ABSTRACT

Colonialism and the Development of the Tanzanian Health System

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This thesis examines Colonialism's lasting effects on the formation of the Tanzanian Healthcare system. Identified key characteristics of the Colonial Health Model include regional specialization, direct taxation, hospital-based care, and physician leadership. The effects of these characteristics are evaluated considering post-independence domestic policies and international health movements, including the 1978 Alma Ata Declaration and the 1993 World Bank Report. A finding of this thesis is that an overreliance on the Colonial Health model has stifled the development of the Tanzanian Healthcare System. Three historically informed recommendations are submitted to support the development of a preventive-focused health model more in line with the 1967 Arusha Declaration and the 1969-1974 Second Tanzanian Development Plan.

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COLONIALISM AND THE DEVELOPMENT OF THE TANZANIAN HEALTH SYSTEM

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In Partial Fulfillment of the Requirements for the

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By

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TABLE OF CONTENTS

PREFACE

In April of 2016, I received a Boren Scholarship to study Swahili for 3 months domestically and for 9 months in Tanzania, where I lived near the city of Arusha and took Swahili language courses while volunteering at a local HIV/AIDS clinic. Interested in health issues, I was surprised when I spoke with Tanzanians that *UKIMWI* (HIV/AIDS) and *magonjwa yasiopewa kipaumbele* (neglected tropical diseases) were of similar prevalence as *matatizo ya sukari na shindikizo la damu* (diabetes and high blood pressure). In previous classes at Baylor, I learned about the double burden of disease issue in developing countries, high prevalence rates of both infectious and non-communicable diseases, but witnessing it first-hand surprised me. It sent me seeking to define what was the largest health issue in Tanzania, and in this search, I stumbled upon an illuminating quote from the 2010 Global Burden of Disease by the Institute for Health Metrics and Evaluations (IHME):

> The results of the [Global Burden of Disease report] study show a truism known to everyone trained in clinical practice that also applies to population health: that individuals and communities suffer from a wide range of disorders. Clinical subspecialties have emerged in modern medicine to deal with some of this complexity at the level of individual patients. One of the fundamental challenges for the global health system and for national health systems is responding to the diversity of urgent health needs for communities.[1]

Over my time in Tanzania I found this sentiment, that health issues in Tanzania are not comprised of single menaces, to be true. This understanding led me to investigate

[1] "Disability-Adjusted Life Years (DALYs) for 291 Diseases and Injuries in 21 Regions, 1990–2010: A Systematic Analysis for the Global Burden of Disease Study 2010 - ScienceDirect." Accessed April 1, 2018. https://www.sciencedirect.com/science/article/pii/S0140673612616894, 2219.

in this thesis what structural issues have plagued the Tanzanian Health System. I hope to build off this work in my professional life in healthcare, beginning with a 2-year fellowship at the Institute of Health Metrics and Evaluations at the University of Washington in September of 2018.

ACKNOWLEDGMENTS

Studying in Tanzania for 9 months provided the direction and motivation for me to complete this thesis. I would like to thank the Boren Scholarship for this opportunity and am excited to honor my commitment to public service in my future work through domestic and international health systems strengthening efforts.

I would also like to thank Dr. Sara Alexander, who provided countless feedback and help through my reading, research, and writing process. In addition, I would like to acknowledge Dr. Alan Schultz and Dr. Garrett Cook, who graciously served on my thesis examination committee.

Lastly, I would like to thank my family, especially my mother, for her endless support in my studies and professional ambitions.

CHAPTER ONE

Introduction: Tanzania and the International Community

Domestic and international developments of the 20th century have greatly influenced the Tanzanian Healthcare System. This thesis seeks to unveil these influences to advocate for historically-informed approaches to strengthening its health care system today. Beginning with German Colonialism in the 1920s and formally with British control in 1926, what would become the Tanzanian Health System has been dictated by foreigners advocating for the development of an exclusive curative-based healthcare system catering to an affluent minority. An issue with this kind of curative-based system is that it ignores the vast need for preventive-focused initiatives to combat the kind of endemic tropical diseases present in Tanzania. A kind of preventive healthcare system was pursued after Tanzanian independence by its first president, Julius Nyerere, to achieve his goal of health for all Tanzanians. International support for his plan reached its peak in the 1978 United Nation Alma Ata Declaration. Support waned beginning with the 1993 World Bank Report as international agencies began to call for increased attention toward cost-effective solutions at the expense of widespread health access. A result of this advocacy was the privatization of the Tanzanian Health System. This thesis investigates this early transition from a curative-focus system under the Colonial Administration to a focus on prevention under President Nyerere, and to a final return to curative- practices advocated by international agencies. This thesis culminations in an exploration of recommendations to support the strengthening of the Tanzanian Health System

Introduction to Tanzania

Tanzania is neither a Swahili nor an indigenous word. Instead, it derives from the country's two constituent territories of the mainland Tanganyika, which declared its independence in 1961, and the island country of Zanzibar. These two governments declared their unity and sovereignty in 1964. Before this time, two different colonial powers oversaw these territories. The Omanis had long controlled and cultivated cloves on the island of Zanzibar, while a succession of the Portuguese, Germans, and English colonizers managed areas of mainland Tanganyika (see Figure 1). In 1961, Tanganyika achieved Independence from Britain and unified with Zanzibar in 1964 to form the United Republic of Tanzania. The most important political figure in this transition was Julius Nyerere, who served as the first president to Tanzania and remained in political power from 1961 until 1985.[2]

Today, President Nyerere is still openly referred to as *baba ya taifa* (father of the nation). Important to who Nyerere is to the Tanzanian people is an understanding of the prefix that commonly accompanies his name in everyday speech *mwalimu* (teacher). The word *mwalimu* encapsulates more than the notion of a teacher; it sums the ideas of mentor, guide, and parent, which carries even more weight for the communalistic family-driven Tanzanian culture than the Western concept of a teacher.

[2] Coulson, Andrew. *Tanzania: A Political Economy*. Second Edition. Oxford, New York: Oxford University Press, 2013, 101-11

Figure 1: Colonial Tanganyika[3]

Since independence, Tanzania struggled in developing its health system, which ranked as 156 out of 191 countries in efficiency in the landmark 2000 World Health Organization ranking.[4] In an effort to understand the fragmentation of the Tanzanian health system, international health developments will be important to understand (see Figure 2).

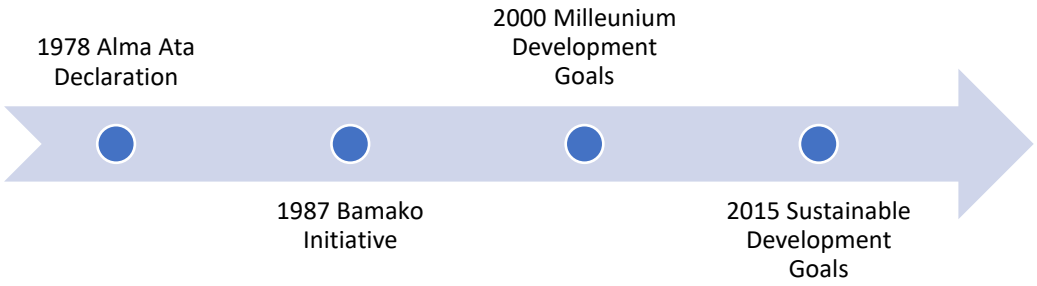

Figure 2: Timeline of International Health Developments

History of International Health Developments

[3] Retrieved From: http://www.britishempire.co.uk/images3/tanganyikamap.jpg
[4] Tandon, Ajay, Christorpher Murray, and Jeremy Lauer. "Measuring Overall Health System Performance For 191 Countries." World Health Organization, 2000. http://www.who.int/healthinfo/paper30.pdf, 20.

International health developments have had an outsized impact on the development of the Tanzanian Health System. As will be explored more in Chapters Three and Four, the foundation of the Tanzanian Health System was established under colonialism and revolved around either providing care for colonialists or for Tanzanians engaged in the growing of cash crops. Beginning in 1967, Tanzania began to formally address this health inequity by developing a governmental preventive-focused healthcare delivery system. Domestic and international pressures beginning in the 1990s led to the dismantling of this system in favor of a privatized health model charging user fees. These transitions are investigated below.

The 1978 Alma Ata Declaration.

The 1978 United Nation's Alma Ata Declaration is important to consider as it represents a turning point in international health politics by formally incorporating socialist perspectives into nations' responsibilities regarding health. A major reason for its passing was reports on how recently developed oral hydration salts could be used by rural health extension workers as an appropriate intervention for diarrheal diseases.[5] These reports questioned the need for highly-trained health professionals, and as such, informed the Alma Ata Declaration's advocacy for investments in preventive health-measures and Primary Health Care systems over curative measures to achieve its

[5] Hall, John, and Richard Taylor. "Health for All beyond 2000: The Demise of the Alma-Ata Declaration and Primary Health Care in Developing Countries | The Medical Journal of Australia," June 1, 2003. https://www.mja.com.au/journal/2003/178/1/health-all-beyond-2000-demise-alma-ata-declaration-and-primary-health-care, 2-4

recognition of health as a "fundamental human right".[6] The Alma Ata Declartion envisioned that a strong Primary Care base could greatly eliminate the need for more complex health interventions, but this position was targeted by its critics.

Soon after the Alma Ata Declaration was passed, Western countries began undermining it due to the costs and logistics of organizing fully integrated primary care systems in foreign countries. These countries instead advocated for 'Selective Primary Health Care' (SPHC) models that only supported initiatives to reducing under 5 mortality rates in developing countries. In addition to cost concerns, the Alma Ata Declaration's advocacy of rural healthcare providers was criticized as providing low-quality health services and not adequately funding second and third-tiered health centers. The source of this concern has been linked to different ideas of what healthcare is and how it should function and may be explained by the differences of disease burdens between developed and developing countries. Figures 3 and 4 depict the different current-day modern disease burden between high and low-income countries with the size of disease boxes corresponding to their relative Disability-adjusted Life Year (DALY) contributions, a standardized measurement accounting for morbidity and mortality contributions by different diseases. Blue boxes show noncommunicable diseases, red boxes correspond to infectious diseases, and green boxes depict environmental injuries, including traffic incidents and domestic violence. The shading of the boxes reflects the percent change of DALY's attributable to these diseases from 1990-2010 with darker colors showing sharper increases.

[6] Declaration of Alma-Ata International Conference on Primary Health Care, Alma-Ata, USSR, 6–12 September 1978. (2004). *Development*, 47(2), 159.

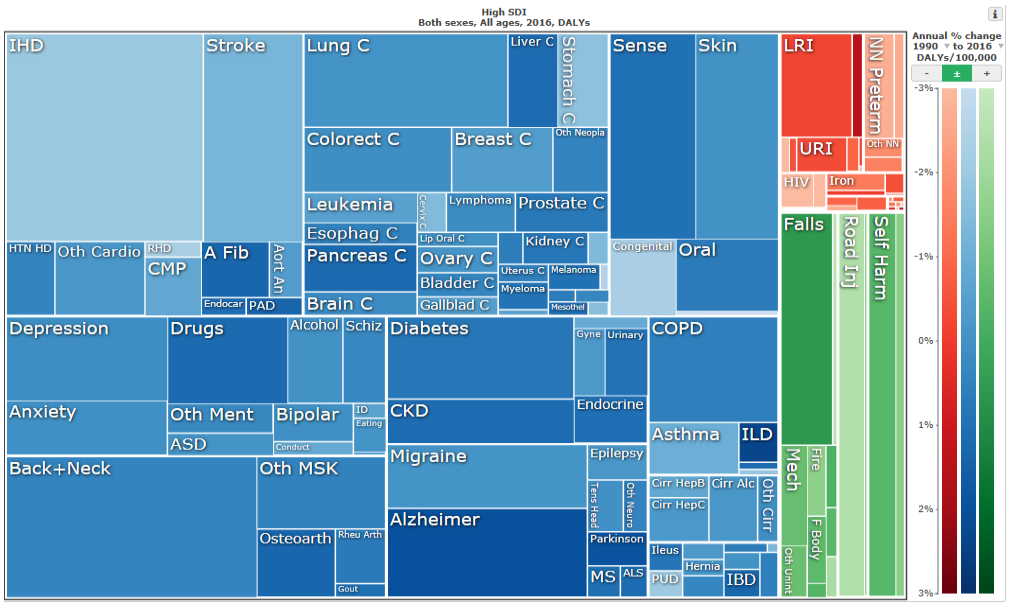

Figure 3: Burden of Disease for High-Income Countries 2016[7]

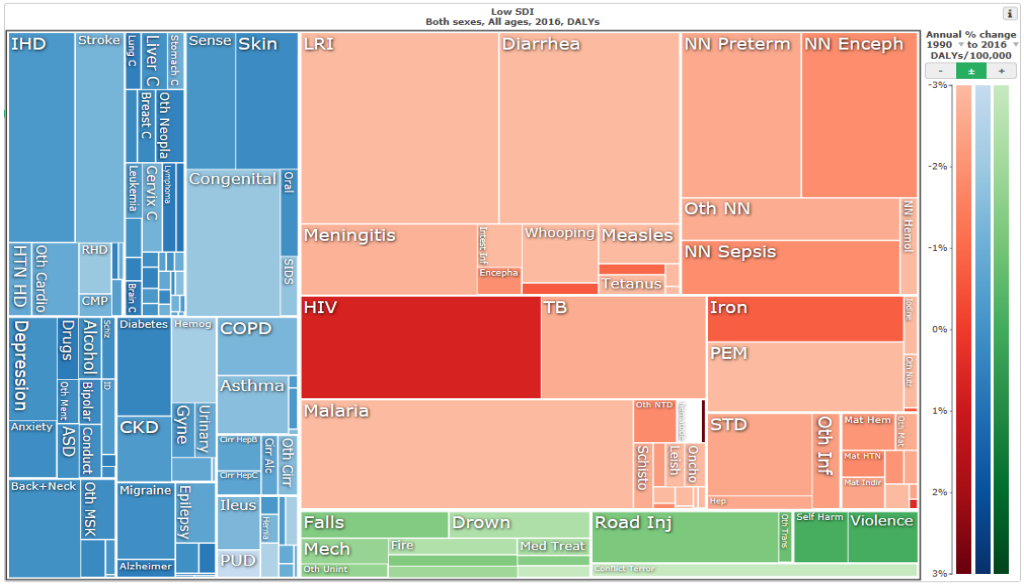

Figure 4: Burden of Disease for Low-Income Countries 2016[8]

[7] Retrieved From: http://www.healthdata.org/data-visualization/gbd-compare
[8] Retrieved From: http://www.healthdata.org/data-visualization/gbd-compare

While not directly representative of the disease burdens in the 1980s, Figures 3 and 4 show that high-income countries and low-income countries face different level of disease burdens. For low-income countries, high prevalence of infectious conditions like diarrhea and lower respiratory infections (LRI) necessitate more focus on preventive care than curative treatment. Despite these fundamental differences in disease burdens, Western governments would continue to seek to undermine the Alma Ata Declaration's emphasis on Primary Health Care and advocate for care structures revolving around traditional hospitals and physicians, which were more in line with their domestic models. This advocacy would reach its peak in the 1993 World Bank Report.

The 1993 World Bank Report.

In 1987, the United Nations International Children's Emergency Fund (UNICEF) and WHO supported the Bamako Initiative, an experiment that used drug-revolving funds, or profits created by charging local communities for services, to increase community participation in managing services. In advocating for an increased focus on cost-effectiveness of care, the World Bank involved itself more in health system planning with it's 1993 *Investing in Health* reports than it had before.

While the 1993 Report recognized inequity as an issue and supported some aspects of the Alma Ata declaration, it differed in many ways, that is, the 1993 report is the claim that "mainly religious nongovernmental organizations (NGOs) in Africa and private doctors and unlicensed practitioners in South Asia are often more technically

efficient than the public sector."[9] Instead of supporting and recognizing the importance of national health systems, through this sentiment, the report sought to support a private health care delivery model. In doing so, it garnered support, not to address these noted issues, but to exacerbate them by advocating to redirect funding to individual providers and away from national governments. New economic and political policies in donor governments have been implicated as a driving force in this transition. Specifically, the fall of socialist Eastern European countries and China's embrace of liberal polices allowed Western governments to push for reductions in government services internationally and ushered in a period of 'Health Sector Reform' that would reverse progress made under the Alma Ata Declaration in requiring developing countries to privatize their national health systems to be eligible for aid. [10] The report also notes drug shortages and poor motivation of health workers to justify changes by addressing the fact that wealthy citizens in developing countries tend to opt-out of government-financed services. To combat this issue, the report recommended specifically removing government services in poorer regions and instead implementing drug revolving schemes like the one instituted in Bamako to have local communities pay for cost of services directly.[11] This policy, while backed by the Bamako Initiative, amounted to ignoring the inability of these populations to pay for services to sustain these initiatives and to depend on private health services to deliver care. In doing so, the report abdicated the role of nations in providing health services, thus allowing Western governments to reduce the

[9] World Bank. 1993. World Development Report 1993 : Investing in Health. New York: Oxford University Press. © World Bank. https://openknowledge.worldbank.org/handle/10986/5976 License: CC BY 3.0 IGO, 4."
[10] Hall, 3
[11] World Development Report, 1993, 159-161.

amount of aid they provided. [12] Because of these justifications, Primary Health Care as a health model would be firmly replaced in the 2000 WHO Report.

2000 WHO Report

A third broad international health movement followed the outbreak and recognition of AIDS as an exceptional disease and the strong framing of its treatment as a human right.[13] Private partners and Global Health Initiatives (GHIs) emerged to increase funding of global health programs as the WHO began to accept the notion of a health system in efforts to fulfill the 2000 Millennium Development Goals (MDGs) which focused on achieving eight interrelated development objectives. A key reason for transition to the MDGs was corruption concerns with previous aid disbursements and the MDGs were a way for international donors to set specific, time-bound goals for countries to address.[14] To achieve these goals, vertical health programs were created aiming to address single diseases. For example, the 2003 Presidents Emergency Plan for AIDS Relief (PEPFAR), launched in 2003, addressed the HIV/AIDS epidemic . In 2015, the MDGs progressed in the passing of the 17 Sustainable Development goals (SDGs) to build on the progress made under the MDGs.

Conclusions

[12] Lawn, Joy E, et al. "Alma-Ata 30 Years on: Revolutionary, Relevant, and Time to Revitalise." *The Lancet* 372, no. 9642, 2008. https://doi.org/10.1016/S0140-6736(08)61402-6, .
[13] Olmen, Josefien van, et al. "Health Systems Frameworks in Their Political Context: Framing Divergent Agendas." *BMC Public Health* 12, 2012. https://doi.org/10.1186/1471-2458-12-774, 5.
[14] Hall, 4

In Chapter One, the history of Tanzania's international health developments has been detailed. The context of the 1978 Alma Ata Declaration clarifies a series of polices enacted by Tanzania to reduce its use of curative health measures and to increase preventive health initiatives. These developments will be important in understanding the tension in health development between the Western powers and Tanzanian nationhood. Chapter Two will further investigate the idea of health systems and seek to define integral system components by recognizing the vast nuances that accompany health indicators. The modern-day Tanzanian Health System will be detailed in this chapter. Chapter Three details the effects of Colonialism on the foundation of the Tanzanian health system, while Chapter Four explores at the rise of African Socialism following the 1967 Arusha Declaration. Chapter Five will address the effects of the 1993 World Bank Report as international agencies' Structural Adjustment Programs reversed Nyerere's progress. The chapter will also investigate how the 2015 Millennium Development Goals and 2015 Sustainable Development Goals represent another turn in international health politics and how the HIV/AIDS crisis necessitated an emphasis on curative anti-retroviral medicines as preventive measures. Finally, historically-informed recommendations for the United Republic of Tanzania will be explored that balance the different notions of health system theory and respond to challenges that have plagued the development of the Tanzanian Health System.

CHAPTER TWO

The Tanzanian Health System

This chapter investigates Health System mechanisms and theory and contextualizes this discussion to the modern-day Tanzanian Health System. The six interconnected blocks of health systems will be explored with a special emphasis on financing as it represented a crucial disconnect between the 1978 Alma Ata Declaration and the 1993 World Bank Report. Finally, the 'Six building block framework' is applied to investigate the contemporary Tanzanian Health System and some of its current issues.

Health System Tenets

Understanding the complex interrelations of health and social factors requires a firm understanding of health systems theory. In 2006, the WHO named six building blocks that comprise a health system: Service Delivery, Health Workforce, Health Information Technology, Access to Essential Medicines, Financing, and Leadership.[15] This section of the thesis will further examine outlining principles of a health system to complement future discussions

Health System Composition. The capacities and components of a nationwide surgical program are certainly components of a health system, but so are seatbelt laws and tobacco usage rates. The landmark 2000 WHO report, *Framework for Assessing*

[15] Lazarus, Jeffery, and France Tim. "A New Era for the WHO Health System Building Blocks?," August 22, 2014. http://www.healthsystemsglobal.org/blog/9/A-new-era-for-the-WHO-health-system-building-blocks-.html, 1.

Health System Performance, defined a health system as the "resources, actors, and institutions related to the financing, regulation, and provision of health actions … [which are] any set of activities whose primary intent is to improve or maintain health."[16] Under this conception, seatbelt laws and tobacco usage rates are components of a health system, but the example of educating young women is not, despite an understanding that doing so provides positive externalities regarding health. Since a health system comprises all the entities involved in a society's health actions, it stands that the system should be responsive "to the legitimate expectations of the population" while being sustainably financed.[17] Balancing these two ideas, providing care and paying for care, is challenging and was a central tension between the 1978 Alma Ata Declaration and the 1993 World Bank Report. To approach this issue, key principles of financing are explored below.

Principles of Health Financing. Health systems financing spans mechanisms of revenue accumulation through taxation and premiums, accumulation in pools, and compensation of healthcare providers. [18] An important consideration is the extent of direct or indirect redistribution in subsidies or free services, which is especially challenging for a country with an extensive impoverished population such as Tanzania as shown in Figure 5. [19]

[16] Murray, Christopher J L, and Julio Frenk. "A Framework for Assessing the Performance of Health Systems." *Bulletin of the World Health Organization*, 2000, 718.
[17] Murray, 719.
[18] Murray, 724.
[19] Murray, 724.

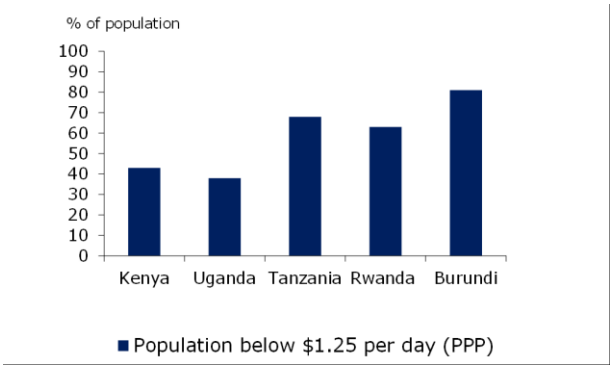

Figure 5: Proportion of Tanzanians living in poverty[20]

Important principles regarding financing schemes include cost sharing and the concept of health insurance. Health insurance is a system to protect against risk, or substantial financial loss, in the case of an incidence of disease or injury and can be provided by private insurers or governments. [21] In the United States, outside of a few government programs, health insurance is primarily administered by private companies, while governmental health insurance is the dominant form in Canada and the United Kingdom. A National Health Insurance program exists in Canada, while the National Health Services, a program administering both a national insurance program and most health delivery exists in the United Kingdom.[22]

In a health insurance plan, risk is distributed amongst enrollees in hopes of receiving more money through monthly premiums and cost-utilization mechanisms than paid out to cover health services. A central issue in health insurance is the 'moral hazard' principle, which anticipates that insured populations will be more likely to seek

[20] Retrieved From: https://economics.rabobank.com/publications/2013/february/country-report-tanzania1/
[21] Shi, Leiyu, and Douglas A. Singh. *Delivering Health Care in America: A Systems Approach*. 7 edition. Burlington, Massachusetts: Jones & Bartlett Learning, 2017. 221-226
[22] Shi, 22-29.

unnecessary care as they do not pay the full costs of services.[23] To address this issue, several utilization mechanisms have been developed. One broad mechanism designed to limit unnecessary care is cost-sharing between insurer and enrollee. By doing so, it is purported to limit the moral hazard issues as enrollees pay portions of their care. Two major cost-sharing forms are deductibles and co-payments. Deductibles limit the insurers from paying for health services until a certain amount is reached. Insurers support deductibles as they restore insurance to primarily covering major expenses and not daily expenditures. A concern, however, is that health conditions not addressed can rapidly progress into more serious cases requiring more expensive interventions. A second example of cost-sharing is co-payments, which require enrollees to pay every time they need some type of service, whether consulting a healthcare provider or purchasing medicines. While deductibles seek to limit overall expenditures, co-payments seek to control the frequency of services.

Despite complexity in understanding and designing health insurance programs, they constitute a key block of health systems. A robust health insurance program means more individuals can pay for services they need allowing more healthcare providers and facilities to operate. This sustained increase in healthcare workforce is direly need for countries without enough healthcare workers, such as in Tanzania. The issue with doing so is the need to cost-shift costs of poorer populations who cannot avoid premiums, deductibles, or co-payments, to higher-income populations, posing a political challenge to implementing said programs.

The Importance of a Health System

[23] Shi,219.

A coherent Health System enables an expectation of stewardship for all actors, which extends to the "setting, implementing and monitoring of the rules for the health system."[24] A robust strategy that is responsive to the needs of a population, is especially important for Tanzania as it would help align the multitudes of international and domestic donors, health professionals, and government representatives. Doing so would enable goals to be set by government officials and for audits to be conducted on different organizations regarding their commitment to these goals. Without the unity of stakeholders, progress may not be attainable, especially in consideration of larger goals that may take several generations to attain.

Not only does this structure play a positive stimulatory role in aligning stakeholders but also a positive regulatory role in preventing "pseudo-systems" from forming. W. Edwards Deming was a prolific statistician, who focused on the concept of improving and maintaining quality in complex systems. He advocated the following principle: "every system is perfectly designed to get the results (that) it gets"[25] showing that even seemingly random outcomes result from structural causes. Though unintended, "orders emerge around attractors through various feedback mechanisms, and through path-dependent processes of many small steps that may end in lock-in situations." [26] This concept applies to the Tanzanian healthcare systems specifically regarding how private markets respond to wealthy individuals. Personal wealth can distort healthcare systems

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[24] Murray, 726.

[25]Conway, Earl, and Paul Batalden. "Like Magic? ('Every System Is Perfectly Designed…')." Accessed March 25, 2018. http://www.ihi.org/communities/blogs/origin-of-every-system-is-perfectly-designed-quote.

[26] Sharkovsky, A. N., Yu L. Maistrenko, and E. Yu Romanenko. "Introduction to the Theory of Dynamical Systems." In *Difference Equations and Their Applications*, 15–43. Mathematics and Its Applications. Springer, Dordrecht, 1993. https://doi.org/10.1007/978-94-011-1763-0_2.

as mentioned by bypassing government-run, primary-care level facilities and patronizing higher-care levels or private hospitals. Doing so deprives the primary-care level of revenue and causes it to become even less attractive to future patients. In this way, a system that prioritizes individuality for the sake of a community perpetuates inequity. This issue was a concern for Tanzania in 1980 when it banned the private practice of medicine and the 'skimming' of wealthy patients from the government system. For private practice to be advocated in the 1993 World Bank Report shows the disconnect between the Tanzanian government and the international community. To secure the health of a population, all people must have access to care through a system well-designed to achieve health equity and certain controls may be applied in a reasonable manner. While accounting for financial considerations, the system must not be allowed to be undermined by individual finances.

The Tanzanian Health System

The "Six Building Block" Framework

WHO in 2000 provided a common framework to guide international health investments and identified six health systems building blocks: Service Delivery; Health Workforce; Information; Medical Products, Vaccines and Technologies; Financing; and Leadership.[27] This framework will be used to evaluate Tanzania's current health system.

[27] "Everybody's Business: Strengthening Health Systems to Improve Health Outcomes | Health System | World Health Organization." Scribd. Accessed April 2, 2018. https://www.scribd.com/document/123877628/Everybody-s-Business-Strengthening-Health-Systems-to-Improve-Health-Outcomes.

Health Financing in Tanzania. The 2007 WHO Report identifies that the health financing block should raise funds so people can pay for services while protecting individuals from risk. The GDP per capita Purchasing Power Parity (PPP) adjusted for Tanzania in 2016, was $2,583 as compared with the United States' GDP per capita of $53,272.[28] Tanzania's drastically lower figure belies the issue of instituting a health financing in the country as there is not a significant tax base to collect funds nor a sizable enough affluent group with which to cost-share. Moreover, foreign aid comprises a significant portion of the government's health budget; $3.7 billion of a total $8.6 billion as shown in Figure 6. As evidenced in the 1993 World Bank Report, this reality forces Tanzania to adhere to donor countries' expectations of its health program even if these are not ideal. As will be detailed in future sections, this reality has led Tanzania to adopt more costly practices such as privatized health delivery elements.

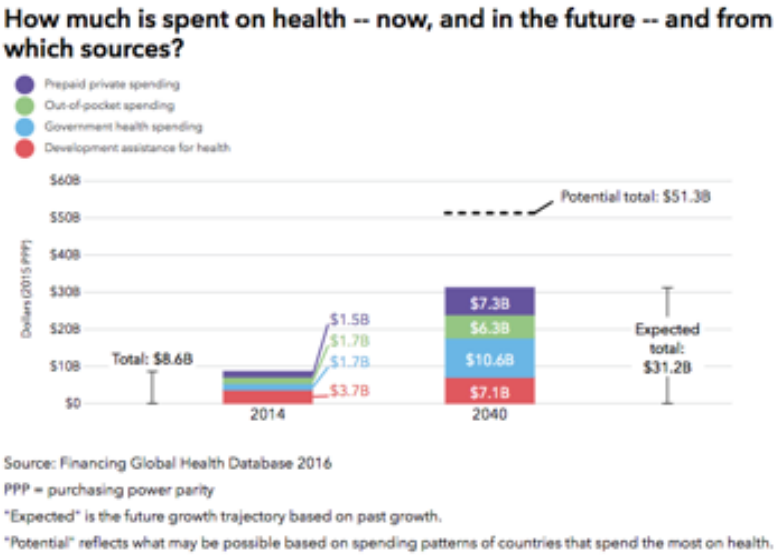

Figure 6: Tanzania's Current and Project Health Budget Composition[29]

[28] "United States GDP per Capita PPP | 1990-2018 | Data | Chart | Calendar." Accessed April 2, 2018. https://tradingeconomics.com/united-states/gdp-per-capita-ppp.
[29] Retrieved From: http://www.healthdata.org/tanzania

Despite these complications, four different major health insurance programs operate in Tanzania: the National Health Insurance Fund (NHIF), the Social Health Insurance Benefit (SHIB), the Community Health Fund (CHF), and the Tiba Kwa Kadi (TIKA). Each of these programs enrolls a specific subset of workers and their families, and together they insure roughly 15-16% of the population.[30] These programs are usually comprehensive, covering in-patient and out-patient services as well as generic drugs approved by the Tanzania Food and Drug Authority (TFDA). In 2008, however, it was noted that a lack of available drugs (another crucial health system block) can hamper the access of enrollees to essential medicine.[31] Moreover, the large proportion of Tanzanians working in informal sectors presents a challenge in enrolling them in employer-sponsored health plans.[32] Increasing the number of enrollees in the national health plan remains a goal of the Tanzanian government as it would increase access to preventive health measures while providing enough compensated demand to sustainably raise the number of healthcare workers.

Healthcare Workforce. Health professionals drive health systems, but often they face challenges in low-income countries due to internal inefficiencies, such as those linked to training programs, and external factors, such as the "brain drain"

[30] West-Slevin, Katie, and Arin Dutta. "Prospects for Sustainable Heath Financing in Tanzania," February 2015. https://www.healthpolicyproject.com/pubs/804_TanzaniaHealthFinancingBriefupdateFINAL.pdf, 5.
[31] "Report on Medicines Coverage and Health Insurance Programs Survey in Tanzania," 2008. http://www.who.int/medicines/areas/coordination/tanzania_study_insurance_coverage.pdf.
[32] West-Slevin, 4.

phenomenon.[33] The WHO recognizes a critical threshold of adequate care staffing to be at least 23 doctors, nurses, or midwives per 10,000 citizens. In 2010, Tanzania was well below this mark with just 1.4 health workers per 1000 citizens (14 per 10,000).[34] Another factor, in addition to an overall dearth of providers, is diminished productivity in existing health staff.

The motivation of healthcare workers is important when considering productivity. One important recognition is that workers in understaffed clinics face more work and higher risks of professional burnout. Three further phenomena negatively affect the motivation of Tanzanian healthcare workers. Shortages in testing materials lead providers to "gamble" on diagnoses, causing mental and emotional exhaustion.[35] Rural staff often report dissatisfaction when asked to "act upwards," or to perform services that they are not trained to do, while urban staff often complain of needing to "act downwards" in providing cleaning services and routine procedures.[36] In addition to the quantity and quality concerns, Tanzania also faces an issue in the distribution of health workers as Figure 7 reveals the current shortage of healthcare workers in non-historically colonial centers, like the interior of the country.

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[33] Manzi, Fatuma, et al. "Human Resources for Health Care Delivery in Tanzania: A Multifaceted Problem." *Human Resources for Health* 10 (February 22, 2012): 3. https://doi.org/10.1186/1478-4491-10-3.
[34] Manzi, 2.
[35] Panda, Bhuputra, and Harshad P. Thakur. "Decentralization and Health System Performance – a Focused Review of Dimensions, Difficulties, and Derivatives in India." *BMC Health Services Research* 16, no. Suppl 6 (October 31, 2016): 1–14. https://doi.org/10.1186/s12913-016-1784-9.
[36] Panda,16.

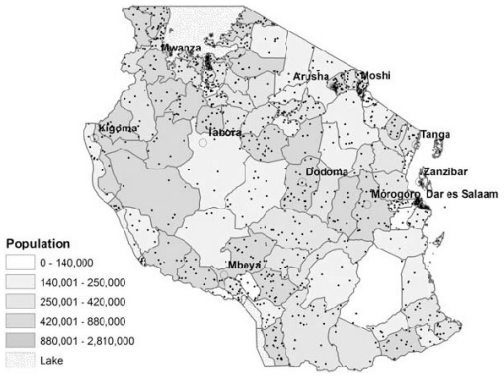

Figure 7: Distribution of Tanzanian Healthcare Workers[37]

The Tanzanian Health Care System is a referral system with primary, secondary, and tertiary care centers. Variation in healthcare workers per capita is expected between districts depending on the location of major centers, though the near 40-fold differences existing between some districts is an issue.[38] Also, large differences exist between rural and urban centers, as well as within different areas in large cities. The growing inequity of healthcare access in cities is an issue in Tanzania due to recent extreme urbanization rates. Dar es Salaam, the largest city in Tanzania, is the third fastest growing city in Africa and the ninth fastest growing city in the world.[39] Urban children face a higher risk of many diseases due to the way that rapid urbanization overburdens the existing health and sanitation infrastructure.[40] An implication of this discrepancy is that often times insufficient work staffs are employed at lower levels of care centers. Wealthier people tend to directly report to higher-level or private facilities, diminishing primary-care center

[37] Retrieved From: https://www.researchgate.net/figure/Distribution-of-skilled-health-workers-in-health-facilities-in-Tanzania-2005-2006-Note_fig1_260100550
[38] Munga, Michael A., and Ottar Mæstad. "Measuring Inequalities in the Distribution of Health Workers: The Case of Tanzania." *Human Resources for Health* 7 (January 21, 2009): 4. https://doi.org/10.1186/1478-4491-7-4.
[39] "Dar Es Salaam Population 2018 (Demographics, Maps, Graphs)." Accessed April 1, 2018. http://worldpopulationreview.com/world-cities/dar-es-salaam-population/./
[40] "Ofisi ya UNICEF Tanzania. *Cities and Children: The Challenges of Urbanisation in Tanzania.*, 2012.

revenue. The rural and urban poor suffer in this regard, as they are unable to afford to bypass these centers.

The Tanzanian Government has recognized the above challenges in its Human Resource for Health and Social Welfare Strategic Plan 2014-2019 Report. To address internal training inefficiencies, it has dedicated itself to transitioning to a "competency-based curriculum" and to opening more training institutions. Also, it plans to investigate more on-job training programs to maintain and improve quality, while not removing workers from their positions. These new initiatives hope to address human resource management issues to improve quality, quantity, and motivation of healthcare staff to improve health service delivery in Tanzania.

Health Service Delivery in Tanzania. Under Nyerere, many health centers were created, but an issue for health service delivery in Tanzania is that investments in initial capital costs are often overlooked. For example, a recent survey from the Global Alliance of Vaccine and Immunizations (GAVI) program revealed infrastructure degradation and human resource mismanagement threatening the viability of Tanzania's vaccine interventions. Specifically, reports have detailed that three of six facilities sampled in one district did not have refrigerators with functioning thermostats to store the vaccines.[41] While Tanzania may boast a 93.4% coverage of eight standard vaccines, this report shows that underlying issues remain. [42]

[41] Brugha, Ruairí, Mary Starling, and Gill Walt. "GAVI, the First Steps: Lessons for the Global Fund." *Lancet (London, England)* 359, no. 9304 (February 2, 2002): 435–38. https://doi.org/10.1016/S0140-6736(02)07607-9, 436.
[42] "Health-Related SDGs | IHME Viz Hub." Accessed April 2, 2018. http://vizhub.healthdata.org/sdg.

Medical Products, Vaccines and Technologies. In discussing health financing, it became apparent that no insurance program can be successful without accessible medicines. The case for Tanzania in this regard is complex due to the amount of medicines it receives from donor countries. Regarding medicines to treat HIV, 97.5 % of the program is funded by outside donors.[43] Interestingly, while rural centers struggle more than urban centers, with maintaining a proper supply of medicines imported from outside of the country, there is not a vast discrepancy between these two center types for medicines produced domestically.[44] Private markets seeking more profit in urban centers were surprisingly not the source of this issue, but instead the limited distribution networks of foreign sellers and supply-chain managers prevented them from making connections with rural Tanzanian health centers.[45] This finding underlies an issue that perhaps the Tanzanian government will need to further assist the delivery of medicines to rural areas.

Health Information in Tanzania. Tanzania employs four levels of health information structures at the national, regional, district, and individual unit level. Its health information system was first translated into Swahili in 1991, but longstanding

[43] "PEPFAR Tanzania: Country Operational Plan FY 2015," August 12, 2015. https://www.pepfar.gov/documents/organization/250304.pdf,8.
[44] Mujinja, Phares GM, Maureen Mackintosh, Mary Justin-Temu, and Marc Wuyts. "Local Production of Pharmaceuticals in Africa and Access to Essential Medicines: 'urban Bias' in Access to Imported Medicines in Tanzania and Its Policy Implications." *Globalization and Health* 10 (March 10, 2014): 12. https://doi.org/10.1186/1744-8603-10-12, 3-4.
[45] Mujinja,11,

issues have continually plagued it.[46] Generally, an issue lies with reliance on outside companies who are funded directly by donor countries and are not responsive to domestic software issues. Paired with low health workforce involvement or training, health information is in dire need for development and will be addressed in Chapter 5 concerning the advent of M-Health technologies that are simpler to train healthcare workers to use.[47]

Health Leadership in Tanzania. Supporting Health Leadership to guide other health system building blocks is challenging in Tanzania as will be explored directly in later chapters of this thesis. Because Tanzania receives a significant portion of its health budget as aid, it is not always free to exercise autonomy over how to direct programs. Donor countries might support retaining control over development packages for worries over corruption, like what led to the establishment of the MDGs outlined in Chapter One. An issue regarding mixed control over funds, however, was illuminated in the report mentioned in the Health Service Delivery section, which critiqued GAVI's immunization program. GAVI employs structured progress-contingent disbursements to exert control over its funding, but its failure to address capital cost investments can set unrealistic expectations for the Tanzanian government to meet due to infrastructure issues. The pressure to maintain health services can lead well-meaning Tanzanian health leaders to

[46] Kimaro, Honest C., and Jose Nhampossa. "The Challenges of Sustainability of Health Information Systems in Developing Countries: Comparative Case Studies of Mozambique and Tanzania," 2004. http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1082&context=ecis2004.
[47] Smith Matthew, Madon Shirin, Anifalaje Adebusoye, Lazarro-Malecela Mwele, and Michael Edwin. "Integrated Health Information Systems in Tanzania: Experience and Challenges." *The Electronic Journal of Information Systems in Developing Countries* 33, no. 1 (December 5, 2017): 1–21. https://doi.org/10.1002/j.1681-4835.2008.tb00227.x.

manipulate data to maintain vaccination services to its people.[48] In this way, health leadership is a complex issue to tackle in Tanzania.

Conclusion

In this chapter, the importance of health systems has been defended and the '6 Building Block Framework' has been applied to understand current issues facing the Tanzanian Health System. It has been noted how interrelated these blocks are, for example, how a robust health insurance program drives compensated demand to increase the supply of healthcare workers and facilities. These insights will inform future investigations in Chapter Three and Four as the foundation and growth of the Tanzanian Health Systems is considered. Moving forward, Edward Deming's quote regarding health systems will be particularly important as it will be seen that the original intent of the Tanzanian Health System was not to provide equitable care to its future citizens. While today the Tanzanian Health System strives to achieve this goal, it struggles to overcome this initial reality and the lasting effects that will be detailed in the next chapter.

[48] Brugha, 436.

CHAPTER THREE

Entrenched Attitudes: The Colonialist Health Model

In this chapter, the foundations of the Tanzanian Healthcare System in the period between colonization and shortly after Independence will be examined. Special attention is placed on how European Colonizers transplanted an ill-equipped model of healthcare that prioritized curative treatment at the expense of cheaper and more equitable preventive health measures. In doing so, colonizers introduced five critical issues that continue to plague the country: regional specialization, direct taxation, centralized authority, the colonial medical institution, and the colonial medical professional, which will be expanded on below.

A Brief History of Colonization in Tanzania

In the early 1880s the German government under Otto von Bismarck began to colonize East Africa, and in 1920 the League of Nations declared that Tanganyika belonged to Britain.[49] A consequence of colonial rule was non-industrialization since the colony was forced to import industrial goods from Britain while maximizing the output of cash crop exports, including sisal coffee, tea, and rubber.[50] To secure this lucrative practice, colonizers installed central authorities consisting of foreign nationals. In response to the influx of Europeans, the first outlines of a modern medical system in Tanzania arose, though it served specifically to provide curative services to affluent white

[49] Retrieved From: http://www.brokiesway.co.za/africa.htm
[50] Coulson, 101-11.

populations residing in urban center. Specifically, physicians mainly consisted of surgeons who took care of colonists fighting against local indigenous groups. These surgeons founded hospitals in the 1890s in major colonial centers such as Morogoro and Kilimanjaro, which are shown in Figure 9 (page 28).[51]

In 1926, the British government began to commit itself to developing its East African territories to maximize its production of cash crops. Specifically, the British Labor Government increased its contributions to social and health developments in the colony through its 1946 Ten-Year Development Plan that earmarked £1,000,000 from the Colonial Development Fund to finance a proposed health expenditure of an estimated £915,000 of capital costs and £2,089,000 of recurrent costs in the Tanganyikan colony.[52] Another key progression in early Tanganyikan health development was the publication of the 1949 Pridie Report, which called for more investment in hospital-based curative medicine. Dr. Pridie is quoted as saying:

"Although preventive and social medicine have more lasting beneficial effects, it is essential under African conditions to have a well-balanced medical service, as curative medicine is demanded by the people and its popularity makes preventive medicine acceptable to them."[53]

[51] Etten, 24.
[52] Etten, 32.
[53]. Caldwell, Holly R., and David W. Dunlop. "An Empirical Study of Health Planning in Latin America and Africa." *Social Science & Medicine. Part C: Medical Economics*, Special Issue: Selected Issues in Health Policies in Africa and Latin America, 13, no. 2 (June 1, 1979): 75–86. https://doi.org/10.1016/0160-7995(79)90012-1

Despite seemingly advocating for balance between curative and preventive measures, the Pirdie Report prioritized the construction of hospitals almost exclusively and pushed for discontinuing the training of rural medical aides.[54] As will be shown in the next sections, this position would persist in the post-1961 independent Tanzanian government. A timeline of these early Tanzanian health developments is shown in Figure 8.

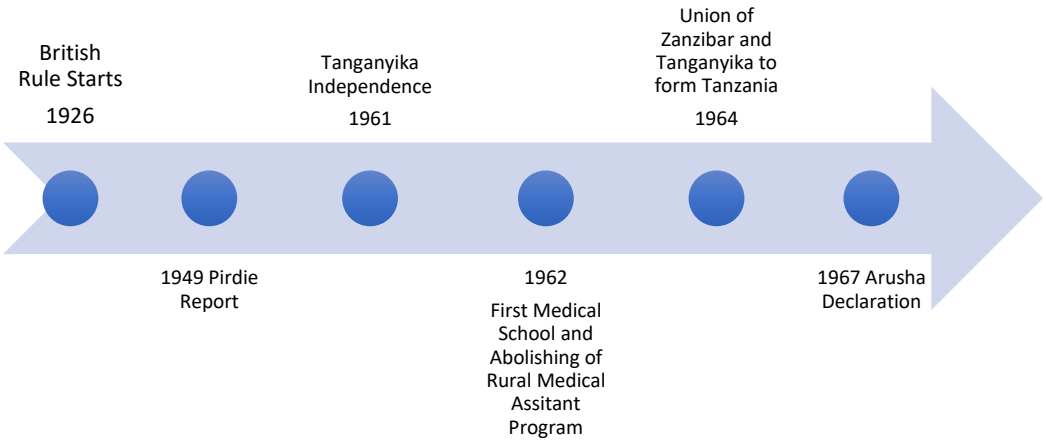

Figure 8: Timeline of Major Early Tanzanian Health Developments

In the following section of this chapter, five specific factors of the proposed Colonialist Healthcare Model will be discussed to track how health priorities of the region evolved following Tanzanian Independence.

The Colonialist Healthcare Model

[54] Etten, 38.

Regional Specialization. Colonialism left only urban centers with developed health service. Health services in the form of dispensaries were built almost exclusively in areas where cash crops, especially cotton, sisal, tea, and rubber were exported. Figure 9 demonstrates the effects of this policy today as Tanzania's major hospitals remain near export centers and healthcare workers match this trend despite the significant Southern and interior population shown in Figure 7 (page 20). Furthermore, colonial suppression of local industry left wide swaths of the Tanzanian interior to stagnate and health services to not develop as shown in Figure 6 (page 17).[55] A repercussion of this may show itself in the medicine shortages today in rural Tanzania due to the dearth of buisness networks in the interior of the country.

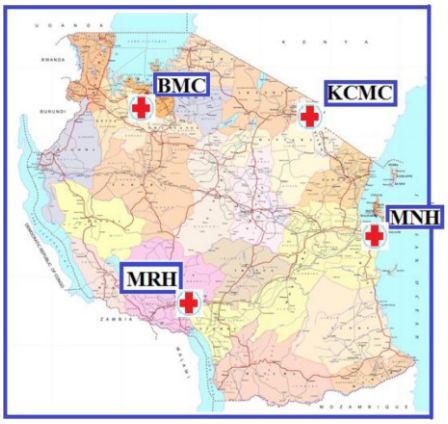

Figure 8: Large Medical Centers in Tanzania[56]

[55] Coulson, 106.
[56] Retreived from: http://www.brokiesway.co.za/africa.htm

Figure 9 depicts the four major current Tanzanian hospitals today, which were founded by the colonial administration (MNH is the Muhumbuli National Hospital in Morogoro, KCMC is Kilimanjaro Christain Medical Centre in Kilimanjaro, MRH is the Mbeya Referal Hospital in Mbeya, and BMC is the Bugando Medical Centre in Mbeya).

Direct Taxation. Direct taxation was another important policy implemented by the colonial government to minimize the need to provide financial assistance to communities not engaged in the growing of cash crops. This policy justified restricting services to groups based on what local tax revenue afforded. An issue with this stance is that the formal tax base was almost exclusively confined to Tanganyikans employed in the growing of cash crops., which further reinforced the geographical fragmentation of health services in the country.[57] Interestingly, the 1993 World Bank Report's community-financing schemes targeting poor communities with revolving drug funds echoes this principle and further supports fragmentation of the Tanzanian health system in the 1990s. This principle would be addressed by the Tanzanian government post-1976 Arusha Declaration as it assumed Tanzanian nationhood was not confined to profitable centers and allocated the state budget more accordingly, as will be seen in Chapter Four.

Centralized Authority. In 1918, the civil administrations established by the British Colonial Government emphasized the role of central government administrators throughout Tanganyika.[58] These centralized authorities were not elected by local people and did not provide organized services or represent people living in rural areas, where a

[57] Etten, 18.
[58] Etten, 19.

majority of Tanganyikans lived. Instead, their primary goal was to establish order in the colony and maximize production of cash crops. As appointed by the Colonial Government, these administrators supported the development of health services that catered to an exclusive minority of affluent colonizers and did not substantially engage in preventive health measures.[59] After the 1967 Arusha Declaration, as will be noted in Chapter Four, a policy of decentralization was promoted to support locally democratically-elected district councils to oversee the development of their regions.

Colonial Medical Institution. The 1949 Pridie Report convinced the Colonial Government to commit itself to providing health services through European-style hospitals. Hospitals, however, were ill-equipped to serve average Tanganyikans due to the increased cost of technologies and physician salaries. While a more decentralized system consisting of health extension workers or of primarily preventive health approaches with smaller health centers would be better suited for the colony, care confined to a hospital-based setting was favored.[60] Hospital care was ill-suited for the rural Tanganyikan population, as will be shown that hospitals primarily care for patients within a few square miles. The aim of the Colonialist Health Model was not to provide equitable health care but to treat the colonist minority.

Colonial Medical Professional Model. The Colonial Medical Professional Model is as crucial to understanding the colonial health care system as hospital-based care. European doctors almost exclusively managed the care of European patients, who were

[59] Dryden, Stanley. *Local Administration in Tanzania*. East African Publishing House, 1968.
[60] Etten, 38.

the sole demographic in Tanganyika who had reliable access to healthcare. The only medical role for Tanganyikans was as hospital assistants to these European physicians. After independence, these Tanganyikan hospital assistants transitioned to becoming full physicians, but their lack of autonomous training presented issues in their clinical care. Despite their limited clinical knowledge base, these physicians expected to receive similar status and salaries as European physicians. As James C. McGilvray, the first president of the Christian Medical Commission in Tanzania noted, Tanganyikan doctors expected that physicianhood carried "with it such a degree of prestige and status that any questioning of its effectiveness (was) well-nigh impossible."[61] Instead of adapting the need for flexible professionals, the Colonial Medical Profession model entrenched itself in the first generation of Tanzanian doctors presenting issues for the development of a preventive-focused care system.

From here, the events following Tanzanian independence in both changing and reaffirming the above five factors will be analyzed.

Tanzanian Independence

In 1954, several different worker strikes led to the coalescing of different labor unions to form the Tanganyika African National Union (TANU) party headed by Julius Nyerere, who led the country to independence in 1961. The growing strength of TANU, as well as international and economic pressure, led Britain to commit to transitioning

[61] Etten, 94

Tanganyika to an independent country by 1961. In 1964, Tanganyika and the newly independent Zanzibar unified to form the Tanzanian state in 1964.[62]

Regarding the new Tanzanian health sector, the government primarily based its 1964-1969 5-Year Health Development Plan on the colonial 1949 Pridie Report and the colonial 1956-1961 5-year Development Plan, meaning at first very little change took place. The Tanzanian First Five Year Development emphazized the same kind of curative care championed during colonialism, specifically the colonial medical instituions and medical professional roles were supported. For this reason, the period between Independence and before the 1967 Arusha Declaration and the Second Five-Year Development Plan is sometimes referred to as a "false start" for the country, in terms of redeveloping its health system to becoming more equitable.[63] One new development for the health system was the 1964 Titmuss Report, which represented a break from the Colonialist Health Model in that it advocated for a network of rural health centers in place of the European-styled hospitals.[64] By doing so, it supported a more equitable health system designed to meet the needs of the population and this change will be explored more below.

A False Start for Health Development. One of the most important changes after Independence was the transforming of Tanganyika from a colony to a nation responsible for its own citizens. Previously under the British rule, colonial policies were mostly crafted to maximize financial gain for Britain, usually in the form of cash crops. After Independence, the Tanzanian state began to collect profit from cash crops and was

[62] Coulson, 138-169.
[63] Etten, 92.
[64] Etten, 96.

expected to develop governmental services. To achieve this goal, the government abolished individual chiefs and established democratically elected 'district councils' in 1962. While local chiefs under British rule were appointed by the colonial government to instill order in the colony, the district councils were charged with developing their regions. In this way, the Post-Independence district councils differed as they were from local communities and were tasked with supporting the development of their communities.

Figure 10: President Nyerere celebrating Independence in 1961[65]

Building off the district council model, rural Tanganyikans contributed to the expansion of services by providing free labor to build dispensaries and other infrastructure. The new Tanganyikan government supported these grassroots initiatives by providing tools and expertise. The result of this movement was a large increase in rural health dispensaries and maternal health clinics, a goal of the government to increase access.[66] Despite the creation of many health centers, health services remained limited due to the dearth of health providers, for while the central government offered tools for

[65] Retreived from: https://classroom.synonym.com/influence-nyerere-african-political-thought-20442.html
[66] Etten, 39.

district councils to build health center, the state only offered capital grants amounting to 50 percent of the funds needed to maintain health services during the 1964-1969 First Five-Year Development Plan.[67] These grants were insufficient to employ physicians seeking larger salaries. Initial responses to this issue was to establish a Medical School in Dar es Salaam in 1962 and abolish the Medical Assistant programs, in line with the 1949 Pirdie Report. This step indicates was the influence of the 1949 Pridie Report on the new nation. To understand why the rural health workers were more important to be trained than physicians, consider how in 1975, almost twenty years after Independence, it was calculated that training a medical auxiliary, a more flexible albeit less knowledgeable healthcare provider, costed less than 2,500, while training a physician to cost nearly 40,000.[68] If the newly independent Tanzania committed itself to training more rural medical auxiliaries, it could have increased it healthcare workforce nearly 16 times and arguably developed a more ideal health professional model for its population. Instead, the colonial medical professional became a major holdover from Colonialism and would progress to stifle the future development of a rural Tanzanian health workforce. As noted by a local leader below, the financial and logistical requirements of opening the University of Dar es Salaam medical school prevented any such rural health program from forming:

> "... we gained our Independence; and in the ensuing excitement, one was confronted with confusing ideas about change and experiment, even in the field of training and utilization of medical auxiliaries. That was when we thought the day of the medical assistant was over, although we should have known better … we were all pre-occupied with the problems and the complex task of starting the first medical school in

[67] Etten, 94.
[68] Gish, Oscar. *Planning the Health Sector: The Tanzanian Experience*. Croom Helm, 1975.

Dar es Salaam, and it was easy in that situation to decide to close the medical assistant's school of Dar es Salaam ..."[69]

One result of the direction taken to focus on curative services in the First Tanzanian Five Year Development Plan was an increase in income inequality as more wealthy Tanzanians received access to care while lower income Tanzanians did not receive care.[70] This finding was disturbing for the new government as it sought to differentiate itself from colonialist policies that propagated inequality. In such, the new Tanzanian government would adopt a radically different health development policy direction following the 1967 Arusha Declaration.

Conclusion

The pursuit of Western-styled medicine in the colonial model brought Tanzanian in conflict with its hope to differ from its colonial powers in providing care to all Tanganyikans. Specifically, the inherited regional fragmentation and reliance on British reports, such as the 1949 Pirdie report, prevented the early Tanzanian state from reforming its health system. A growing challenge to the state would be the development of its healthcare workforce as newly autonomous medical assistants assumed physicianhood and expected similar treatment as European doctors received. By not reforming this mindset and allowing physicians' expectations to become entrenched, the country did not support a strong rural healthcare workforce from forming. In 1967, however, Julius Nyerere, frustrated with this reality, issued a 1967 Arusha Declaration that changed everything.

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[69] Etten, 98.
[70] Caldwell.

CHAPTER FOUR

The Arusha Declaration

In Chapter 3, it was seen how the Colonialist Health Model was designed to treat a small population of colonial settlers, yet post-independence Tanganyika adopted and supported it in its First Five-Year Development Plan. This chapter details how the 1967 Arusha Declaration disrupted the Colonialist Health Model and its implications for the Tanzanian health system and the legacy of President Nyerere.

Arusha Declaration and Second Five Year Development Plan

An important development that would go on to influence the changes from the Colonialist Health Model in future Tanzanian policies was the 1964 Titmuss Report. The Titmuss Report advocated against the 1949 Pridie report in that it pushed for Tanzania to pursue training more rural health professionals and integrate them within existing systems.[71] By advocating a bottom-up approach to health care as opposed to the top-down physician-driven approach, the Titmuss report would usher in a new era of Tanzanian health policy driven by the 1967 Arusha Declaration.

The 1967 Arusha Declaration was written by President Nyerere, who sought to differentiate Tanzania from its post-colonial trajectory. It declared an intention for Tanzania to become an African state without exploitation, where development was

[71] Caldwell.

achieved without stark socioeconomic classes from forming.[72] In respects to healthcare, a key aspect of the Arusha Declaration was the emphasis on rural populations, equitable care and oversight of specific services. Nyerere's new educational model based on self-reliance would prove important in the Second Five-Year Development Plan as it would garner support for basic health training centers and not large institutions such as the medical school in Dar es Salaam.

The Tanzanian 1969-1974 Second Development Plan was heavily influenced by the Arusha Declaration in that it advocated for rural health care development. This initiative was reaffirmed in 1971 in a Bi-annual National Conference of TANU, which further pressed for investments in rural healthcare as well as renewed attention to strengthening the administrative focus of development. The result of the new focus on rural healthcaree was an increase in health investment from 31 million Tanzanian Shillings in the first plan to 93 million Tanzanian Shillings in the second plan.[73] In addition to an increase in capital, following Nyerere's modified educational reform, which allowed professionals to learn while working, Tanzania embraced a major policy change of decentralization, emphasizing the power of local districts in creating health service as opposed to one central authority. In addition to the near tripling of the health budget, this commitment is reflected in the distribution of the health budget's allocations in the Second Five-Year Development Plan: an increase from 2.5% to 19% towards training healthcare manpower, from 33% to 49% for rural health services and preventive medicines, and a decrease from 60% to 29% of the budget allocated towards hospital services.[74] These increases in

[72] Coulson, 215-221.
[73] Etten, 42.
[74] Etten, 38.

funding equipped local districts to enhance the provision of local services and to support Julius Nyerere's Health Vision. A timeline of these developments is shown in Figure 11.

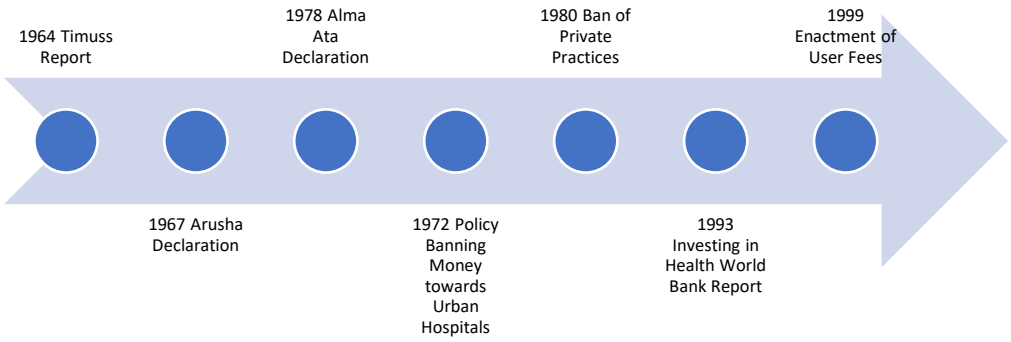

Figure 11: Timeline of Post-Independence Tanzanian Health Developments

Nyerere's Health Vision

After the Second Tanzanian 1969-1974 Five-Year Development Plan, Nyerere continued to champion policies he considered would best develop Tanzania while holding fast to principles espoused in the Arusha Declaration. While more resources were being devoted to rural healthcare, in 1972 curative services still amounted to over 91.3% of Tanzanian health expenditures.[75] A costly issue was the ongoing expansion of the Muhimbili Hospital in Dar es Salaam and the Kilimanjaro and Mwanza hospitals as well. Despite their significant costs, it was found that these centers cared almost exclusively for populations within a few square miles. Despite treating a minority of

[75] Coulson, 251.

Tanzanians, the Muhimbili hospital received 41% of the government's drug and equipment budget yet still overspent this allocation.[76] Recognizing the unsustainability of providing curative services, Tanzania issued a 1972 policy forbidding large hospitals and channeling money to the construction of smaller health centers. The 1972 policy led to a 30% increase in the total number of health facilities with approximately 6-8 employees working in each dispensary,[77] which better adhered to the Arusha's Declaration goal by ensuring that more than 90% of the Tanzanian population lived within 10 kilometers of one of these health facilities.[78]

Nyerere and the early Tanzanian government instituted policies that transitioned the Tanzanian health services from the colonial model to a more equitable model described in the Arusha Declaration. This progress must be considered in the period's growing international movement for primary healthcare systems culminating in the 1978 Alma Ata Report. In many ways, Tanzania represented an ideal model for the report in showing how healthcare coverage could be rapidly expanded. It was noted by 1976, that the Gini coefficient (in which larger values represent more in inequality) the number for health facilities fell from 0.139 to approximately 0.105 and from 0.16 to 0.13 for regional health expenditures, meaning that these services were more equitably distributed.[79] Despite this success, as will be discussed more in the next section, domestic developments and private interests began to destabilize this system, leading the way to the 1990s privatization period.

[76] Coulson, 251.
[77] Caldwell
[78] Coulson, 252
[79] Caldwell

Colonial Medical Professional Resistance

A significant domestic force that began to conspire against Tanzania's rural health system was the growing influence of private physicians. Whereas Nyerere sought to redefine the Tanzanian health system, he relied on doctors who were overwhelmingly trained in the colonial setting. These physicians advocated for curative services and did not accept the 1972 push towards preventive services. These doctors advocated for urban hospitals despite the finding that nearly 80% of drugs were dispensed in hospitals and drug costs per patient increased from 12 shillings per patient in a regional hospital to 24 shillings per patient in the large Kilimanjaro Christian Medical Center to and finally to 75 shillings per patient in the Dar es Salaam Muhimbili hospital.[80] In a state-run health system, these increased costs threatened the solvency of the system as well as the ability for average citizens to pay. Another key to this fracturing was capitalist penetration by industry and health companies, specifically from the United States.

In the 1970s, while it was estimated that only 600 Tanzanian doctors practiced, over 147 drug company representatives from Western countries worked in the country.[81] These representatives aggressively marked their drugs to these doctors by offering biased literature and gifts. While Nyerere's Health Vision depended on cooperation by officials and citizens, Tanzanian doctors' willingness to be persuaded by outside marketers prevented such cooperation. Besides supporting overutilization of health services and increasing expenses by opting away from generic drugs, this practice had health repercussions also. One example was the custom of prescribing steroids to treat childhood malnutrition. This practice may evidence the holdover effects of the Colonial

[80] Coulson, 252.
[81] Coulson, 252.

medical professional role as Tanzanian physicians expected financial compensation like the previous European physicians working in Tanganyika. Whereas the Tanzanian health system sought flexible rural healthcare providers, they inherited curative-focused; financially-driven physicians, who undermined the growing equity-driven health system. In fact, government efforts to curtail such physician practices led to boycotts of government hospitals and a push for physicians to enter private practice. In response, the Tanzanian government banned the private practice of medicine in 1980.[82] Despite doing so, international powers would force the reversal of this ban only a decade later.

Conclusion

The 1967 Arusha Declaration fundamentally reshaped the Tanzanian Healthcare System. It emphasized that healthcare be a right for all and challenged the government to make substantial changes to ensure this principle. Namely, it led to the redirection of funds under the 1969-1974 Second Five-Year Development Plan and the establishment of the 1972 policy banning the building of large hospitals. Importantly, in doing so, it advocated for an equitable health care system responsive to the economic realities of the country. However, physicians accustomed to the Colonial Health Model spurred on by private interests undermined this system, forcing the government to ban private practice in 1980. Importantly, this unrest mirrored global trends that will be discussed Chapter 5, which led to the undoing of Nyerere's vision through the privatization of the Tanzanian Health System in the 1990s.

[82] Coulson, 254.

CHAPTER FIVE

Neoliberalism and Recommendations

In this final chapter, how shifting international powers led to a restructuring of the Tanzanian health services and continued implications of these changes through the 2000 Millennium Development Goals will be discussed. Then, drawing on the history of the Tanzanian health system, three recommendations for the continued strengthening of the Tanzanian health system will be proposed.

Liberalization and User Fees: A New Era?

Under the guise of community empowerment and support, international agencies, such as the United Nations and the World Bank, pushed Tanzania to privatize its health system to control costs. What has been revealed in this thesis, however, is how Western models of care can be implicated more convincingly than preventive services as increasing costs. The World Bank's 1993 Report's advocated for such system, which is perplexing in this light, but was successful in pressuring Tanzania to liberalize its health system and to institute user fees, or co-payments, in 1999. The argument for user fees was to help offset costs and to increase services through increased fee revenue, but its' additional motive was to provide a disincentive for the excessive use of health services.[83] In doing so, it contradicted the Arusha Declaration's call for health services as a right of citizens. Moreover, it ignored contextual realities. Instituting user fees as a solution to the frivolous use of health services demonstrated ignorance of the pre-existing non-price

[83] Gilson, L., and A. Mills. "Health Sector Reforms in Sub-Saharan Africa: Lessons of the Last 10 Years." *Health Policy (Amsterdam, Netherlands)* 32, no. 1–3 (June 1995): 217.

costs for Tanzanians, namely leaving agriculture work behind. Since these non-price costs already acted as disincentives to seeking care, little need for user fees seemed to exist to control utilization of the poor.[84] Alternatively, affluent groups have been found more likely to demand unnecessary service, but the introduction of user fees is not likely to curtail unnecessary utilization due to their personal wealth.[85] In this way, user fees discouraged cost-effective solutions by preventing early health interventions for the poor before their conditions progressed into being more costly. Community-financed schemes replicated the issues of the Colonial Health Model in supporting regional fragmentation between high- and low-income areas, for low-income areas simply could not afford to sustain services unassisted. In this way, a failure to consider history has been a flaw for international agencies, a flaw seemingly replicated in the wake of the HIV/AIDS pandemic.

Conclusions: Recommendations to Strengthen the Tanzanian Health System

In this thesis, the history of the Tanzanian Health System between Colonialism and the 1990s has been shown to be primarily influenced by two contrasting ideologies: health as a right as espoused in the Arusha Declaration and health as a privilege as represented through cost-effective considerations advocated by the 1993 World Bank Report. In considering a unified health system, as discussed in Chapter Two, a stronger Tanzanian Health System must incorporate aspects of both perspectives. It is important for a national health system to be both financially sound and responsive to the needs of its

[84] Gilson, 221.
[85] Gilson, 224.

citizens. Allowing one of these points to override the other compromises the viability of the whole system.

Tanzania is not a wealthy country, and its resources are greatly limited. As such, an expectation of a Western model of care is difficult to sustain, especially given its vast prevalence of infectious diseases. Instead, as the Tanzanian Second Five-Year Development Plan supported, a distributed preventive-focused healthcare workforce offers the best strategy forward. Disrupting the colonial paradigm of care delivered through hospitals and by physcians is of the utmost importance. Three different promising current initiatives will be explored that support this notion.

Recommendation One. In 2010, the Rwandan government achieved 90% health insurance coverage through the adoption of a progressive premium structure.[86] A key to the program's success was the unification of different development packages in 2006 to a central fund under Rwandan authority. By aligning its funding, Rwanda has been able to decrease fragmentation to focus on the development of its community-based insurance scheme. This insurance program provides preventive and basic healthcare to all Rwandans, regardless of whether they work formally or informally. As opposed to late 1970s Tanzania, the Rwandan government can exert firm control over equitable cost-containment strategies, like purchasing generic medicines, and so is less pressured to institute user-fees. Still, however, each insurance member pays an annual premium and 100% of costs per illness episode, excluding hospital-based malaria treatment and those

[86] Makaka, Andrew, Sarah Breen, and Agnes Binagwaho. "Universal Health Coverage in Rwanda: A Report of Innovations to Increase Enrolment in Community-Based Health Insurance." *The Lancet* 380 (October 21, 2012): S7. https://doi.org/10.1016/S0140-6736(13)60293-7.

enrolled in a PEPFAR HIV treatment program.[87] *By supporting a single administrative body attentive to regional needs, dedicated to providing care, and disciplined in instituting key health system building blocks, the Rwandan government balances cost-effectiveness with health equity*. Currently, the four Tanzanian insurance programs do not adequately address this issue, and Tanzania should consolidate these four programs, provided with donor backing, into single national health insurance aimed to provide a suitable standard of care. As such, this insurance should cover a sound horizontal base of primary care services and recognizes its inability to completely cover more expensive procedures without vertical funding support. In this way, the country would be able to reduce the number of costly curative procedures needed in recognition of Tanzania's limited resources and strengthen its health financing system to support the development of other building blocks.

Reccomendation Two. The second recommendation for Tanzania informed by discussions of its history is the *continued commitment to Mobile Health technologies or M-Health*. It has been noted in the Colonial Health Model that care delivered primarily through hospitals is ill-suited for Tanzania. Regional fragmentation and substantial cost increases by urban centers preclude health equity. Also, Tanzania remains a rural country posing challenges to delivering health services to its citizens. M-Health is an innovative approach to address this issue by offering healthcare providers direct communication with their patients irrespective of transportation issues. Moreover, M-

[87] Logie, Dorothy E, Michael Rowson, and Felix Ndagije. "Innovations in Rwanda's Health System: Looking to the Future." *The Lancet* 372, no. 9634 (July 19, 2008): 256–61. https://doi.org/10.1016/S0140-6736(08)60962-9.

Health offers means to support healthcare providers by providing electronic health protocols. By doing so, M-Health can allow the Tanzanian Healthcare System to sustainably and safely increase its health professional supply. Lastly, M-Health offers means to better track and analyze Tanzanian health information, a key to addressing and improving the system.[88] In this way, it would address Tanzania's issue of collecting health information to inform future health system strengthening efforts.

Recommendation Three. The last recommendation recognizes the longstanding problematic status of Tanzanian physicians in efforts to redesign its health system to be better responsive to the needs of all Tanzanians. Since the early days of Independence, Tanzanian doctors have supported curative health development at the expense of preventive measures. Undoubtedly, many Tanzanian physicians did so for they believed that curative measures were truly the best path for development of the country, but, as seen in Chapter Three and Four, some element of ambition may also be present. It is not recommended that Tanzania abolishes its medical schools, like it did to its rural medical assistant program, but it should *commit to training more flexible rural health extension workers equipped with M-Health technologies*. Two justifications supporting this recommendation in addition to cost considerations, detailed in Chapter Four, are the different languages spoken in Tanzania and the 'brain drain' phenomenon.

Over 135 tribal languages including Kiswahili are spoken in Tanzania.[89] While many young Tanzanians speak Kiswahili, older rural populations may only speak tribal

[88] Modi, Shruti. "Mobile Health Technology in Developing Countries: The Case of Tanzania." *Pepperdine Policy Review* 6, no. 1 (June 4, 2013). https://digitalcommons.pepperdine.edu/ppr/vol6/iss1/5.
[89] Muzale, Henry R. T., and Josephat M. Rugemalira. "Researching and Documenting the Languages of Tanzania," June 2008. http://scholarspace.manoa.hawaii.edu/handle/10125/1802.

languages. Therefore, training of rural healthcare extension workers from local villages allows medical care to be translated into local languages and sub-cultures. A second consideration supporting the training of rural health extension workers is that Tanzanian physicians, as with other African countries, tend to immigrate to developed countries if extended an opportunity. For a country without a large healthcare workforce and limited resources to invest in extensively training physicians, this emigration of physicians is an issue. The magnitude of this problem is revealed in one study reporting a nearly 5-fold loss of physicians between 1995 and 2004, from 4.1 physicians per 100,000 population to 0.69 physicians per 100,000 population.[90] Investing in rural health extension workers provides a more sustainable healthcare workforce for Tanzania at a cheaper cost. A model embracing these workers equipped with M-Health technology is more likely to achieve the 1967 Arusha Declaration's goal of health for all Tanzania and should be supported by the government. This initiative would lead to a stronger and more responsive healthcare workforce to help lead future initiatives to strengthen the entire health system.

Conclusion

The formation of a community-based national health insurance scheme, continued development of M-Health capabilities, and commitment to training rural healthcare workers are historically informed approaches to strengthen the Tanzanian Health System. These three approaches disrupt the non-equitable or cost effective Colonial Health

[90]Clemens, Michael A., and Gunilla Pettersson. "New Data on African Health Professionals Abroad." *Human Resources for Health* 6 (January 10, 2008): 1. https://doi.org/10.1186/1478-4491-6-1. https://human-resources-health.biomedcentral.com/articles/10.1186/1478-4491-6-1

Model's fragmented, hospital-based, and physician-driven care delivery model. Also, the recommendation supports the coalescing of the Tanzanian Health System in the wake of past international pressures that have led to fragmentation of the healthcare system. The most apparent consequence of this fragmentation has been the undermining of the Tanzanian principle of health for all by considerations of cost-effectiveness championed in the 1993 World Bank Report. By leveraging sustainable compensation through a health insurance program and increasing the healthcare workforce and its capacities through M-Health technologies, these recommendations support Nyerere's program designed to emphasize preventive services. By doing so, these recommendations will develop the health system to become financially sound while being responsive to the Tanzanian population in affirming the goals outlined in the 1967 Arusha Declaration.

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