

Health System Comparative Analysis: The United States and Uganda

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A comparison of international healthcare systems provides unique insights beyond those attainable through an ethnocentric analysis. Through a global health education program provided by Child Family Health International, we spent eight weeks as students of Dr. Geoffrey Anguyo, the Founder and Executive Director of the holistic-minded development organization Kigezi Healthcare Foundation (KIHEFO), located in the Kabale District of Uganda. This partnership motivated and guided this comparative analysis of the health systems in the United States and Uganda, through which we are able to derive a more robust understanding of health and healthcare than that which could be achieved by studying either country in isolation.

We begin with an overview of the structure and burden of disease in each respective country before further investigating prevalent topics in both healthcare systems including maternal health and child malnutrition. We find that differences in resources and primary health concerns derived from the oppression of the Global South by the Global North have shaped each of these healthcare systems to target distinct needs. However, both systems are united in their shared goal to improve the quality of life for their citizens, allowing us to draw connections and uplift from each country's healthcare system general best-practices that can be molded to fit a country's specific health needs. This study does not hold one system as superior to the other. Rather, through this comparison we seek to illuminate the strengths and weaknesses of *both* systems as they exist within their unique contexts to develop a stronger global understanding of health and healthcare.

Healthcare system structures in the United States and Uganda
The United States, perceived to be one of the most advanced and wealthy countries in the world, has fallen behind many of its counterparts in terms of health care. Much of this can be accredited to its convoluted and fragmented healthcare system which consists of three levels of governmental participation—federal, state, and local—as well as private involvement. At the federal level, a range of regulatory and funding

mechanisms are provided through programs like Medicare and Medicaid, which provide healthcare to such vulnerable groups as the elderly, the disabled, and the poor.^{1,2} The federal government is responsible for determining a healthcare budget, setting reimbursement rates, and formulating standards for providers for eligible Medicare/Medicaid patients.³ At the state level, healthcare programs dictated by the federal government are provided and funding mechanisms are established.⁴ At the local level, programs dictated at the state and federal levels are implemented.⁵

Because the governmental level caters primarily to vulnerable groups, most people must opt for private insurance.⁶ The majority of privately insured individuals receive subsidization from their employers while the remaining insured Americans must purchase individual private insurance. In 2017, 67.2 percent of people were covered by private health insurance.^{7,8} Coordination between the governmental and private programs is very minimal; while some individuals may be insured by both, some may not be insured at all.⁹ Uninsured Americans must utilize non-profit community health centers or emergency rooms to receive health care, although many decide to forego treatment altogether.¹⁰

The United States is the only wealthy industrialized country that does not provide universal healthcare coverage.¹¹ This vacuum exacerbates existing social and economic inequality and therefore disproportionately threatens the health and wellbeing of poor and marginalized groups. Additionally, without universal healthcare, access to healthcare has been much more limited compared to those of many other developed countries

¹ Niles, N. J. (2019). *Basics of the U.S. Health Care System* (4th ed.). Jones & Bartlett Learning, pg.14

² Tunstall, L. (2015, October 22). *Backgrounder: Making Sense of the U.S. Health Care System: A Primer*. Evidence Network. <https://evidencenetwork.ca/backgrounder-making-sense-of-the-u-s-health-care-system-a-primer-2/>

³ Niles, N. J. (2019). *Basics of the U.S. Health Care System* (4th ed.). Jones & Bartlett Learning, pg.14

⁴ Ibid.

⁵ Ibid.

⁶ Ibid., pg.15

⁷ De Lew, N., Greenberg, G., & Kinchen, K. (1992). A Layman's Guide to the U.S. Health Care System. *Health Care Financ Rev.*, 14(1), 151–169. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4193322/>

⁸ Tunstall, L. (2015, October 22). *Backgrounder: Making Sense of the U.S. Health Care System: A Primer*. Evidence Network. <https://evidencenetwork.ca/backgrounder-making-sense-of-the-u-s-health-care-system-a-primer-2/>

⁹ Niles, N. J. (2019). *Basics of the U.S. Health Care System* (4th ed.). Jones & Bartlett Learning, pg.14

¹⁰ Ibid

¹¹ Crowley, R., Daniel, H., Cooney, T. G., & Engel, L. S. (2020). Envisioning a Better U.S. Health Care System for All: Coverage and Cost of Care. *Annals of Internal Medicine*, 172(2_Supplement), S7. <https://doi.org/10.7326/m19-2415>

(due to the extreme cost) rendering many people more susceptible to diseases and poor health. Although the implementation of the Patient Protection and Affordable Care Act enacted by President Obama led to historic reductions in people living without health insurance, approximately 30 million people in the United States remain uninsured with millions more underinsured.¹²

The United States has also spent more per capita on healthcare than any other wealthy country in the world. In 2018, it spent nearly 18 percent of its GDP on healthcare with increasing spending on inpatient and outpatient services.¹³ However, high spendings on healthcare has not proven beneficial to overall health nor productivity in the United States. In a commonwealth fund comparison in 2017, a health system performance of 11 industrialized countries saw the U.S. rank last or near last in access, administrative efficiency, equity, healthcare outcomes, life expectancy, infant mortality, and adult obesity.¹⁴

Contrasting to the United States model, Uganda's national health care system is two-fold, with an organized national health system and a health delivery in place within the strategic framework and focus.¹⁵ The majority of health units are government-owned, and the structure of the healthcare sector is based on a tiered system which extends from aid posts and community workers at the lowest levels to the highest level of care in the service delivery system.¹⁶ The national referral hospitals provide the highest level of specialist services in conjunction with all the other clinical services.¹⁷ The health system in Uganda is centered around urban, curative services being located in urban areas.¹⁸

Private and public sectors comprise Uganda's national health system.¹⁹ The private health sector includes Private Not for Profit (PNFP), Private Health Practitioners (PHPs), and Traditional Contemporary Medicine Practitioners (TCMPs).²⁰ Comprising approximately 50 percent of the healthcare delivery, private sectors prove to act as an especially vital source of health care in low-income countries, essentially filling the gaps

¹² Ibid.

¹³ Ibid.

¹⁴ Crowley, R., Daniel, H., Cooney, T. G., & Engel, L. S. (2020). Envisioning a Better U.S. Health Care System for All: Coverage and Cost of Care. *Annals of Internal Medicine*, 172(2_Supplement), S7. <https://doi.org/10.7326/m19-2415>

¹⁵ Nakisozi, L. (n.d.). National Health Care System In Uganda. Retrieved July 12, 2020, from <https://ghcorps.org/national-health-care-system-in-uganda/>

¹⁶ Hutchinson, P., Habte, D., & Mulusa, M. (1999). *Health care in Uganda: Selected issues*. World Bank.

¹⁷ Nakisozi, L. (n.d.). National Health Care System In Uganda. Retrieved July 12, 2020, from <https://ghcorps.org/national-health-care-system-in-uganda/>

¹⁸ Ibid.

¹⁹ Nakisozi, L. (n.d.). National Health Care System In Uganda. Retrieved July 12, 2020, from <https://ghcorps.org/national-health-care-system-in-uganda/>

²⁰ Nakisozi, L. National Health Care System In Uganda.

where free or low-cost public services are unavailable.²¹ For example, in Nigeria, private maternity centers remain the most preferred health care facilities for childbirth, followed by traditional birth attendants.²² In Uganda, private providers can reach a wide client base in rural areas and allow for the opportunity of improvement of access to care and overall equity.²³ Although private health care proves itself as versatile, oftentimes privatized health care providers act as unsatisfactory, especially among informal providers.²⁴

The public sector comprises government health facilities while several Ministry of Health functions have been delegated to national autonomous institutions.²⁵ The Ministry of Health focuses on “developing norms and standards, elaborating policies, providing technical support and guidance to the districts, and monitoring and supervision performance.”²⁶ Health services delivery are decentralized within national levels, district levels, and subdistrict levels.²⁷ The lowest health service level is the VHTS, or volunteers who facilitate “health promotion, service delivery, community participation, and empowerment.”²⁸ This decentralization has led to new structures and responsibilities for existing posts at the district level; the Ugandan government has strengthened local entities while developing separate executive and legislative structures for the implementation of health services and policymaking, with the ultimate goal of being able to “increase local capacity for planning, financing, and managing the delivery of services and to promote greater community involvement in health care decisions.”²⁹

At the district level, there are multiple sectors which the Chief Administrative Officer overlooks: production and marketing, social services (focus on vulnerable populations), health, education, and works

²¹ Ibid.

²² Ibid.

²³ Patouillard, E., Goodman, C. A., Hanson, K. G., & Mills, A. J. (2007). Can working with the private for-profit sector improve utilization of quality health services by the poor? A systematic review of the literature. *International Journal for Equity in Health*, 6(1), 17. <https://doi.org/10.1186/1475-9276-6-17>

²⁴ Konde-Lule, J., Gitta, S. N., Lindfors, A., Okuonzi, S., Onama, V. O., & Forsberg, B. C. (2010). Private and public health care in rural areas of Uganda. *BMC International Health and Human Rights*, 10(1), 29. <https://doi.org/10.1186/1472-698X-10-29>

²⁵ Nakisozi, L. (n.d.). National Health Care System In Uganda. Retrieved July 12, 2020, from <https://ghcorps.org/national-health-care-system-in-uganda/>

²⁶ Hutchinson, P., Habte, D., & Mulusa, M. (1999). *Health care in Uganda: Selected issues*. World Bank.

²⁷ Nakisozi, L. (n.d.). National Health Care System In Uganda. Retrieved July 12, 2020, from <https://ghcorps.org/national-health-care-system-in-uganda/>

²⁸ Ibid.

²⁹ Hutchinson, P., Habte, D., & Mulusa, M. (1999). *Health care in Uganda: Selected issues*. World Bank.

(infrastructure).³⁰ The Chief Administrative Officer is held accountable for any issues that are undergone as they oversee this allocation of money.³¹ Under the supervision of the district's Chief Administrative Officer is the District Council, and within the District Council is the District Health Committee. This committee is responsible for performing legislative functions, planning and policymaking, supervision of lower-level health committees, and the coordination of health sector participants. In this committee, all the members aside from the District Director of Health Services are elected. The District Director of Health Services and the District Health Team have executive functions which include "planning, implementing district health activities, distributing drugs and vaccines, assessing manpower requirements and training needs and monitoring and supervising district health activities."³²

At the sub-district levels, there is Health Center II and Health Center III.³³ Health Center II provides the first level of interaction between the formal health sector and communities, providing outpatient and community outreach services.³⁴ Health Center III provides basic preventative, promotive, and curative services.³⁵ The next levels are general hospitals; they provide Health Center III broad services, like blood transfusion and surgeries; they also conduct research.

Government funding for the health care sector is allocated between two budgets annually: recurrent and development capital.³⁶ These funds are revenue from the central government and, acting as the primary source of funding, external donors.³⁷

Burden of disease in the United States and Uganda

In the United States, the burden of disease lies heavily on noncommunicable diseases both in terms of death and disability. For the last decade, the top seven causes of death have continued to be (1) heart disease, (2) cancer, (3) accidents, (4) stroke, (5), lower respiratory infection, (6) Alzheimer's Disease, and (7) diabetes.^{38,39} These are also

³⁰ G. Anguyo, personal communication, July 20, 2020

³¹ Ibid.

³² G. Anguyo, personal communication, July 20, 2020.

³³ Nakisozi, L. (n.d.). National Health Care System In Uganda. Retrieved July 12, 2020, from <https://ghcorps.org/national-health-care-system-in-uganda/>

³⁴ Ibid.

³⁵ Ibid.

³⁶ Hutchinson, P., Habte, D., & Mulusa, M. (1999). *Health care in Uganda: Selected issues*. World Bank.

³⁷ Ibid.

³⁸ Holland, K. (2010, October 07). 12 Leading Causes of Death in the United States. Retrieved July 24, 2020, from <https://www.healthline.com/health/leading-causes-of-death>

³⁹ United States. (2017, September 18). Institute for Health Metrics and Evaluation. Retrieved July 12, 2020, from <http://www.healthdata.org/united-states>

the leading causes of years of life lost (YLL) with the exception of respiratory infection, which is replaced with drug use disorders.⁴⁰ In terms of Disability Adjusted Life Years (DALY), the leading causes are low back pain, headache disorders, diabetes, drug use disorders, depressive disorders, and COPD.⁴¹ The average lifespan in the U.S. is 78.54 years, but the healthy life expectancy was only 67.1 years in 2010.⁴² This may explain in part the prevalence of noncommunicable disease since many may be age-related.⁴³ However, it is important to note that several of these diseases may be preventable due to their associations with poor diet and toxins like drugs and alcohol.

In contrast, the burden of disease in Uganda lies predominantly with communicable diseases, with noncommunicable diseases only recently beginning to grow more prevalent. In the past decade, the five highest ranking causes of premature death in Uganda include (1) HIV/AIDS, (2) lower respiratory infections, (3) diarrheal diseases, (4) malaria, (5) meningitis, however the sixth and seventh most leading causes are (6) cardiovascular diseases and (7) cancers.⁴⁴ In 2010, the top three causes of DALYS were HIV/Aids, malaria, and lower respiratory infections.⁴⁵ The three highest risk factors for Ugandan disease burden are alcohol use, household air pollution from solid fuels, and childhood underweight.⁴⁶ Health-adjusted life expectancy— which takes into account years lived in less-than-ideal health— is 51.5 years at birth.⁴⁷ It is expected that the burden of disease will shift more towards noncommunicable diseases as Uganda further develops its health system and increases its life expectancy.

Successes of the Ugandan healthcare system

There is a great deal that other nations can learn from studying the successes of the Ugandan healthcare system. Over the past two decades, a coordinated effort—calling upon all levels of the Ugandan health system—has led to the implementation of several interventions aimed at improving the quality of health services across the country.⁴⁸ For example,

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² GHO | By category | Healthy life expectancy (HALE) - Data by country. (n.d.). Retrieved July 22, 2020, from <https://apps.who.int/gho/data/node.main.HALE?lang=en>

⁴³ Ibid.

⁴⁴ Primary health care systems (PRIMASYS): case study from Uganda, abridged version. Geneva: World Health Organization; 2017. Licence: CC BY-NC-SA 3.0 IGO.

⁴⁵ “Uganda.” *Institute for Health Metrics and Evaluation*, 20 Sept. 2017, www.healthdata.org/uganda.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Gutierrez, R. (2018). *THE REPUBLIC OF UGANDA MINISTRY OF HEALTH*. www.usaidassist.org

in 2012, USAID launched the public-private partnership Saving Mothers Giving Life (SMGL) in 10 districts in Uganda.⁴⁹ SMGL works to make safe childbirth services and emergency care more accessible to pregnant women.⁵⁰ This partnership has yielded a notable decline in maternal mortality rates in both the participating facilities and the targeted communities at large.⁵¹ Additionally, one can look to the successes of the public-private partnership known as DREAMS (Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe) as an example of a well implemented, quality improvement initiative.⁵² DREAMS consists of evidence-based interventions aimed at reducing HIV infection among young women.⁵³ The initiative has now reached over 36000 adolescent girls and young women with a multifaceted approach to preventing the spread of HIV/AIDS.⁵⁴ Integral to the successful implementation of these quality improvement programs has been the country's ownership and sustained commitment to ameliorating the healthcare system at all levels.⁵⁵

This commitment is reflected in ways that extend beyond program implementation, as the strengthening healthcare system has resulted in both promising health trends and effective responses to health care emergencies. For example, between 1991 and 2014, the country's life expectancy at birth rose from 45.7 to 62.2 years for men, and 50.5 to 64.2 years for women; while under-five mortality, stunting, and maternal mortality continue to decline.^{56,57}

Not only do these larger trends provide promising evidence of the Ugandan healthcare system's continued growth, but this growth is also evidenced by the system's repeated demonstrations of strength in times of heightened and acute adversity. This fortitude can be seen in the country's rapid, coordinated, and effective responses to the Marburg virus outbreak of 2017, the health care emergency of 2018, and now the COVID-19 pandemic of 2019. In regard to the Marburg virus outbreak, the WHO Regional Director for Africa, Dr. Matshidiso Moeti wrote: "Uganda has led an exemplary response. Health authorities and partners, with the support of WHO, were able to detect and control the spread of Marburg

⁴⁹ Ibid.

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Ibid.

⁵³ Ibid.

⁵⁴ *DREAMS project | Mildmay Uganda*. (n.d.). Retrieved July 9, 2020, from <https://mildmay.or.ug/our-work/dreams-project>

⁵⁵ Gutierrez

⁵⁶ World Health Organization. (2018). Country Cooperation Strategy: Uganda [Fact sheet].

https://apps.who.int/iris/bitstream/handle/10665/136975/ccsbrief_uga_en.pdf;sequence=1

⁵⁷ For a more comprehensive picture of the evolution of various health indicators in Uganda over time, please visit Sustainable Development Report 2020.

virus disease within a matter of weeks.”⁵⁸ A Public Health Emergency Operations Centre was activated immediately following the confirmation of the virus’ presence, laboratory testing and surveillance began, communities were engaged, and contacts located; consequently, only three people died over the course of the outbreak.⁵⁹ Similar methods—characterized by rapid responses, community engagement, strong surveillance, and coordinated efforts—were used to successfully combat the outbreaks of Ebola, yellow fever, measles, and the Crimean-Congo hemorrhagic fever in 2018, and presently the coronavirus pandemic.⁶⁰ In conclusion, the threats posed by these diseases were preemptively mitigated by prompt and successful responses, thus shielding the Ugandan healthcare system from being overwhelmed, protecting countless lives, and further illustrating the system’s strengths amid numerous challenges.

Health challenges in Uganda

According to the Centers for Disease Control and Prevention (CDC), one of the greatest challenges in Uganda’s health system is the lack of a national, uniform laboratory network that can uninterruptedly serve the country’s diagnostic needs.⁶¹ In addition, the World Health Organization (WHO) also recommends improving “resources to recruit, deploy, motivate and retain human resources for health”; the quality of healthcare and evidence-based information available to health workers; and the availability of medicines and medical equipment.⁶² This last recommendation is an especially pressing issue due to the relatively lower budgets set aside for the purchase of medicines.⁶³ As a result, it is imperative that medicines are only purchased when necessary and in appropriate quantities, properly stored (e.g., in refrigerators), and used before their expiration date.⁶⁴ The organization also highlights the issue of antimicrobial resistance in Uganda, owing to improper procedures in the

⁵⁸ *Uganda ends Marburg virus disease outbreak.* (n.d.). Retrieved July 20, 2020, from <https://www.who.int/news-room/detail/08-12-2017-uganda-ends-marburg-virus-disease-outbreak>

⁵⁹ Ibid.

⁶⁰ *How Uganda’s history of epidemics has prepared it for COVID-19 | PBS NewsHour.* (n.d.). Retrieved July 9, 2020, from <https://www.pbs.org/newshour/show/how-ugandas-history-of-epidemics-has-prepared-it-for-covid-19>

⁶¹ *Uganda* (Fact Sheet). (2019). Atlanta, GA: Centers for Disease Control and Prevention. Retrieved from https://www.cdc.gov/globalhealth/countries/uganda/pdf/Uganda_Factsheet.pdf

⁶² *WHO Country Cooperation Strategy 2016-2020: Uganda* (Tech.). (2018). World Health Organization. Retrieved July 10, 2020, from <https://apps.who.int/iris/handle/10665/255018>.

⁶³ Ibid.

⁶⁴ Madinah, N. (2016). Challenges and Barriers to the Health Service Delivery System in Uganda. *IOSR Journal of Nursing and Health Science*, 5(2), 30-38. doi:10.9790/1959-0502053038.

use of medicines; “substandard, spurious, falsely labeled, falsified or counterfeit medicines” were also challenges that the WHO found in Uganda’s health system.⁶⁵

Another issue lies in the distribution of funds and resources to health facilities around the country. In Uganda, much of the national health budget funds hospitals, while local health centers, which interact most directly with Ugandan citizens, are largely under-resourced.⁶⁶ This has led to the general belief among Ugandans that “NGO and private health facilities are offering better quality services than government-owned units.”⁶⁷ In addition, the rapid industrialization and accompanying disparities in wealth among citizens have led to both an increased occurrence of injuries and the emergence of new kinds of trauma, such as “road traffic injuries and interpersonal violence,” that the country is currently unprepared to address.⁶⁸ Corruption is also a major issue in Uganda’s health system. Wealthier patients may bribe health workers in order to avoid paying official government healthcare fees; 37 percent of bribes in Uganda occur in the health sector.⁶⁹ Some medical workers also demand unofficial payments for their services, likely owing to low salaries.⁷⁰

While decentralization exacerbates inequities in health care across the globe, the decentralization of Uganda’s healthcare system has particularly “widened disparities in the nature and quality of health services.”⁷¹ Emergency obstetric services, for instance, may be offered in as low as 4 percent of health facilities but as high as 42 percent of health facilities in more wealthy districts.⁷² National policies regarding funding of health services, which is determined by Uganda’s Ministry of Health, have also not been updated for many years, barring the healthcare system from adapting to changes over time.⁷³ The Ministry of Health also determines the specific distribution of these government funds, preventing local health authorities from tailoring their efforts to the specific needs of the local population.⁷⁴ This restriction with regard to government funds and the abolishment of user fees in 2001 have led to a greater dependence on external sources, such as donors, to cover the remaining costs, especially

⁶⁵ WHO Country Cooperation Strategy 2016-2020: Uganda

⁶⁶ Madinah

⁶⁷ Ibid.

⁶⁸ Ibid.

⁶⁹ Ibid.

⁷⁰ Ibid.

⁷¹ Okuonzi, S. A. (2004). Learning from failed health reform in Uganda. *BMJ*, 329(7475), 1173-1175. doi:10.1136/bmj.329.7475.1173.

⁷² Ibid.

⁷³ Ibid.

⁷⁴ Ibid.

those pertaining to issues not included in the Ministry of Health's budgeting plan.⁷⁵

Successes of the American healthcare system

The healthcare model in America relies on a direct-fee system, which, unlike other Western countries, possesses national models of health insurance, centered around private health insurance plans; many employers offer healthcare via employment.⁷⁶ Generally, employer-based insurance offers flexibility in terms of adapting to the constantly changing habits of medical practices.⁷⁷

A prevalent strength of the United States healthcare system lies in its strong private sector orientation, which results in zero to minimal waiting lists for major procedures as well as ready access to all medical services available for those with coverage, and that furthermore facilitates medical innovation by product manufacturers.⁷⁸ The emphasis that the U.S. healthcare system places on innovation and exploration promises to perpetuate exponential change and improvement to create more cost-efficient medicines and technologies, more personalized care which is tailored to the patient's genetic profile, and a heightened understanding for ways to expand medical outreach.⁷⁹ This heightened emphasis on innovation has unquestionably improved the quality of life for many US citizens. For example, the US boasts a higher rate of survival amongst premature babies compared to its counterparts, and people 80 years and older have been shown to live longer in the US than in other countries.⁸⁰ Additionally, the US maintains its status as a world leader in pharmaceutical innovation.⁸¹

However, the United States faces challenges of innovating in healthcare: budgets are limited, demand has increased, public expectations have risen, repercussions exist for failure in the innovation process, and

⁷⁵ Ibid.

⁷⁶ *The Pros and Cons of the US Health-Care Model (the Direct-Fee System)*. (2020, September 14). The Clinton Courier. <https://www.theclintoncourier.net/2020/09/14/the-pros-and-cons-of-the-us-health-care-model-the-direct-fee-system/>

⁷⁷ Capretta, J. C. (2009). *Healthcare in the United States: Strengths, Weaknesses & the Way*. The Center for Bioethics and Human Dignity. <https://cbhd.org/content/healthcare-united-states-strengths-weaknesses-way-forward>

⁷⁸ Capretta, J. C. (2009). *Healthcare in the United States: Strengths, Weaknesses & the Way*. The Center for Bioethics and Human Dignity. <https://cbhd.org/content/healthcare-united-states-strengths-weaknesses-way-forward>

⁷⁹ Kelly, C. J., & Young, A. J. (2017). Promoting innovation in healthcare. *Future Healthcare Journal*, 4(2), 121–125. <https://doi.org/10.7861/futurehosp.4-2-121>

⁸⁰ Ridic, G., Gleason, S., & Ridic, O. (2012). Comparisons of health care systems in the United States, Germany and Canada. *Materia socio-medica*, 24(2), 112–120. <https://doi.org/10.5455/msm.2012.24.112-120>

⁸¹ Ibid

there is increasing pressure for the frontline healthcare workers in avoiding malpractice lawsuits.⁸²

Health challenges in America

Although medical bankruptcies have affected upwards of 2 million individuals, healthcare costs are still on the rise, making preventive care unaffordable to many.⁸³ These high costs make the American healthcare system approximately twice as expensive per person compared to all other developed countries.⁸⁴ In 2019, health care expenditures comprised 17 percent of all personal consumption expenditures (PCE) and 12 percent of the gross domestic product (GDP).⁸⁵ According to the CMS' Office of the Actuary, the national healthcare spending in the United States is expected to increase at an average annual rate of 5.4% from the years 2019 to 2028, which is surpassing the GDP average annual growth rate of 4.3%.⁸⁶ This rise in spending is largely driven by increasing healthcare prices.⁸⁷ Many have been disproportionately affected by these skyrocketing prices, and according to a survey by the Kaiser Family Foundation in 2020, 69 percent of Americans want Medicare for all.⁸⁸

A reason for the increasing cost of healthcare lies in malpractice lawsuits. Malpractice insurance premiums for physicians increase at an average rate of over 30 percent every year, a rate that is significantly more than the increase in physician costs and healthcare cost inflation.⁸⁹ Thus, many doctors often over-test even if these tests are not necessarily warranted as it can protect them from malpractice lawsuits if they did not order a particular test.⁹⁰ Moreover, another reason for heightened healthcare prices lies in the fact that there simply exists less price competition in healthcare compared to other industries as most people do not pay for their own healthcare and instead simply pay a copay while

⁸² Ibid.

⁸³ *Reasons Why We Need Health Care Reform in the US*. (2020, October 30). The Balance. <https://www.thebalance.com/why-reform-health-care-3305749>

⁸⁴ Ibid.

⁸⁵ Ibid.

⁸⁶ Keehan, S. P., Cuckler, G. A., Poisal, J. A., Sisko, A. M., Smith, S. D., Madison, A. J., Rennie, K. E., Fiore, J. A., & Hardesty, J. C. (2020). National Health Expenditure Projections, 2019–28: Expected Rebound In Prices Drives Rising Spending Growth: National health expenditure projections for the period 2019–2028. *Health Affairs*, 39(4), 704–714. <https://doi.org/10.1377/hlthaff.2020.00094>

⁸⁷ Ibid.

⁸⁸ *The Pros and Cons of the US Health-Care Model (the Direct-Fee System)*. (2020, September 14). The Clinton Courier. <https://www.theclintoncourier.net/2020/09/14/the-pros-and-cons-of-the-us-health-care-model-the-direct-fee-system/>

⁸⁹ LeMasurier, J. (1985). Physician medical malpractice. *Health Care Financing Review*, 7(1), 111–116.

⁹⁰ *Reasons Why We Need Health Care Reform in the US*. (2020, October 30). The Balance. <https://www.thebalance.com/why-reform-health-care-3305749>

insurance companies pay the rest.⁹¹ Thus, patients do not have an incentive to price-shop for doctors, procedures, or lab tests as they would for a purchase such as a desk or a laptop.

Furthermore, these increasing healthcare costs pose an extreme hardship for uninsured American citizens. A 2020 study conducted by the Office of Disease Prevention and Health Promotion revealed that uninsured Americans are less likely to seek medical care because of the high costs, and thus will purposefully not schedule or attend preventive care are regular health screenings; this ultimately negatively affects the health and well-being of these individuals.⁹² Unfortunately, this means that preventive services to aid in caring for treatable conditions are avoided.⁹³

The United States healthcare system also has led to poor amenable mortality rates. America is ranked last on the Healthcare Access and Quality (HAQ) Index in terms of amenable mortality when compared to 8 other comparable countries.⁹⁴ Amenable mortality can be defined as deaths from potentially preventable diseases--such as appendicitis and diabetes--in the light of effective and timely healthcare.⁹⁵ The HAQ Index scales from a score of 0 (worst) to a score of 100 (best) while measuring preventable mortality rates for 32 causes of death.⁹⁶ A higher rating indicated fewer preventable deaths due to a higher standard of healthcare quality and access.⁹⁷

Maternal and neonatal health

Labor and delivery

Though women require health care services to ensure a healthy and successful pregnancy, there is no other time as important for specialized

⁹¹ *Reasons Why We Need Health Care Reform in the US*. (2020, October 30). The Balance. <https://www.thebalance.com/why-reform-health-care-3305749>

⁹² *Access to Health Services | Healthy People 2020*. (2020). Office of Disease Prevention and Health Promotion. <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/access-to-health>

⁹³ Ibid.

⁹⁴ *How does the quality of the U.S. healthcare system compare to other countries?* (2020, August 20). Peterson-KFF Health System Tracker. <https://www.healthsystemtracker.org/chart-collection/quality-u-s-healthcare-system-compare-countries/#item-start>

⁹⁵ Ramkissoon, F. E. (2013). Commentary on “In Amenable Mortality—Deaths Avoidable Through Health Care—Progress in the US Lags That of Three European Countries.” *Annals of Medicine and Surgery* (2012), 2(1), 5–7. [https://doi.org/10.1016/S2049-0801\(13\)70018-9](https://doi.org/10.1016/S2049-0801(13)70018-9)

⁹⁶ *8 Major Problems with the U.S. Healthcare System Today*. (n.d.). MediFind. Retrieved May 27, 2021, from <https://www.medifind.com/news/post/problems-us-healthcare-system>

⁹⁷ Ibid.

care as during the delivery process. From labor, every minute counts to ensure the safety of both mother and child, and common complications, from abnormal heart rate to bleeding, can be prevented with professional help.⁹⁸ However, a 2014 study found that globally in 2008, over 300,000 women died during pregnancy or childbirth, most from common complications. For instance, between 2003-09, 661,000 maternal deaths were caused by hemorrhage, the leading direct cause of maternal death worldwide.⁹⁹ Of these deaths, 659,000 occurred in developing regions—8,300 in Northern Africa, 321,000 in Sub-Saharan Africa, 20,000 in Eastern Asia, 239,000 in Southern Asia, and 16,000 in Latin America and the Caribbean.¹⁰⁰ However, most hemorrhage-induced deaths resulted in postpartum, with 0.9 percent, or 23,000, of the maternal deaths caused by hemorrhages in developing countries occurring during delivery.¹⁰¹ Hypertension and sepsis were the next most common direct causes of maternal death, accounting for 14 percent (341,000) and 10.7 percent (260,000), respectively, of fatalities in developing regions.¹⁰²

Deaths from these direct causes result from the underlying issue of births being unattended by trained professionals. Women in many developing countries are unable to, or choose not to, deliver in a clinic or hospital. For instance, in 2018, only 56.6 percent of pregnant women in the Ebonyi State of southeastern Nigeria delivered in a health facility.¹⁰³ Contrast this to high and upper middle-income countries, where “more than 90 percent of all births benefit from the presence of a trained midwife, doctor or nurse.”¹⁰⁴ For instance, in 2016, 99.1 percent of births in the United States were attended by skilled health personnel, whereas in Uganda, this number was 74 percent.¹⁰⁵

These differences are often inflated between social groups within low-income countries themselves. For instance, a 2011 multinational survey conducted in 48 developing countries found that in sub-Saharan Africa, South Asia, and Southeast Asia, “74.7-89.9 percent of women in the

⁹⁸ *What are some common complications during labor and delivery?* (2017). NIH.

⁹⁹ Say, L., Chou, D., Gemmill, A., Tunçalp, Ö., Moller, A.B., Daniels, J., Gülmezoglu, A., Temmerman, M., Alkema, L. (2014). Global causes of maternal death: a WHO systematic analysis. *The Lancet Global Health*, 2(6). [https://doi.org/10.1016/S2214-109X\(14\)70227-X](https://doi.org/10.1016/S2214-109X(14)70227-X)

¹⁰⁰ Ibid.

¹⁰¹ Ibid.

¹⁰² Ibid.

¹⁰³ Eze, I, Mbachu, C., Ossai, E., Nweze, C., Uneke, C. (2020). Unlocking community capabilities for addressing social norms/practices: behavioral change intervention study to improve birth preparedness and complication readiness among pregnant women in rural Nigeria. *BMC Pregnancy and Childbirth*. <https://doi.org/10.1186/s12884-020-03061-0>.

¹⁰⁴ *Maternal mortality*. (2019). World Health Organization.

¹⁰⁵ *SDG indicators*. (2020). Sustainable Development Goals.

lowest two wealth quintiles reported giving birth at home.”¹⁰⁶ In contrast, “in South Asia and South East Asia, 51 percent and 57 percent, respectively, of women in the richest quintile reported giving birth in a private or religious facility.”¹⁰⁷ In sub-Saharan Africa, “54.1 percent of the richest women reported using public facilities compared with only 17.7 percent of the poorest women.”¹⁰⁸

Despite the stark differences along economic lines, only “7 percent of the poorest women reported cost as a deciding reason for not going to a facility for delivery.”¹⁰⁹ Access was a larger issue; with 24 percent of low-income women and 18 percent of wealthy women whose births were unattended citing it as the motive for a home birth.¹¹⁰ However, the most common reason was that delivering in a facility was regarded as being unnecessary—68 percent of women with unattended births held this belief.¹¹¹ Similarly, a study done in the Amhara region of Ethiopia found that institutional delivery service was as low as 12.1 percent.¹¹² Researchers concluded that “the probability of utilizing a health institution for delivery service was higher for those who had better knowledge on the danger signs of pregnancy and the benefits of institutional delivery service.”¹¹³

To that end, the WHO, International Confederation of Midwives (ICM), and the International Federation of Gynecology and Obstetrics (FIGO) recommend the presence of a “skilled attendant,” (SA) which they define as:

An accredited health professional—such as a midwife, doctor, or nurse—who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns.¹¹⁴

An SA is trained to monitor a host of different physiological elements, including determining the possible detriments of certain illnesses on a healthy pregnancy, assessing both mother and child during labor, and

¹⁰⁶ Montagu, D., Yamey, G., Visconti, A., Harding, A., Yoong, J. Where do women in developing countries give birth? A multi-country analysis of demographic and health survey data. *PLoS One*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3046115/>.

¹⁰⁷ Ibid.

¹⁰⁸ Ibid.

¹⁰⁹ Ibid.

¹¹⁰ Ibid.

¹¹¹ Ibid.

¹¹² Nigusie, A., Azale, T., Yitayal, M. (2020). Institutional delivery service utilization and associated factors in Ethiopia: a systematic review and META-analysis. *BMC Pregnancy and Childbirth*. <https://doi.org/10.1186/s12884-020-03032-5>.

¹¹³ Ibid.

¹¹⁴ *Making pregnancy safer: the critical role of the skilled attendant*. (2004). World Health Organization.

using specialized tools (such as a partograph) to ensure continued well-being of the fetus. During delivery, an SA can, for instance, perform continual vaginal examination to identify bleeding or other complications and take necessary precautions, such as active resuscitation, which is often needed due to onset of asphyxia resulting from the birthing process.¹¹⁵ Further, SAs are trained to respond to hemorrhaging and hypertension, which occur commonly during delivery, and in some instances, are able to perform Caesarean sections and administer blood transfusions.¹¹⁶ Such complications cannot adequately be addressed in home births, and even the slightest issue can have grave consequences. Given that a lack of awareness of the problems associated with baby delivery is the most common reason for women choosing not to seek professional assistance, this is in and of itself the single greatest obstacle to successful childbirth. Beyond education, training to increase the number of SAs and other specialists is an important and promising solution. For instance, in 2017, the United States had about 146 midwives per 10,000 people, whereas Uganda had around 15.¹¹⁷ A reliable aggregate of professionals would make it so that even if a woman chose an at-home birth, she could have access to life-saving assistance.

Postpartum care

A fallacy that has led to the death of many mothers across the world is the notion that the health threats associated with childbirth are swept away the moment a newborn is swept into the arms of their mother. This false security fuels a negligence of the postpartum period in the continuum of maternal and neonatal care and abstruses the reality that more than 60 percent of global maternal deaths occur in the postpartum period.¹¹⁸ Current research estimates that a disproportionate number of these deaths occur within the first two days following childbirth; thus, providing appropriate postnatal care—especially in the vulnerable hours and days immediately following delivery—is imperative for decreasing maternal mortality.¹¹⁹ Both in the United States and Uganda, a distressing number of preventable deaths occur each year as the result of systemic barriers to adequate postpartum care. Not only does the United States have the worst maternal mortality rate in what is considered the “developed world”, it is also one of the only countries in which the rate of fatal complications at

¹¹⁵ Ibid.

¹¹⁶ Ibid.

¹¹⁷ SDG indicators

¹¹⁸ Ndugga, P., Kassim Namiyonga, N., & Sebuwufu, D. (2019). *GOVERNMENT OF UGANDA Determinants of Early Postnatal Care Attendance in Uganda: Further Analysis of the 2016 Demographic and Health Survey*. www.ubos.org.

¹¹⁹ Ibid.

childbirth has steadily increased over the past twenty years.¹²⁰ Furthermore, in the United States, the maternal death rate of women of color is three to four times that of White women.¹²¹ While the maternal mortality ratio in Uganda has steadily decreased in recent years¹²² it nonetheless stands at the alarmingly high rate of 336 maternal deaths per 100,000 live births.¹²³ In both countries, the postpartum period marks a neglected opportunity for improving maternal health. Approximately 44 percent of Ugandan women do not receive postnatal care within two days after childbirth,¹²⁴ and only 13 percent of newborns receive postnatal care within seven days (a number that drops to only 10 percent for newborns delivered at home).¹²⁵ In the United States, approximately 40 percent of women do not attend a postpartum visit, with these attendance rates even lower among populations with limited resources as both the result of, and a further contributor to, disparities in health and health care.¹²⁶ Moreover, most postpartum checkups are held six weeks after a woman gives birth, and complications that arise during that time can go unaddressed or balloon to cause harm to the mother.¹²⁷

The importance of postnatal care can be described as two-fold. First, postnatal care is indispensable in ensuring the immediate health and survival of a mother and her newborn. 34 percent of maternal deaths in Africa are attributed to hemorrhage, the majority of which occur following childbirth.¹²⁸ Furthermore, the postnatal period is where sepsis and infection are most likely to claim maternal lives on account of the recently emptied uterus serving as a particularly vulnerable target for vaginal bacteria.¹²⁹ As for protecting the newborn, the three leading causes of

¹²⁰ Hamilton, N., Stevens, N., Lillis, T. et al. The fourth trimester: toward improved postpartum health and healthcare of mothers and their families in the United States. *J Behav Med* 41, 571–576 (2018). <https://doi.org/10.1007/s10865-018-9969-9>

¹²¹ Ibid.

¹²² Uganda Maternal Mortality Rate 2000-2021. MacroTrends. (n.d.). <https://www.macrotrends.net/countries/UGA/uganda/maternal-mortality-rate>.

¹²³ Babughirana, G., Gerards, S., Mokeri, A. et al. Maternal and newborn healthcare practices: assessment of the uptake of lifesaving services in Hoima District, Uganda. *BMC Pregnancy Childbirth* 20, 686 (2020). <https://doi.org/10.1186/s12884-020-03385-x>

¹²⁴ Ibid.

¹²⁵ Sacks, E., Masvawure, T. B., Atuyambe, L. M., Neema, S., Macwan'gi, M., Simbaya, J., & Kruk, M. (2017). Postnatal Care Experiences and Barriers to Care Utilization for Home- and Facility-Delivered Newborns in Uganda and Zambia. *Maternal and Child Health Journal*, 21. <https://doi.org/10.1007/s10995-016-2144-4>

¹²⁶ ACOG Committee Opinion No. 736: Optimizing Postpartum Care, *Obstetrics & Gynecology*: May 2018 - Volume 131 - Issue 5 - p e140-e150
doi: 10.1097/AOG.0000000000002633

¹²⁷ Kusisto, Laura. "I Gave Birth. The Most Dangerous Part Came After." *WSJ*, <https://www.wsj.com/articles/i-gave-birth-the-most-dangerous-part-came-after-11621872060>

¹²⁸ Warren, C., Daly, P., Toure, L., & Mongi, P. (n.d.). *Postnatal care*.

¹²⁹ Ibid.

neonatal death are asphyxia, infection, and prematurity—with the majority of deaths attributed to these causes occurring within the first week of life.¹³⁰ Effective postnatal care, therefore, allows for the early identification and treatment of these immediate health threats for both the mother and child. Furthermore, the benefits of postnatal care are capable of extending well beyond the period defined by the timeframe of maternal health, as postnatal care provides an invaluable opportunity to promote the long-term health of the mother and child through education. This can be achieved by integrating postnatal care with discussion on healthy behaviors, such as exclusive breastfeeding, proper nutrition, and family planning.¹³¹ Therefore, receiving postnatal care is critical for promoting maternal and neonatal health both immediately following delivery and in the long-term. Many barriers, however, stand in the way of women receiving adequate postnatal care across the world.

In Uganda, a repeatedly cited barrier to postpartum care is a lack of awareness surrounding these services. One study found that many women in rural areas of Uganda were unaware that postnatal services exist.¹³² Another study found that of the women aware of these services, many were opposed to receiving formal postnatal care if they or their child were not experiencing symptoms.¹³³ This information barrier is reflected in the factors that a 2019 Demographic and Health Survey identified as being determinants of a women’s likelihood to use postnatal care, which include: “women’s residence, education level, religion, wealth status, marital status, occupation, antenatal care (ANC) attendance, place of delivery, birth order, perceived accessibility of health facilities, and access to mass media messages”.¹³⁴ Not only do these factors demonstrate the importance of information circulation and general education, but they also highlight the barriers presented by wealth, location, and accessibility. A 2016 study by Sacks et al. demonstrates, however, that overcoming these barriers related to awareness and accessibility may still prove insufficient if the postnatal services themselves are not radically transformed. Many women in this study expressed that their reasons for not seeking postnatal treatment derive from a fear of mistreatment by health providers.¹³⁵ Women who deliver at home are often faced with stigma and

¹³⁰ Goldenberg, R. L., McClure, E. M., & Saleem, S. (2018). Improving pregnancy outcomes in low- and middle-income countries. *Reproductive health, 15*(Suppl 1), 88. <https://doi.org/10.1186/s12978-018-0524-5>

¹³¹ Ndugga, P., Kassim Namiyonga, N., & Sebuwufu, D.

¹³² Phillips, J. A., & Nankwanga, A. (2008). FACTORS INFLUENCING UTILISATION OF POSTNATAL SERVICES IN KAMPALA, UGANDA A Nankwanga (MSc). In *JCHS* (Vol. 3, Issue 1).

¹³³ Sacks, E., Masvawure, T. B., Atuyambe, L. M., Neema, S., Macwan’gi, M., Simbaya, J., & Kruk, M.

¹³⁴ Ndugga, P., Kassim Namiyonga, N., & Sebuwufu, D.

¹³⁵ Sacks, E., Masvawure, T. B., Atuyambe, L. M., Neema, S., Macwan’gi, M., Simbaya, J., & Kruk, M.

discrimination at health facilities and find themselves denied postnatal care or are otherwise met with long wait times, scolding, or physical abuse.¹³⁶ Eliminating barriers to receiving postnatal care in low- and middle-income countries therefore requires a multifaceted approach that seeks to spread awareness, increase accessibility, and dramatically improve the quality of postnatal care.

These same barriers and calls for reform are present in the United States as well and are constituents in an ongoing battle to eliminate pervasive disparities in health and healthcare. This is illustrated in the review by Wouk et al.¹³⁷ that identified patient-, provider-, and health system-level factors that influence the reception of postpartum care by marginalized populations in the United States. Similar to the Demographic and Health Survey, this review found that patient-level factors that were ascribed to higher postpartum care attendance include “higher socioeconomic status, rural residence, fewer children, older age, medical complications in pregnancy, and previous health care use.”¹³⁸ At the provider level, we see parallels to the Sacks et al. study in that discrimination during care and trouble understanding the provider decreased postpartum care attendance. Finally, at the health system level, it was found that public (rather than private) healthcare facilities, patient navigation services, appointment reminders, and the use of incentives all improved attendance.¹³⁹ In both Uganda and the United States, postpartum health care use and widespread improvement in maternal health outcomes can and should be improved by centering structural change around the lives and experiences of mothers from marginalized communities.

While the overall maternal mortality ratio in the United States is 17.3 maternal deaths per 100,000 live births, this number jumps to 43.5 per 100,000 for non-Hispanic Black women and decreases to 12.7 per 100,000 for non-Hispanic White women; for women in rural areas, this statistic stands at 29.4 per 100,000.¹⁴⁰ These discrepancies highlight the necessity of an intersectional approach to improving maternal care that unabashedly grapples with the systemic oppression entrenched in all U.S. systems, including the healthcare system. BIPOC, LGBTQ+, persons with disabilities, and persons of low socioeconomic status have timelessly demonstrated resilience in the face of a corrupt healthcare system; it is well time that disparities in treatment be abolished and the needs of these communities be met.

¹³⁶ Ibid.

¹³⁷ Wouk, K., Morgan, I., Johnson, J., Tucker, C., Carlson, R., Berry, D. C., & Stuebe, A. M. (2020). A Systematic Review of Patient-, Provider-, and Health System-Level Predictors of Postpartum Health Care Use by People of Color and Low-Income and/or Uninsured Populations in the United States. *Journal of Women's Health*.

¹³⁸ Ibid.

¹³⁹ Ibid.

¹⁴⁰ Hamilton, N., Stevens, N., Lillis, T. et al.

In conclusion, despite differences in available resources and macroscopic healthcare structures, many parallels can be drawn between postpartum care in the United States and Uganda. The postpartum period marks an important and vulnerable time for the wellbeing of both the mother and offspring, but it is a period often neglected in the health systems of both countries. Furthermore, in the context of each country, it has been shown that barriers to the reception of this care echo barriers to social equity, making it necessary that initiatives aimed at improving maternal health outcomes center their work on mothers from marginalized communities.

The effect of infrastructure and medical personnel

Jaya Dantas, Debra Singh, and May Lample conducted a study in rural Uganda to assess the factors that determine whether a mother accesses health facilities during childbirth. They identified three types of delays that affect this decision: “the delay to seek care, the delay to reach facilities, and institutional delay to provide care”; these delays were summarized into three categories of factors, namely Access, Availability, and Acceptability.¹⁴¹ The authors underscored the lack of affordable transportation for mothers in labor, the decision-making power that husbands hold to access health care services, and the education level of women.

Furthermore, as previously discussed, skilled health workers are often not available to assist births due to “heavy workloads, low-resource settings, and low remuneration.”¹⁴² These poor working conditions have resulted in higher absenteeism among health workers, who often pursue other income-generating activities outside of health work.¹⁴³ Health workers also may not possess enough knowledge about complications and other general considerations to take for births.¹⁴⁴ Another study by Joshua Vogel et. al found from interviewing 16 individuals from a variety of healthcare roles that the “prevention and treatment of PPH [postpartum hemorrhage]” was the most pressing issue to address in maternal care.¹⁴⁵ Another important factor that was highlighted during these interviews was access to healthcare, as also indicated by other studies summarized

¹⁴¹ Dantas, J. A., Singh, D., & Lample, M. (2020). Factors affecting utilization of health facilities for labour and childbirth: A case study from rural Uganda. *BMC Pregnancy and Childbirth*, 20(1). doi:10.1186/s12884-019-2674-z.

¹⁴² Ibid.

¹⁴³ Dantas, J. A., Singh, D., & Lample, M.

¹⁴⁴ Ibid.

¹⁴⁵ Vogel, J. P., Moore, J. E., Timmings, C., Khan, S., Khan, D. N., Defar, A., . . . Gülmezoglu, A. M. (2016). Barriers, Facilitators and Priorities for Implementation of WHO Maternal and Perinatal Health Guidelines in Four Lower-Income Countries: A GREAT Network Research Activity. *Plos One*, 11(11). doi:10.1371/journal.pone.0160020.

previously.¹⁴⁶ Some limitations affecting access to quality healthcare include “shortages of doctors and midwives, poor recruitment and retention rates (particularly in rural areas) and limitations on allowable numbers of health workers that can be recruited at various health facility levels.”¹⁴⁷ The low availability of doctors and midwives is especially problematic in maternal care settings because of the importance of “routine care practices (such as labor monitoring and partograph completion).”¹⁴⁸ The low health worker to patient ratio and lack of resources and knowledge to perform necessary interventions during labor have affected the availability of quality maternal and neonatal care.¹⁴⁹

The issue of low health worker to patient ratios is not limited to Uganda but is also a major issue in the United States, which has a ratio of 12 midwives and obstetrician-gynecologists per 1,000 live births; this low ratio is a major factor influencing the United States’ low maternal mortality rate of 17.3 deaths for every 100,000 live births, which is nearly double that of most other developed nations.¹⁵⁰ 52 percent of these maternal mortalities in the United States occur in the postpartum period, underscoring the importance of strengthening maternal care after delivery through expanding Medicaid eligibility and coverage of postpartum care, requiring paid maternity leave for new mothers, and expanding access to home care in order that healthcare providers can not only provide much-needed medical care but also assess relevant social determinants to postpartum health.¹⁵¹

The 20-year civil war during the reigns of Idi Amin and Milton Obote II also caused severe damages to Uganda’s health infrastructure; even where these damages have been repaired, health workers face “issues of poor flow of equipment and medications, delays in salaries, issues of housing and schooling for their children resulting in high absentee rates.”¹⁵² The lack of basic equipment, such as “refrigerators for oxytocin, fetal scopes, and partographs,” was also an indicated hindrance to quality care.¹⁵³ Furthermore, due to the decentralized health system, lower-tier health centers are not permitted to use some types of medicines, such as magnesium sulphate.¹⁵⁴ The researchers also found a dearth of health

¹⁴⁶ Ibid.

¹⁴⁷ Ibid.

¹⁴⁸ Ibid.

¹⁴⁹ Dantas, J. A., Singh, D., & Lample, M.

¹⁵⁰ Tikkanen, R. et al. (2020). Maternal Mortality and Maternity Care in the United States Compared to 10 Other Developed Countries. *Commonwealth Fund*. doi: 10.26099/411v-9255.

¹⁵¹ Ibid.

¹⁵² Dantas, J. A., Singh, D., & Lample, M.

¹⁵³ Vogel, J. P., Moore, J. E., Timmings, C., Khan, S., Khan, D. N., Defar, A., . . . Gülmezoglu, A. M.

¹⁵⁴ Ibid.

policies that encourage the implementation of high-quality care; in fact, many outdated policies exist that “limit the capacity of providers to deliver high-quality care, despite their willingness to do so,” which need to be removed.¹⁵⁵

The United States is also in need of updated health policies that improve the accessibility and availability of maternal care, especially in the postpartum period. While the Affordable Care Act currently requires Medicaid to cover maternal care, universal policies requiring insurance coverage of maternal care are still necessary; during the COVID-19 pandemic, dependence on midwives and home visits has greatly increased in other countries; even as the COVID-19 pandemic gradually comes to a close, the United States could greatly benefit from a long-term investment in midwives, who can provide expecting mothers with more personalized care customized for their unique needs and circumstances.¹⁵⁶

While sufficient medical knowledge is imperative, becoming more aware of the local culture and being flexible when providing care is equally important.¹⁵⁷ In Uganda, rural women in particular sometimes face mistreatment from their providers due to their “poverty, sub-standard clothing, poor personal hygiene, and cries of pain.”¹⁵⁸ Interventions during labor are often performed without informing mothers, leaving them greatly disoriented.¹⁵⁹ The fear of humiliation and mistreatment is another factor that affects whether a mother chooses to access formal health care during labor.¹⁶⁰ The authors of this particular study encourage developing not only the clinical capabilities of providers, but also their cultural competence.¹⁶¹ They especially recommend this training among workers in government health facilities, who are generally considered to have more “rude” and “harsh” staff than community health centers.¹⁶²

Addressing discrimination against rural women is a major area of concern in Uganda, but racial disparities in maternal care must be addressed in the United States. For instance, one study compared the management of postpartum pain with opioid prescriptions for non-Hispanic white, Hispanic, and non-Hispanic black women. The researchers found that while Hispanic and non-Hispanic black women were more likely to report a higher pain score, they were significantly less likely to receive a prescription for opioids to manage the pain than non-Hispanic white women. This finding is an indication that racial

¹⁵⁵ Ibid.

¹⁵⁶ Tikkanen.

¹⁵⁷ Dantas, J. A., Singh, D., & Lample, M.

¹⁵⁸ Ibid.

¹⁵⁹ Ibid.

¹⁶⁰ Ibid.

¹⁶¹ Ibid.

¹⁶² Ibid.

discrimination from maternal care providers plays a major role in the care that new mothers receive.¹⁶³

Child malnutrition

The following figure provides context for food insecurity on a global scale.¹⁶⁴

Table 1. Percentage and number of people affected by severe food insecurity in 2016

	Percentage	Millions
World	9.3 (± 0.4)	688.5 (± 27.6)
Africa	27.4 (± 0.7)	333.2 (± 8.6)
Asia	7.0 (± 0.6)	309.9 (± 26)
Latin America	6.4 (± 0.3)	38.3 (± 2.0)
Northern America and Europe	1.2 (± 0.1)	13.0 (± 1.3)

Source: FAO, IFAD, UNICEF, WFP, and WHO. 2017. *The State of Food Security and Nutrition in the World 2017. Building resilience for peace and food security*. Rome, FAO.

Global estimates of undernourishment rose from 777 million in 2015 to 821 million in 2017. Africa has the highest prevalence of undernourishment, estimated in 2016 to be 20% of the population. This is especially alarming in Eastern Africa, where it is suspected that one-third of the population is undernourished. Due primarily to its larger population size, Asia has the highest total number of undernourished individuals—520 million, versus Africa's 243 million (FAO, 2017).

Poverty and child malnutrition

In addition to maternal health, malnutrition is a major health concern affecting both the United States and Uganda. The World Health Organization defines malnutrition as “deficiencies, excesses or imbalances in a person’s intake of energy and/or nutrients. Within malnutrition, undernutrition involves stunting (low height for age), wasting (low weight for height), underweight (low weight for age) and micronutrient deficiencies or insufficiencies (a lack of important vitamins and minerals) while overnutrition involves receiving excess nutrients that may result in obesity and diet-related noncommunicable diseases such as heart disease, stroke, diabetes and cancer.”¹⁶⁵ Child malnutrition is particularly devastating since the most important developmental progress occurs within the first five years of life and hindered development can catalyze a seemingly inescapable cycle of poverty leading to shorter adult stature, less schooling achieved, lower adult income, and for women, a higher chance of giving birth to an underweight baby.¹⁶⁶

In 2016, about 40.6 million Americans (12.7 percent of the population) lived in poverty.¹⁶⁷ This included nearly 13.2 million children, or 18

¹⁶³ Badreldin, N., Grobman, W. A., & Yee, L. M. (2019). Racial Disparities in Postpartum Pain Management. *Obstetrics and gynecology*, 134(6), 1147–1153. doi: 10.1097/AOG.0000000000003561.

¹⁶⁴ Africa Hunger Facts, Africa Poverty Facts. (2018, September 21). Retrieved July 10, 2020, from <https://www.worldhunger.org/africa-hunger-poverty-facts-2018/>

¹⁶⁵ What is malnutrition? (2017, February 06). Retrieved July 05, 2020, from <https://www.who.int/features/qa/malnutrition/en/>

¹⁶⁶ Victora, C.G., Adair, L., Fall, C., Hallal, P.C., Martorell, R., Richter, L., et al. (2008). Maternal and child undernutrition: consequences for adult health and human capital. *The Lancet*, 371(9609): 340-357

¹⁶⁷ Hunger & Health The Impact of Poverty, Food Insecurity ... (n.d.). Retrieved July 5, 2020, from <https://frac.org/wp-content/uploads/hunger-health-impact-poverty-food-insecurity-health-well-being.pdf>

percent of all children, though not all children living in poverty are malnourished¹⁶⁸ Food-insecure and low-income individuals can be especially vulnerable to poor nutrition and obesity due to additional risk factors associated with inadequate household resources as well as under-resourced communities. In 2018, the USDA reported that 11.1 percent of American households were food insecure.¹⁶⁹ Poverty and location can influence access to healthy and affordable foods; cycles of food deprivation and overeating; high levels of stress, anxiety, and depression; fewer opportunities for physical activity; greater exposure to marketing of obesity-promoting products; and limited access to health care.¹⁷⁰

Poor governance and policies also can lead to food insecurity. In the United States, the USDA has created Child Nutrition Programs like the National School Lunch Program (NSLP), School Breakfast Program (SBP), or Summer Food Service Program (SFSP) to directly help combat child malnutrition.¹⁷¹ For individuals outside of the school system, the US also supports the Supplemental Nutrition Assistance Program (SNAP) and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) that provide foods, formula, vouchers, and nutrition evaluations. In 2016, an estimated 13.9 million people were eligible to receive benefits from WIC in a given month and about 7.6 million people actually participated in the program.¹⁷² Low-income households typically spend the majority of total household income on food and programs like these free funds to be used for additional services like health care or to save in order to exit poverty. Without these programs, even the lowest out-of-pocket healthcare service can severely diminish the remaining income to be used for food supply, further perpetuating the issue of malnutrition and poverty.

In 2015, the average poverty rate for sub-Saharan Africa was 41 percent,¹⁷³ with more than 30 percent of African children suffering from growth disorders and physical and mental underdevelopment as a result of their chronic malnutrition.¹⁷⁴ In 2019, UNICEF conducted a study on child

¹⁶⁸ Ibid.

¹⁶⁹ Alisha Coleman-Jensen, M. (n.d.). Household Food Security in the United States in 2018. Retrieved July 19, 2020, from <https://www.ers.usda.gov/publications/pub-details/?pubid=94848>

¹⁷⁰ Hartline-Grafton, H. (2015). *Understanding the Connections: Food Insecurity and Obesity*. Washington, DC: Food Research & Action Center

¹⁷¹ Child Nutrition Programs. (n.d.). Retrieved July 10, 2020, from <https://www.fns.usda.gov/cn>

¹⁷² WIC 2016 Eligibility and Coverage Rates. (2016). Retrieved July 12, 2020, from <https://www.fns.usda.gov/wic/wic-2016-eligibility-and-coverage-rates>

¹⁷³ Patel, N. (2018, November 21). Figure of the week: Understanding poverty in Africa. Retrieved July 10, 2020, from <https://www.brookings.edu/blog/africa-in-focus/2018/11/21/figure-of-the-week-understanding-poverty-in-africa/>

¹⁷⁴ On the poorest continent, the plight of children is dramatic. (n.d.). Retrieved July 10, 2020, from <https://www.sos-usa.org/about-us/where-we-work/africa/poverty-in-africa>

poverty and deprivation and found that 56 percent of children in Uganda live in multidimensional poverty, which includes deprivation of basic needs in addition to monetary poverty.¹⁷⁵ Recent policies in Africa have focused on food fortification programs, ensuring more nutrient-rich foods, with over 130 varieties of biofortified crops being used in more than 30 African countries.¹⁷⁶ In Uganda, governmental food assistance programs are not as widespread which renders them unable to help alleviate food insecurity and poverty. The World Food Programme offers resources to Uganda similar to that of WIC in the United States such as addressing micronutrient malnutrition and school food, but it is foreign rather than governmental aid.¹⁷⁷ While this may have marginal impact, supplementing school food will neglect a large proportion of the malnourished population considering that only 34 percent of stunted children managed to complete primary school.¹⁷⁸ Since cognitive deficits often force malnourished children to dropout or repeat years of schooling, they are not only perpetuating their own poverty, but also reducing the country's productivity. In 2009, 133,931 students who repeated grades due to malnutrition caused the government a loss of 19.7 billion Ugandan shillings in incurring costs.¹⁷⁹ Poverty and malnutrition are inextricably linked in both American and Ugandan societies through the lack of healthy resources, developmental delays, healthcare costs, and overall loss of productivity for the individuals and countries.

Food environments and child malnutrition

In addition to poverty, food environments have a large impact on malnutrition. Food environment comprises all the factors that influence a family's food choice – from what is available in their area, to income levels, to what foods are convenient or familiar. Families living in cities typically buy their food at supermarkets, where much of the food within their budget is packaged or ultra-processed. Many of these areas are “food deserts”—areas with little or no healthy food choices, or “food swamps”—areas where there is proportionally more fast food or unhealthy options than healthy options. For the urban poor, access to healthy food is

¹⁷⁵ UNICEF. (2019). MULTIDIMENSIONAL CHILD POVERTY AND DEPRIVATION IN UGANDA. Retrieved July 26, 2020, from <https://www.unicef.org/esa/sites/unicef.org/esa/files/2019-10/UNICEF-Uganda-2019-Child-Poverty-Report-Vol1.pdf>

¹⁷⁶ (n.d.). Retrieved July 10, 2020, from <https://www.ifpri.org/blog/5-lessons-africa-policy-makers-reduce-malnutrition>

¹⁷⁷ Uganda. (2020, February 28). Retrieved July 12, 2020, from <https://www.wfpusa.org/countries/uganda/>

¹⁷⁸ Adebisi, Y. A., Ibrahim, K., Lucero-Prisno, D. E., 3rd, Ekpenyong, A., Micheal, A. I., Chinemelum, I. G., & Sina-Odunsi, A. B. (2019). Prevalence and Socio-economic Impacts of Malnutrition Among Children in Uganda. *Nutrition and metabolic insights*, 12, 1178638819887398. <https://doi.org/10.1177/1178638819887398>

¹⁷⁹ Ibid.

even more scarce, and many rely on street food laden with fat and salt. These poor food options are leading urban residents to increasingly face noncommunicable diseases like hypertension, diabetes, and cardiovascular disease.

Obesity appears to be more prevalent in industrialized countries that provide predominantly fatty and processed foods compared to developing countries in which lack of overall food resources lead to undernourishment. For example, in the United States, 71.6 percent of adults are overweight and 13.9 percent of children ages 2 to 5 are overweight, while only about 3.9 percent of children under the age of 5 are overweight in Uganda.^{180,181} This is particularly alarming as population and economic growth encourage more urbanization. In fact, by 2050, UNICEF projects that 70 percent of the world's adolescents will live in cities, making them more vulnerable to diet-related diseases than ever before.¹⁸² Africa has the highest population growth among world regions, and it is predicted that over half of the global population growth from 2018 to 2020 will occur in Africa.¹⁸³ A rapid growth of population can limit increases in per capita income, which can perpetuate poverty and hunger. An overall larger population and a larger urban population will only exacerbate food insecurity further.

Rural areas can have drastically different impacts than their urban counterparts. In 2018, 16.5 percent of rural households in the United States faced food insecurity, compared to 13.5 percent of households in urban regions.¹⁸⁴ Similarly, in 2016, SNAP participation in the United States was highest among households in rural (16 percent) and small towns (15 percent) compared to households in metropolitan counties (13 percent).¹⁸⁵ Paradoxically, in rural areas that grow most of our nation's food, households face considerably deeper struggles with hunger than those in metropolitan areas. Due to the high levels of poverty in rural areas, growers are forced to sell their produce instead of consuming it in order to gain income to support their families and basic needs. Farmers and other outdoor workers will continue to struggle as temperatures rise, decreasing productivity per person, minimizing crop yields, and increasing water and nutrient consumption.

¹⁸⁰ FastStats - Overweight Prevalence. (2016, June 13). Retrieved July 05, 2020, from <https://www.cdc.gov/nchs/fastats/obesity-overweight.htm>

¹⁸¹ Uganda - Prevalence Of Overweight (percent Of Children Under 5). (n.d.). Retrieved July 05, 2020, from <https://tradingeconomics.com/uganda/prevalence-of-overweight-percent-of-children-under-5-wb-data.html>

¹⁸² The changing face of malnutrition. (n.d.). Retrieved July 13, 2020, from <https://features.unicef.org/state-of-the-worlds-children-2019-nutrition/>

¹⁸³ Africa Hunger Facts, Africa Poverty Facts. (2018, September 21). Retrieved July 10, 2020, from <https://www.worldhunger.org/africa-hunger-poverty-facts-2018/>

¹⁸⁴ Angell, S., Philbin, E., & Beaudoin, S. (2020, June 18). Rural Hunger. Retrieved July 12, 2020, from <https://frac.org/hunger-poverty-america/rural-hunger>

¹⁸⁵ Ibid.

Another cause of malnutrition is conflict, with conflict and violence holding both direct and indirect impacts on every level of the food system. Straining the realm of employment and varying income opportunities, conflict inhibits a person's ability to acquire food sources. Moreover, the violence spawned in the midst of rising tensions affects imports and exports, further affecting the price and availability of food. As food prices jumped, the number of food riots globally rose 250 percent above their average over the 2005-2011 period and the number of ongoing civil disobedience campaigns rose from 13 in 2010 to 28 in 2011.¹⁸⁶ In these times of conflict, the availability of food can be further affected if the resources used to produce food are destroyed.¹⁸⁷ In 2017, "conflict was the major cause of food insecurity and hunger in 18 countries, affecting about 74 million individuals," with 11 of those countries being in Africa (37 million Africans affected).¹⁸⁸ Since 2013, South Sudan has been faced with ongoing conflict and, in turn, much food insecurity; this has left more than 42 percent of the population severely malnourished.

Natural disasters and child malnutrition

Most people in the U.S. associate natural disasters with physical damage: buildings destroyed, lives lost, houses demolished, etc. Not many, however, consider the impact of natural disasters on less macroscopic factors like nutrition. This can be attributed to the fact that while 22 percent of the economic impact from natural disasters is absorbed by the agriculture sector across the world, only 1 percent of Americans actually rely on agriculture for their livelihood, making the impact seem less severe.^{189, 190} Due to this, natural disasters do not have as much of a direct effect on nutrition. In other countries where agriculture is heavily relied upon as both a source of income and food, however, natural disasters become a much more pertinent threat. In Uganda, for example, over 60

¹⁸⁶ Ore Koren, W. (2020, May 20). Food Price Spikes and Social Unrest: The Dark Side of the Fed's Crisis-Fighting. Retrieved July 10, 2020, from <https://foreignpolicy.com/2020/05/20/food-price-spikes-and-social-unrest-the-dark-side-of-the-feds-crisis-fighting/>

¹⁸⁷ Africa Hunger Facts, Africa Poverty Facts. (2018, September 21). Retrieved July 10, 2020, from <https://www.worldhunger.org/africa-hunger-poverty-facts-2018/>

¹⁸⁸ Ibid.

¹⁸⁹ Food and Agriculture Organization of the United Nations. (2015). *The impact of disasters on agriculture and food security*. <https://reliefweb.int/sites/reliefweb.int/files/resources/a-i5128e.pdf>

¹⁹⁰ Kassel, K., & Morrison, R. M. (n.d.). *USDA ERS - Ag and Food Sectors and the Economy*. United States Department of Agriculture. Retrieved July 5, 2020, from <https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/ag-and-food-sectors-and-the-economy/#:%7E:text=Agriculture%20and%20its%20related%20industries,1.3%20percent%20of%20U.S..%20employment>

percent of people are employed in the agriculture sector.¹⁹¹ Recurrent natural disasters (particularly droughts and floods) destroy much of the crops and agricultural livestock, which not only renders many of these people unemployed but also greatly decreases the availability of foods in the food market.¹⁹² This inevitably leads to food inflation which immensely hinders people's ability to purchase food leading to an increase in malnutrition rates, particularly among vulnerable households. Additionally, natural disasters can have damaging consequences on trade flows with a high increase in imports and a decrease in exports. In the event of natural disasters, food is normally provided by emergency relief rations, but an extended period of ration consumption has often led to nutrient deficits.¹⁹³ Thus, rations can only serve to be a temporary fix to a big problem.

Throughout the world, Africa has felt the devastating effects of natural disasters in the agriculture sector the most, having lost \$26 billion in crop and livestock production from 2003 to 2013 alone. This past year, Africa has been ravaged by the biggest locust outbreak in 70 years. Given that a one square kilometer locust swarm can consume that same amount of food in one day as 35,000 people, this has become a problem of great concern. Coupled with the recent COVID-19 pandemic, the World Health Organization has predicted a 5 percent drop in Africa's GDP and a total of 20 million jobs lost.¹⁹⁴ As stated above, this will likely lead to a slew of problems regarding malnutrition.

Although there is no "cure" for natural disasters, there is a way to reduce their occurrences. Much of the droughts, floods, and locust outbreaks that are prevalent in Africa are linked to climate change. This means that developing countries in particular, whose livelihoods depend on the changes in the climate, must work together and focus on limiting any deleterious influence on the climate.

HIV and child malnutrition

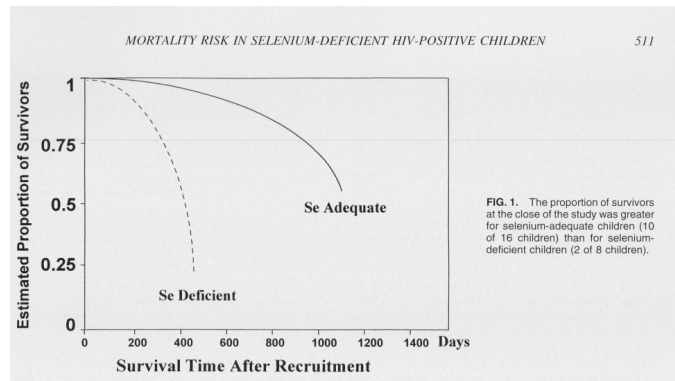
¹⁹¹ Food and Agriculture Organization of the United Nations. (2015a). *The impact of disasters on agriculture and food security*.

<https://reliefweb.int/sites/reliefweb.int/files/resources/a-i5128e.pdf>

¹⁹² Ibid

¹⁹³ *Issue Insight: Nutrition*. (n.d.). Center for Disaster Philanthropy. Retrieved July 7, 2020, from <https://disasterphilanthropy.org/issue-insight/nutrition/#:~:text=While%20natural%20disasters%2C%20such%20as,livestock%2C%20leading%20to%20severe%20shortages>.

¹⁹⁴ Yad, W. (2020, May 18). *A Plague of Ravenous Locusts Descends on East Africa, Jeopardizes Food Security*. New Security Beat. <https://www.newsecuritybeat.org/2020/05/plague-ravenous-locusts-descends-east-africa-jeopardizes-food-security/>



The Human Immunodeficiency Virus, or HIV, is a prevalent and life-altering virus transmissible by blood and other bodily fluids. When an HIV-positive woman becomes pregnant, she runs the risk of

transmitting the virus onto her baby during either the pregnancy, delivery, or breastfeeding. Since perinatally infected children will likely be a problem that persists in the near future, measures are instead being taken to reduce the infection rate, detect the virus earlier in children, and treat the positive children before the virus harms the immune system and causes immediately threatening diseases. In the US, perinatal HIV infections reduced by 41 percent from 2012 to 2016.¹⁹⁵

Additionally, children being tested earlier can avoid malnutrition and wasting, as the pediatric HIV patients receive increased nutritional care, monitoring, and individualized goals.¹⁹⁶ As an example, levels of the element selenium in plasma have been found to be a direct indicator of disease progression in pediatric HIV patients.¹⁹⁷ Deficiencies in selenium have been linked with higher mortality, and thus the kids who have been tested and diagnosed early on are able to receive specific care to maintain their selenium levels or other such factors.¹⁹⁸

Recently, in high resource countries, the widespread availability of antiretroviral therapy has led to huge successes in the prevention and treatment of pediatric HIV—many perinatally infected children will survive long into their adolescence and adulthood, far past survival years of the past.¹⁹⁹ Upliftingly, the newest focus surrounding this problem is how to ease the responsibility of care from teams of pediatric HIV clinicians, social workers, nursing staff, and extensive support services

¹⁹⁵ “Pregnant Women, Infants, and Children.” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 12 Nov. 2019, www.cdc.gov/hiv/group/gender/pregnantwomen/index.html.

¹⁹⁶ *Journal of Acquired Immune Deficiency Syndromes & Human Retrovirology*: April 15th, 1999 - p 508-513

¹⁹⁷ *Ibid.*

¹⁹⁸ *Ibid.*

¹⁹⁹ Mofenson, L.M. and Cotton, M.F. (2013), The challenges of success: adolescents with perinatal HIV infection. *Journal of the International AIDS Society*, 16: 18650. doi:[10.7448/IAS.16.1.18650](https://doi.org/10.7448/IAS.16.1.18650)

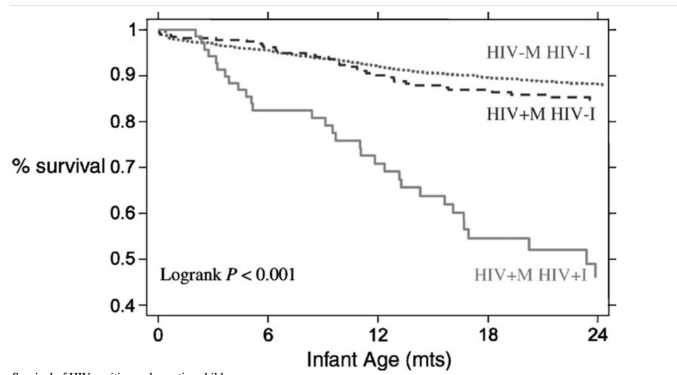
onto the patient his or herself as they reach an appropriate age.²⁰⁰ For although survival rates have grown significantly, the mental and emotional pressures from growing up with HIV can cause psychiatric damage and cognitive deficits in the child. Being able to take care of themselves as they mature is an important step towards children diagnosed with HIV living a completely normal life one day.

Of course, antiretroviral therapy from such a young age is not without consequence; children who are treated from early diagnoses are more prone to develop an immunity to the drug which may cause complications later on in life as

they continue combatting the virus.²⁰¹ In addition, even as they survive into later years, perinatally infected children are at a higher risk for developing cardiovascular diseases into their third and fourth

decades, reminding the world that although the virus can be forced into dormancy, it will remain a lifelong battle for all patients.²⁰² Despite this, the US has made great strides in perinatally transmitted HIV treatment and is now able to focus more on long-term care.

In other countries with less access to certain resources, perinatal transmission of HIV is a much larger issue. In Uganda, 6.1 percent of pregnant women tested positive for HIV in 2009.²⁰³ Additionally, a 2006 study found that out of a sample with 725 HIV positive mothers, 374 of their infants, or 51.6 percent, tested positive.²⁰⁴ The transmission rate is so high because many of these mothers do not have access to the antiretroviral treatment or birth control, so the virus is still active when they become pregnant. In addition, the median survival rate of HIV-positive children who have contracted the virus at birth is only 23 months, a lifetime shorter than that of the US.²⁰⁵ As evident by figure to the right,



Survival of HIV-positive and negative children.

²⁰⁰ Ibid.

²⁰¹ Ibid.

²⁰² Ibid.

²⁰³ “Child Statistics.” *UNICEF DATA*, 15 July 2020, data.unicef.org/.

²⁰⁴ Brahmabhatt, Heena PhD, et. al. “Mortality in HIV-Infected and Uninfected Children of HIV-Infected and Uninfected Mothers in Rural Uganda”, *JAIDS Journal of Acquired Immune Deficiency Syndromes*: April 1st, 2006 - Volume 41 - Issue 4 - p 504-508 doi: 10.1097/01.qai.0000188122.15493.0a

²⁰⁵ Ibid.

HIV-positive infants have significantly lower survival rates than HIV-negative infants.

The lack of treatment is coupled with the fact that many mothers in rural or impoverished areas are either not able to access immediate testing or do not want to. Many mothers are afraid that the knowledge that their child has been infected will take an emotional toll on them, leading to despair, depression, and a sense of hopelessness which consequently results in inadequate care of their child.²⁰⁶ Other parents opt not to find out to spare their children the negative psychosocial effects of discovering their disease status or to avoid disclosing their own status to their children.²⁰⁷ These women's understandable fears of resentment and rejection, however, end up robbing their children from their best chance of survival. The mentality of waiting to test children until physical symptoms of the illness, or preferring ignorance to embarrassment, is one that can be addressed with more education and medical persuasion and diligence.²⁰⁸ Measures must be taken to avoid thoughts like this one, from a 43-year-old-mother of five: "*They may not be having HIV but I fear to test them in case they have it.*"²⁰⁹

Single parenting and child malnutrition

In the United States, single mothers and their children are more likely to be poor, have limited access to social and economic resources, and struggle with food insecurities.²¹⁰ From 1996 to 2005, employment for single mothers increased from 39 to 48 percent, which lightens the financial burden in these households but causes other problems. When single mothers are working, they must resort to non-parental childcare for the daily care of their children. Compared to two-parent households, single mothers utilize childcare more often, 60.1 compared to 44.6 percent of the time, and breastfeed their children less, 26.3 compared to 50.6 percent of the time.²¹¹ This is problematic because breastfeeding is important to a child's growth and development. Though well-enriched infant formulas can provide children with many of the same vitamins and minerals as breastmilk, doctors still recommend that mothers who are able should

²⁰⁶ C. N. M. Brouwer, C. L. Lok, I. Wolffers & S. Sebagalls (2000) Psychosocial and economic aspects of HIV/AIDS and counselling of caretakers of HIV-infected children in Uganda, *AIDS Care*, 12:5, 535-540, DOI: [10.1080/095401200750003725](https://doi.org/10.1080/095401200750003725).

²⁰⁷ Ibid.

²⁰⁸ J Rwemisisi, B Wolff, A Coutinho, H Grosskurth, J Whitworth, 'What if they ask how I got it?' Dilemmas of disclosing parental HIV status and testing children for HIV in Uganda, *Health Policy and Planning*, Volume 23, Issue 1, January 2008, Pages 36–42, <https://doi.org/10.1093/heapol/czm040>

²⁰⁹ Ibid.

²¹⁰ Kim, J., and Gallien, T. L. (2016) Childcare arrangements and infant feeding practices by family structure and household income among US children aged 0 to 2 years. *Maternal & Child Nutrition*, 12: 591– 602. doi: 10.1111/mcn.12152.

²¹¹ Ibid.

breastfeed their children to boost immunity, decrease the chance of malnutrition, and better promote absorption of nutrients by the baby.²¹² These socioeconomic conditions are an important consideration because studies demonstrate that a child's lifestyle often affects his or her feed practices and nutrition, which in turn influences obesity development, as breastfeeding is essential to a child's growth and development.²¹³ Feeding infants homogenized whole milk from a bottle rather than a mother's breast milk can also lead to iron deficiencies.²¹⁴

Even worse, if single mothers lose their jobs, they are at risk of becoming homeless, in which case they form inconsistent eating habits, have an unstable living environment, and have minimal concern for how nutritious their food is.²¹⁵ Mothers and their kids may rely on cheaper and more convenient pre-packaged foods which are high in saturated fats and low in nutritional value.²¹⁶ Altogether, single mothers are under more financial and social pressure than whole families and thus struggle more to nourish their children.

In Uganda, child malnutrition is a leading problem and results from high poverty rates and low access of resources in rural areas. Over 53 percent of childhood deaths in Uganda result from malnutrition.²¹⁷ Malnourishment of children usually falls onto the family or household; in many cases, mental or physical problems in parents can result in children receiving inadequate care. For example, an estimated 27-31 percent of women in Uganda are depressed, and a reduction in prevalence of depression in women is expected to reduce child malnutrition by 30 percent.²¹⁸ Despite these statistics, mental health remains a largely neglected component of child healthcare. Maternal depression reduces maternal interest and reduces mother-child bonds, leading to the case study results that 42 percent of malnourished children had depressed mothers as opposed to the 12 percent in the control group.²¹⁹

²¹² Barness, Lewis, et al. "Commentary on Breast-Feeding and Infant Formulas, Including Proposed Standards for Formulas." *Pediatrics*, vol. 57, no. 2, 1976, pp. 278-285.

²¹³ Ibid.

²¹⁴ Drake, Mary Anne. The Nutritional Status and Dietary Adequacy of Single Homeless Women and Their Children in Shelters.

²¹⁵ Ibid.

²¹⁶ Ibid.

²¹⁷ Ashaba, S., Rukundo, G.Z., Beinempaka, F. *et al.* Maternal depression and malnutrition in children in southwest Uganda: a case control study. *BMC Public Health* 15, 1303 (2015). <https://doi.org/10.1186/s12889-015-2644-y>

²¹⁸ Drake, Mary Anne. The Nutritional Status and Dietary Adequacy of Single Homeless Women and Their Children in Shelters.

²¹⁹ Ibid.

In addition, single mothers have a much more difficult time finding employment in Uganda, especially in more rural areas, due to gender

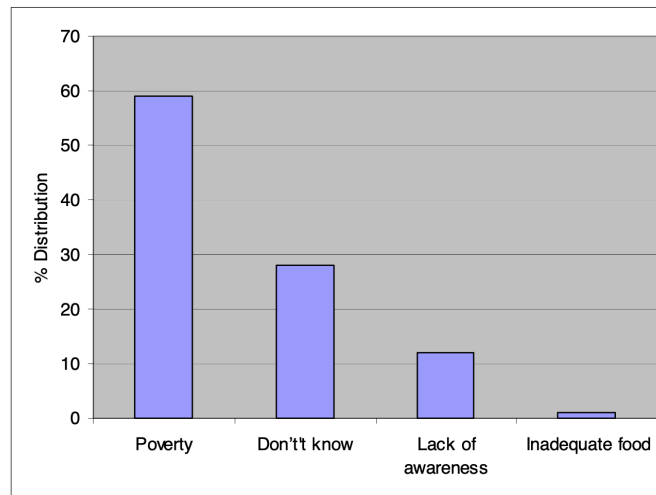


Figure 2: % Distribution of Caretakers' perception of the causes of malnutrition

norms and culture. As a result, many single mother families are impoverished, and the financial, emotional, and social burden on the family only negatively affects child health.²²⁰ Combined with the fact that many women are undereducated and that about 37 percent of children born to mothers with low educational status are stunted compared with 10 percent of children with mothers who completed a high school level education, single mother households clearly struggle disproportionately to two-parent households mainly due to gender inequalities and social limitations in Uganda.²²¹

Gender norms and marital issues

Postpartum depression can be caused by a variety of reasons, but it has been found to be most strongly linked to spousal support and financial stability. In rural Uganda, a culture of unemployed women and dependence on male partners for income has given familial power to the hands of the male.²²² Especially when it comes to making decisions concerning the social welfare and health of the family, the husband in the

²²⁰ Turyashemerwa, Fm, et al. "Prevalence of Early Childhood Malnutrition and Influencing Factors in Peri Urban Areas of Kabarole District, Western Uganda." *African Journal of Food, Agriculture, Nutrition and Development*, vol. 9, no. 4, 2009, doi:10.4314/ajfand.v9i4.43872.

²²¹ Adebisi, Y. A., Ibrahim, K., Lucero-Prisno, D. E., 3rd, Ekpenyong, A., Micheal, A. I., Chinemelum, I. G., & Sina-Odunsi, A. B. (2019). Prevalence and Socio-economic Impacts of Malnutrition Among Children in Uganda. *Nutrition and metabolic insights*, 12, 1178638819887398. <https://doi.org/10.1177/1178638819887398>

²²² Kaky, Tracy Alexis, et al. "Factors Associated with Depressive Symptoms among Postpartum Mothers in a Rural District in Uganda." *Midwifery*, vol. 28, no. 3, 2012, pp. 374–379., doi:10.1016/j.midw.2011.05.001.

family has authority. When troubles in marriages arise, mothers can develop postpartum depression and have emotional fluctuations which can compromise breast milk production.²²³ In more rural areas where the gender disparity is most magnified, women showing postpartum depressive symptoms measured 43 percent, 7 times higher than the 6.1 percent in Uganda’s capital city, Kampala.²²⁴

Studies have shown that incidence of postpartum depression in the United States is often linked to the employment status of a new mother, home environment, race, and previous depressive symptoms.^{225,226} Mothers living in rural areas are also more prone to developing postpartum depression than women living in urban areas.²²⁷ In all, around 13% of American women experience postpartum depression.²²⁸

Summary Table

Similarities
<p><i>Structures</i></p> <ul style="list-style-type: none"> ● Private healthcare options available (though in Uganda, private options fill in the gaps left by public sector services). <p><i>Postpartum Care</i></p> <ul style="list-style-type: none"> ● Neglected period in the continuum of maternal care. ● Selective accessibility mirroring contours of systemic oppression: class, education, religion (Uganda), race (United States). <p><i>Maternal Care Personnel</i></p> <ul style="list-style-type: none"> ● Low supply of midwives and obstetrician-gynecologists. ● Divisions along socioeconomic lines in access to skilled healthcare professionals.

²²³ Ibid.

²²⁴ Ibid.

²²⁵ Sampson, McLain et al. “Postpartum Depression, Risk Factors, and Child’s Home Environment Among Mothers in a Home Visiting Program.” *Journal of Child and Family Studies*, vol 26, pp. 2772-2781, doi: 10.1007/s10826-017-0783-8.

²²⁶ Ghaedrahmati, Maryam, et al. “Postpartum depression risk factors: a narrative review.” *Journal of Education and Health Promotion*, vol. 60, doi: 10.4103/jehp.jehp_9_16.

²²⁷ Sampson

²²⁸ “Reproductive Health.” *CDC*, <https://www.cdc.gov/reproductivehealth/depression/index.htm>.

	Differences	
	Uganda	United States
Structure	<ul style="list-style-type: none"> ● Majority government-owned. ● Tiered system <ul style="list-style-type: none"> ○ National ○ District ○ Subdistrict ○ Private ● Universal healthcare. 	<ul style="list-style-type: none"> ● Majority private programs. ● Fragmented system <ul style="list-style-type: none"> ○ Federal ○ State ○ Local ○ Private ● No universal healthcare.
Burden of Disease	<ul style="list-style-type: none"> ● Predominantly communicable diseases. 	<ul style="list-style-type: none"> ● Predominantly noncommunicable diseases.
Successes	<ul style="list-style-type: none"> ● Rapid and effective measures to control infectious disease (i.e., Ebola, measles, COVID-19). 	<ul style="list-style-type: none"> ● Minimal waiting lists. ● Create more cost-efficient technology and medicine. ● More personalized care.
Challenges	<ul style="list-style-type: none"> ● Lack of national laboratories to meet diagnostic needs. ● Lack of availability of medicines and medical equipment. ● Increased antibiotic resistance due to improper medicine usage. 	<ul style="list-style-type: none"> ● Rising costs. ● Lack of transparency. ● Inaccessible healthcare for those in a low socioeconomic environment. ● Lack of Insurance Coverage.

		<ul style="list-style-type: none"> ● Poor Amenable Mortality Rates.
Maternal and Neonatal Health	<p><i>Labor and delivery</i></p> <ul style="list-style-type: none"> ● Skilled attendants or medical professionals present at 74% of births. ● Little help makes mothers vulnerable during birth. <p><i>Postpartum care</i></p> <ul style="list-style-type: none"> ● Maternal mortality rate decreased over the past 20 years. <p><i>Infrastructure and Medical Personnel</i></p> <ul style="list-style-type: none"> ● Lack of affordable transportation. ● Heavy workloads. 	<p><i>Labor and delivery</i></p> <ul style="list-style-type: none"> ● Skilled attendants or medical professionals present at 99.1% of births. ● Skilled care boosts health outcomes for mothers during birth. <p><i>Postpartum care</i></p> <ul style="list-style-type: none"> ● Maternal mortality increased over the past 20 years. <p><i>Infrastructure and Medical Personnel</i></p> <ul style="list-style-type: none"> ● Little to no access to home care.
Child Malnutrition	<p><i>Poverty and Child Malnutrition</i></p> <ul style="list-style-type: none"> ● Fewer government-led initiatives to combat child malnutrition. <p><i>Food Environments and Child Malnutrition</i></p>	<p><i>Poverty and Child Malnutrition</i></p> <ul style="list-style-type: none"> ● Initiatives such as the National School Lunch Program are designed to reduce child

	<ul style="list-style-type: none"> ● Lower average income causes food insecurity. ● Lower rates of obesity. <p><i>Natural Disasters and Child Malnutrition</i></p> <ul style="list-style-type: none"> ● Recurrent natural disasters like droughts and floods disrupt the food supply and leave many unemployed. <p><i>HIV and Child Malnutrition</i></p> <ul style="list-style-type: none"> ● Higher HIV transmission because of less access to treatments and birth control. ● Long-term psychological toll on mothers and patients is detrimental. <p><i>Single Parenting and Child Malnutrition</i></p> <ul style="list-style-type: none"> ● Child Malnutrition causes 53% of childhood deaths. ● Mental health struggles in mothers are linked to child malnutrition. <p><i>Gender Norms and Marital Issues</i></p> <ul style="list-style-type: none"> ● Postpartum depression most 	<p>malnutrition.</p> <p><i>Food Environments and Child Malnutrition</i></p> <ul style="list-style-type: none"> ● Food insecurity more common in rural than in urban areas. ● 71.6% of adults and 13.9% of children aged 2-5 are overweight. <p><i>Natural Disasters and Child Malnutrition</i></p> <ul style="list-style-type: none"> ● Less people than in Uganda rely on agriculture to make a living and are thus less affected by natural disasters. <p><i>HIV and Child Malnutrition</i></p> <ul style="list-style-type: none"> ● Early testing and widespread availability of antiretroviral therapies has made living with
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	<p>often linked to spousal support and financial stability.</p>	<p>HIV/AIDS manageable.</p> <ul style="list-style-type: none"> ● Long-term psychological toll on mothers and patients is detrimental. <p><i>Single Parenting and Child Malnutrition</i></p> <ul style="list-style-type: none"> ● Poor women have less access to social and economic resources, are more at risk to struggle with food insecurities, and are less likely to breastfeed their children. <p><i>Gender Norms and Marital Issues</i></p> <ul style="list-style-type: none"> ● Incidence of postpartum depression linked to unemployment, race, and presence of depressive symptoms prenatally.
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Conclusion

The healthcare systems in the United States and Uganda have different focuses to align with each country's development, resources, and burden of diseases. However, both healthcare systems serve to improve the quality of life for their citizens, and as such, we can gain significant insight into alternative best practices. Through this study, we did not seek to propose one system as superior to the other. Rather, we hope this comparison illuminates the strengths and weaknesses of these healthcare systems as they exist within their unique contexts.