEMENTS

The research reported in this publication was supported by the Fogarty International Center and National Institute of Mental Health, of the National Institutes of Health under Award Number D43 TW010543. The content is solely the responsibility of the author and does not necessarily represent the official views of the National Institutes of Health.

Competing Interests

The authors declare that they have no competing interests.

Authors' contributions

Conceptualization: SAL; Writing – original draft: SAL, AO, DH; Writing – review & editing: All authors

REFERENCES

1. World Health Organization (WHO). The global burden of disease--2004 update. WHO: Geneva; Switzerland. 2008a.
2. Patel V, Chisholm D, Dua T, Laxminarayan R, Medina-Mora ME, editors. Mental, Neurological, and Substance Use Disorders: Disease Control Priorities, Third Edition (Volume 4). Washington (DC): The International Bank for Reconstruction and Development / The World Bank; 2016 Mar 14.
3. Lawal SA. Health sector development and sustainability in Nigeria using the resilient health systems framework. *Ibadan J. Soc.* 2016; 4(1):81-115.



4. Basu S, Andrews J, Kishore S, Panjabi R, Stuckler D. Comparative performance of private and public healthcare systems in low- and middle-income countries: a systematic review. *PLoS Med.* 2012; 9(6):e1001244. DOI: 10.1371/journal.pmed.1001244.
5. Whiteford HA, Ferrari AJ, Degenhardt L, Feigin V, Vos T. The global burden of mental, neurological, and substance use disorders: an analysis from the Global Burden of Disease Study 2010. *PLoS One.* 2015; 10(2): e0116820. <https://doi.org/10.1371/journal.pone.0116820>.
6. Addo R, Agyemang SA, Tozan Y, Nonvignon J. Economic burden of caregiving for persons with severe mental illness in sub-Saharan Africa: A systematic review. *PLoS One.* 2018 Aug 9;13(8):e0199830. doi: 10.1371/journal.pone.0199830. PMID: 30092073; PMCID: PMC6084810.
7. Hanlon C, Luitel NP, Kathree T, Murhar V, Shrivasta S, Medhin G, Ssebunnya J, Fekadu A, Shidhaye R, Petersen I, Jordans M, Kigozi F, Thornicroft G, Patel V, Tomlinson M, Lund C, Breuer E, De Silva M, Prince M. Challenges and opportunities for implementing integrated mental health care: a district level situation analysis from five low- and middle-income countries. *PLoS One.* 2014; 18;9(2):e88437. DOI: 10.1371/journal.pone.0088437.
8. Afriyie DO, Nyoni J, Ahmat A. The state of strategic plans for the health workforce in Africa. *BMJ Global Health.* 2019;4:e001115.
9. Abdulmalik J, Olayiwola S, Docrat S, Lund C, Chisholm D, Gureje O. Sustainable financing mechanisms for strengthening mental health systems in Nigeria. *Int J Ment Health Syst.* 2019;13:38. doi: 10.1186/s13033-019-0293-8.
10. Lawal SA, Ogunniyi A, Henderson D. A qualitative pilot study on the causes and cultural interpretations of mental health in rural Nigeria. Presented at Harvard Global Health Institute, Global Mental Health Harvard Initiative 2nd Annual Open Day. Harvard Global Health Institute, Cambridge, MA, USA, April 13, 2019.
11. Lawal SA, Henderson D, Ogunniyi A. A qualitative analysis on community engagement approaches and primary mental health care delivery in rural Nigeria. Presented at 10th Anniversary Conference (Global Mental Health: Research without Borders). Natcher Conference Center, National Institutes of Health (NIH), Bethesda, Maryland, USA, April 8-9 2019.
12. Deaton AS, Tortora R. People in sub-Saharan Africa rate their health and health care among the lowest in the world. *Health Aff.* 2015; 34(3):519–527. <https://doi.org/10.1377/hlthaff.2014.0798>.



ISSN 1597-4292

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13. Lawal SA Human resources for health in sub-Saharan Africa: Issues, challenges, and possible solutions. *Lapai J. Eco.* 2019; 3(2):28-42.
14. Ruktanonchai CW, Nilsen K, Alegana VA, Bosco C, Ayiko R, Seven Kajeguka AC, Matthews Z, Tatem AJ. Temporal trends in spatial inequalities of maternal and newborn health services among four east African countries, 1999-2015. *BMC Public Health.* 2018;18(1):1339. doi: 10.1186/s12889-018-6241-8.
15. Naicker S, Eastwood JB, Plange-Rhule J, Tutt RC. Shortage of healthcare workers in sub-Saharan Africa: a nephrological perspective. *Clin. Nephrol.* 2010;74 Suppl 1:S129-33.
16. Ntuli ST, Maboya E. Geographical distribution and profile of medical doctors in public sector hospitals of the Limpopo Province, South Africa. *Afri. J. Pri. Health Care Fam. Med.* 2017; 9(1):e1-e5. <https://doi.org/10.4102/phcfm.v9i1.1443>
17. George A, Blaauw D, Thompson J, Green-Thompson L. Doctor retention and distribution in post-apartheid South Africa: tracking medical graduates (2007–2011) from one university. *Hum. Resour. Health.* 2019; 17:100. <https://doi.org/10.1186/s12960-019-0439-4>
18. Burden of catastrophic healthcare expenditure in sub-Saharan Africa. *PharmacoEcon Outcomes News* 863, 5; 2020. <https://doi.org/10.1007/s40274-020-7159-9>
19. Attia-Konan AR, Oga ASS, Touré A, Kouadio KL. Distribution of out of pocket health expenditures in a sub-Saharan Africa country: evidence from the national survey of household standard of living, Côte d'Ivoire. *BMC Res Notes.* 2019;12(1):25. doi: 10.1186/s13104-019-4048-z.
20. Beogo I, Huang N, Gagnon MP, Amendah DD. Out-of-pocket expenditure and its determinants in the context of private healthcare sector expansion in sub-Saharan Africa urban cities: evidence from household survey in Ouagadougou, Burkina Faso. *BMC Res Notes.* 2016;9:34. doi: 10.1186/s13104-016-1846-4.
21. Oladosu AO, Chanimbe T, Anaduaka US. Effect of public health expenditure on health outcomes in Nigeria and Ghana. *Health Policy Open.* 2022;3:100072. <https://doi.org/10.1016/j.hpopen.2022.100072>
22. Azevedo, M.J. (2017). The State of Health System(s) in Africa: Challenges and Opportunities. In: Historical Perspectives on the State of Health and Health Systems in Africa, Volume II. African Histories and Modernities. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-319-32564-4_1



23. Maphumulo WT, Bhengu BR. Challenges of quality improvement in the healthcare of South Africa post-apartheid: A critical review. *Curationis*. 2019; 42(1):e1–e9. <https://doi.org/10.4102/curationis.v42i1.1901>
24. Anyangwe SC, Mtonga C. Inequities in the global health workforce: the greatest impediment to health in sub-Saharan Africa. *Int. J. Environ. Res*. 2007; 4(2):93-100.
25. Savedoff WD. What should a country spend on health care? *Health Aff (Millwood)*. 2007; 26(4):962-70. doi: 10.1377/hlthaff.26.4.962. PMID: 17630438.
26. Sankoh O, Sevalie S, Weston M. Mental health in Africa. *Lancet Glob Health*. 2018; 6(9):e954-e955. doi: 10.1016/S2214-109X(18)30303-6. PMID: 30103990.
27. Okasha A. Mental health in Africa: the role of the WPA. *World Psychiatry*. 2002; 1(1):32–35.
28. Charlson FJ, Diminic S, Lund C, Degenhardt L, Whiteford H.A. Mental and substance use disorders in sub-Saharan Africa: Predictions of epidemiological changes and mental health workforce requirements for the Next 40 Years. *PLoS One*. 2014;9(10): e110208. <https://doi.org/10.1371/journal.pone.0110208>.
29. Hunduma G, Girma M, Digaffe T, Weldegebreal F, Tola A. Prevalence and determinants of common mental illness among adult residents of Harari Regional State, Eastern Ethiopia. *Pan Afri. Med. J*. 2017;28:262. [doi: 10.11604/pamj.2017.28.262.12508]
30. Purgato M, Adams C, Barbui C. Schizophrenia trials conducted in African countries: a drop of evidence in the ocean of morbidity?. *Int. J. Ment. Health Syst*. 2012; 6(1):9. <https://doi.org/10.1186/1752-4458-6-9>
31. Musisi S. Mass trauma and mental health in Africa. *Afr. Health Sci*. 2004; 4(2): 80–82.
32. Atwoli L, Stein DJ, Williams DR, Mclaughlin KA, Petukhova M, Kessler RC, Koenen KC. Trauma and posttraumatic stress disorder in South Africa: analysis from the South African Stress and Health Study. *BMC Psychiatry*. 2013; 13:182. <https://doi.org/10.1186/1471-244X-13-182>
33. Thapa SB, Martinez P, Clausen T. Depression and its correlates in South Africa and Ghana among people aged 50 and above: Findings from the WHO Study on global AGEing and adult health. *J Psychiatry*. 2014; 17(6):1000167. doi: 10.4172/1994-8220.1000167.
34. Duthé G, Rossier C, Bonnet D, Soura, AB, Corker J. Mental health and urban living in sub-Saharan Africa: major depressive episodes among the urban poor in Ouagadougou, Burkina Faso. *Popul Health Metrics*. 2016; 14:18. <https://doi.org/10.1186/s12963-016-0084-2>



35. Mayston R, Frissa S, Tekola B, Hanlon C, Prince M, Fekadu A. Explanatory models of depression in sub-Saharan Africa: Synthesis of qualitative evidence. *Soc. Sci. Med.* 2020; 246(112760): 1-13. <https://doi.org/10.1016/j.socscimed.2019.112760>.
36. Sweetland AC, Belkin GS, Verdelli H. Measuring depression and anxiety in sub-Saharan Africa. *Depress Anxiety.* 2014; 31(3):223–232. <https://doi.org/10.1002/da.22142>
37. Ojagbemi A, Owolabi M, Akinyemi R, Arulogun O, Akinyemi J, Akpa O, Sarfo FS, Uvere E, Saulson R, Hurst S, Ovbiagele B. Prevalence and predictors of anxiety in an African sample of recent stroke survivors. *Acta Neurol. Scand.* 2017; 136(6): 617-623. <https://doi.org/10.1111/ane.12766>Citations: 10
38. Nel C, Augustyn L, Bartman N, Koen M, Liebenberg M, Naudé J, Joubert G. Anxiety disorders: Psychiatric comorbidities and psychosocial stressors among adult outpatients. *S. Afr. J. Psych.* 2018; 24. doi:<https://doi.org/10.4102/sajpsychiatry.v24i0.1138>
39. Kuringe E, Materu J, Nyato D, Majani E, Ngeni F, Shao A, et al. Prevalence and correlates of depression and anxiety symptoms among out-of-school adolescent girls and young women in Tanzania: A cross-sectional study. *PLoS One.* 2019;14(8):e0221053. <https://doi.org/10.1371/journal.pone.0221053>
40. Page RM, West JH. Suicide ideation and psychosocial distress in sub-Saharan African youth. *Am. J. Health Behav.* 2011; 35(2):129-141. doi: <https://doi.org/10.5993/AJHB.35.2.1>.
41. Mars B, Burrows S, Hjelmeland H, Gunnell D. Suicidal behaviour across the African continent: a review of the literature. *BMC Public Health*, 2014; 14:606. <https://doi.org/10.1186/1471-2458-14-606>.
42. Amare T, Woldeyhanes SM, Haile K, Yeneabat, T. Prevalence and associated factors of suicide ideation and attempt among adolescent high school students in Dangila Town, Northwest Ethiopia. *Psychiatry J.* 2018; Article ID 7631453. <https://doi.org/10.1155/2018/7631453>.
43. Gureje O, Lasebikan VO, Ephraim-Oluwanuga O, Olley BO, Kola L. Community study of knowledge of and attitude to mental illness in Nigeria. *Br. J. Psychiatry.* 2005 May;186:436-41. doi: 10.1192/bjp.186.5.436.
44. Gureje O, Lasebikan VO, Kola L, Makanjuola VA. Lifetime and 12-month prevalence of mental disorders in the Nigerian Survey of Mental Health and Well-Being. *Br. J. Psychiatry.* 2006 May;188:465-71. doi: 10.1192/bjp.188.5.465.



45. Gureje O, Kola L, Afolabi E. Epidemiology of major depressive disorder in elderly Nigerians in the Ibadan Study of Ageing: a community-based survey. *Lancet*. 2007;370(9591):957-64. doi: 10.1016/S0140-6736(07)61446-9.
46. Gureje O, Degenhardt L, Olley B, Uwakwe R, Udofia O, Wakil A, Adeyemi O, Bohnert KM, Anthony JC. A descriptive epidemiology of substance use and substance use disorders in Nigeria during the early 21st century. *Drug Alcohol Depend*. 2007;91(1):1-9. doi: 10.1016/j.drugalcdep.2007.04.010.
47. Gureje O, Von Korff M, Kola L, Demyttenaere K, He Y, Posada-Villa J, Lepine JP, Angermeyer MC, Levinson D, de Girolamo G, Iwata N, Karam A, Guimaraes Borges GL, de Graaf R, Browne MO, Stein DJ, Haro JM, Bromet EJ, Kessler RC, Alonso J. The relation between multiple pains and mental disorders: results from the World Mental Health Surveys. *Pain*. 2008;135(1-2):82-91. doi: 10.1016/j.pain.2007.05.005.
48. Gureje, O, Abdulmalik J, Kola L, Musa E, Yasamy MT, Adebayo K. Integrating mental health into primary care in Nigeria: report of a demonstration project using the mental health gap action programme intervention guide. *BMC Health Serv Res*. 2015; 15:242. doi: 10.1186/s12913-015-0911-3.
49. Gureje O, Nortje G, Makanjuola V, Oladeji B, Seedat S, Jenkins R. The role of global traditional and complementary systems of medicine in treating mental health problems. *Lancet Psychiatry*. 2015;2(2):168-177. doi: 10.1016/S2215-0366(15)00013-9.
50. Gureje, O. Oladeji, BD. Quality care for people with severe mental disorders in low-resource settings. *Lancet Psychiatry*. 2022; 9(1):3-5. doi: 10.1016/S2215-0366(21)00438-7.
51. Ogunlesi AO, Ogunwale A. Mental health legislation in Nigeria: current leanings and future yearnings. *Int. Psychiatry*. 2012; 9(3):62-64.
52. Nwaopara UA. Doctor to patient ratio and infrastructure gap in a psychiatric hospital in oil-rich Eket, Nigeria. *J Psychiatry*. 2016; 19:356. DOI:10.4172/2378-5756.1000356
53. Kigozi F, Ssebunnya J, Kizza D, Cooper S, Ndyabangi S; Mental Health and Poverty Project. An overview of Uganda's mental health care system: results from an assessment using the world health organization's assessment instrument for mental health systems (WHO-AIMS). *Int J Ment Health Syst*. 2010; 4(1):1. doi: 10.1186/1752-4458-4-1.
54. Ndeti DM, Ongecha FA, Mutiso V, Kuria M, Khasakhala LI, Kokonya DA. The challenges of human resources in mental health in Kenya. *S. Afr. Psych Rev*. 2007; 10:33-36.



55. Eaton J, Ohene S. Providing Sustainable Mental Health Care in Ghana: A Demonstration Project. In: Forum on Neuroscience and Nervous System Disorders; Board on Health Sciences Policy; Board on Global Health; Institute of Medicine; National Academies of Sciences, Engineering, and Medicine. Providing Sustainable Mental and Neurological Health Care in Ghana and Kenya: Workshop Summary. Washington (DC): National Academies Press (US). 2016. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK350318/>
56. World Health Organization (WHO). Everybody business: strengthening health systems to improve health outcomes: WHO's framework for action. WHO: Geneva; Switzerland. 2007.
57. Manyazewal T. Using the World Health Organization health system building blocks through a survey of healthcare professionals to determine the performance of public healthcare facilities. Archives of public health = Archives belges de sante publique. 2017; 75:50. <https://doi.org/10.1186/s13690-017-0221-9>
58. Uzochukwu BS, Ughasoro MD, Etiaba E, Okwuosa C, Envuladu E, Onwujekwe OE. Health care financing in Nigeria: Implications for achieving universal health coverage. *Niger, J. Clin. Pract.* 2015;18(4):437-444. <https://doi.org/10.4103/1119-3077.154196>
59. World Health Organization (WHO). Integrating mental health into primary care: a global perspective. Geneva: World Health Organization. 2008b.
60. Azevedo MJ. The state of health system(s) in Africa: Challenges and opportunities. In: Historical perspectives on the state of health and health systems in Africa, Volume II. African Histories and Modernities. Palgrave Macmillan, Cham. 2017. https://doi.org/10.1007/978-3-319-32564-4_1
61. Oleribe OO, Momoh J, Uzochukwu BS, Mbofana F, Adebisi A, Barbera T, Williams R, Taylor-Robinson SD. Identifying Key Challenges Facing Healthcare Systems In Africa And Potential Solutions. *Int J Gen Med.* 2019; 12:395-403. doi: 10.2147/IJGM.S223882.
62. Malakoane B, Heunis JC, Chikobvu P, Kigozi NG, Kruger WH. Public health system challenges in the Free State, South Africa: a situation appraisal to inform health system strengthening. *BMC Health Serv Res.* 2020; 20(1):58. doi: 10.1186/s12913-019-4862-y..
63. Murewanhema G, Makurumidze R. Essential health services delivery in Zimbabwe during the COVID-19 pandemic: perspectives and recommendations. *Pan Afr Med J.* 2020; 35(Suppl 2):143. doi: 10.11604/pamj.supp.2020.35.143.25367.
64. Aregbeshola BS. Enhancing political will for universal health coverage in Nigeria. *MEDICC Review.* 2017; 19(1): 42-26. <https://www.scielosp.org/pdf/medicc/2017.v19n1/42-46/en>



65. Murunga VI, Musila NR, Oronje RN, Zulu EM. The role of political will and commitment in improving access to family planning: Case Studies from Eastern and Southern Africa. Session 067. Evaluation of Family Planning/Reproductive Health policy. XXVII International Population Conference of the International Union for the Scientific Study of Population, Busan, Korea, 26-31 August, 2013.
66. Olafsdottir AE, Reidpath DD, Pokhrel S, Allotey P. Health systems performance in sub-Saharan Africa: governance, outcome, and equity. *BMC Public Health*. 2011;11:237. <https://doi.org/10.1186/1471-2458-11-237>
67. Janse van Rensburg BJ, Bhugra D, Saxena S. WPA-WHO Africa Mental Health Forum - recommendations and position statement. *World Psychiatry*. 2018; 17(1):116-117. <https://doi.org/10.1002/wps.20510>.
68. World Health Organization (WHO). Health information systems. Retrieved on 23rd May 2020, from https://www.who.int/healthinfo/systems/WHO_MBHSS_2010_section3_web.pdf. 2010.
69. Petersen I, Baillie K, Bhana A, Mental Health and Poverty Research Consortium. Understanding the benefits and challenges of CE in the development of community mental health services for common mental disorders: Lessons from a case study in rural South African sub-district site. *Transcult. Psychiatry*. 2012; 49(3-4):418-437.
70. Kenya S, Jones J, Arheart K, Kobetz E, Chida N, Baer S, Powell A, Symes S, Hunte T, Monroe A, Carrasquillo O. Using community health workers to improve clinical outcomes among people living with HIV: a randomized controlled trial. *AIDS Behav*. 2013; 17(9):2927-2934. <https://doi.org/10.1007/s10461-013-0440-1>
71. Busza J, Dauya E, Bandason T, Simms V, Chikwari CD, Makamba M, Mchugh G, Munyati S, Chonzi P, Ferrand, RA. The role of community health workers in improving HIV treatment outcomes in children: lessons learned from the ZENITH trial in Zimbabwe. *Health Policy Plan*. 2018; 33(3):328-334. <https://doi.org/10.1093/heapol/czx187>
72. Brooks MI, Johns NE, Quinn AK, Boyce SC, Fatouma IA, Oumarou AO, Sani A, Silverman JG. Can community health workers increase modern contraceptive use among young married women? A cross-sectional study in rural Niger. *Reproductive Health*. 2019; 16:38. <https://doi.org/10.1186/s12978-019-0701-1>



ISSN 1597-4292

Strengthening health care systems for better mental health care delivery, Lawal et al.

73. Adekannbi JO. Relationship between orthodox and traditional medical practitioners in the transmission of traditional medical knowledge in Nigeria. *Health Info Libr J.* 2018; 35(2):130-140.
74. Ameade EPK, Ibrahim M, Ibrahim HS, Habib RH, Gbedema SY. Concurrent use of herbal and orthodox medicines among residents of Tamale, Northern Ghana, who patronize hospitals and herbal clinics. *Evid. -based Complement. Altern.* 2018; Article ID 1289125:8. <https://doi.org/10.1155/2018/1289125>
75. Parker LA, Zaragoza GA, Hernández-Aguado I. Promoting population health with public-private partnerships: Where's the evidence? *BMC Public Health.* 2019; 19: 1438. <https://doi.org/10.1186/s12889-019-7765-2>.