MATERNAL HEALTH AS A HUMAN RIGHT: HEALTH CARE SYSTEM INNOVATIONS TO REDUCE INEQUITIES IN MATERNAL HEALTH IN BOLIVIA, NICARAGUA AND GUATEMALA 1990-2018

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ABSTRACT

In recognition of health as a human right, United Nations (UN) member countries vowed to reduce, by three-quarters, the 1990 maternal mortality ratio (MMR; maternal deaths per 100,000 live births) by 2015. To achieve this, countries implemented evidence-based maternal health interventions, with global impetus to focus on increasing the number of facility births, antenatal care and trained skilled birth attendants at birth. During the Millennium Development Goals (MDG 2000-2015) period, countries in Latin America and the Caribbean (LAC) made remarkable progress in reducing MMR, however, maternal deaths among the rural poor disproportionately constituted this rate. To close equity gaps, the Sustainable Development Goals (2015-2030, SDGs), implemented in 2016, aim to reduce maternal mortality to less than 70 maternal deaths per 100,000 live births (no country should have a MMR greater than 140 deaths/100,000 live births) by 2030, placing maternal health as a human right at the center of the goals. The public health significance of this paper is that no mother should die from preventable causes.

This thesis is a comparative case study analysis with a desk review of outcome measures and literature to describe disparities in maternal health outcomes in Bolivia, Nicaragua and Guatemala. It captures policy and health system innovations to identify areas in which countries that have disparities in maternal mortality can improve. Cases are grouped based on their shared

stage in the Obstetric Transition Theory and their high rates of inequitable access to health care and MMR.

Despite the different country contexts, findings show that governments are successfully translating the language of health as a human right into tangible action, implementing health models for greater inclusion of vulnerable populations. In recognition of population health inequities, countries are investing in health care to achieve health as a human right. Evidence shows that country-led health models, inter-sectoral collaboration, and health financing are key to improving access to health care for vulnerable populations.

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1.0 INTRODUCTION

Every day in the Americas 16 women die a preventable maternal death.[1] In 2000, the United Nations (UN) member countries vowed to reduce, by three-quarters, the 1990 maternal mortality ratio (MMR; maternal deaths per 100,000 live births) by 2015. To achieve this, UN member countries implemented evidence-based maternal health interventions, with global impetus to focus on increasing the number of facility births, antenatal care and trained skilled birth attendants at birth.

Globally, there has been a 44% reduction in maternal deaths between 1990 and 2015, [2] and a 40% decrease in maternal deaths since 1990 in LAC[3], but this progress has not been enough. An estimated 303,000 women died during pregnancy and childbirth in 2015; most of which could have been prevented.[4] Roughly half of maternal deaths are attributable to hemorrhage, sepsis, and hypertensive disorders, which are preventable.[5] In LAC, hypertensive disorders of pregnancy are the leading cause of death.[6] The use of the MMR indicator (maternal deaths per 100,000 live births) is important for this research because it indicates the capacity of health systems to address obstetric complications.

At the end of the MDGs in 2015, the countries with the highest MMR in the region of the Americas were Haiti (359/100,000), Guyana (229), Bolivia (206), Nicaragua (150) and Guatemala (88).[7] In comparison, the countries that have MMRs below the regional average threshold of 52 maternal deaths/100,000 are Chile (22/100,000), Costa Rica (25/100,000), Mexico (38/100,000),

and Brasil (44/100,000).[7] Women in this region bear a much higher lifetime risk (LTR) of dying in childbirth compared to the regional average of 1:670. The LTR of maternal death in Bolivia is 1:160; Nicaragua 1:270 and Guatemala 1:330; Brazil 1 in 1200; Colombia 1 in 800. [8] These risks are extremely high when considering that the risk of maternal in the United States is 1:3800.[8]

The chart below illustrates the levels of maternal mortality in the post-MDG period in 2015.

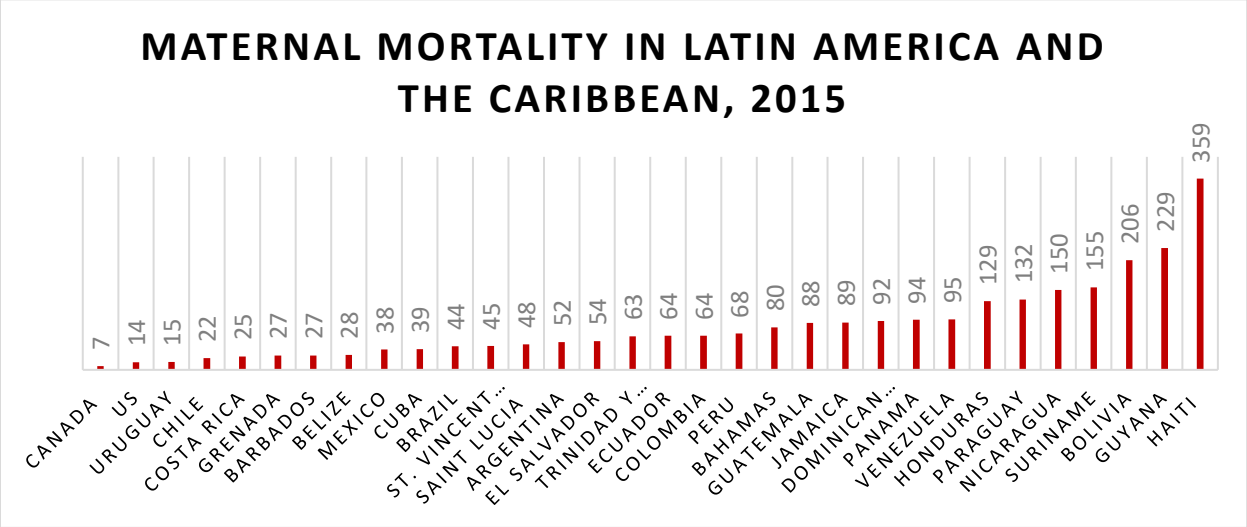

Figure 1: Maternal Mortality in Latin America and the Caribbean

Source: author using World Health Statistics data visualizations dashboard, 2015

Although countries in Latin America and the Caribbean (LAC) have made remarkable progress in reducing the MMR, maternal deaths among the rural poor disproportionately constitute this rate. Women from lower socioeconomic quintiles who live in remote geographic locations receive care that is often "too little, too late."[9] Moreover, indigenous women in Meso-America die at a rate that is three times higher than their non-indigenous counterparts.[10, 5] This population is at higher risk of dying from obstetric complications and receiving care that is disrespectful,

inadequate and of poor quality. [11] These disparities in health raise larger questions about health and safe delivery as human rights, access, quality, of health care systems in a post-MDG era.

1.1.1 SUMMARY

This thesis is a comparative case study analysis with a desk review of outcome measures and literature to describe disparities in maternal health outcomes. It captures policy and health system innovations to identify areas in which countries that have disparities in maternal mortality can improve. This thesis examines global momentum and commitment toward maternal health as a human right through three Latin American case studies in Bolivia, Nicaragua and Guatemala, which have adapted various health system innovations to promote social inclusion of all individuals in the public health care systems and expanded programming to mothers living in situations of vulnerability. International agreements to human rights through international conventions and treaties have established the baseline for health as a human right and the global commitment to the Millennium Development Goals (MDGs) in 2000 is the largest commitment to addressing poverty and maternal mortality.

This paper provides an overview of country progress during the MDGs era and the movement to toward greater commitment to health as a human right through commitment to the Sustainable Development Goals in 2015, which holistically approach strategies to eliminate inequities to ensure that all populations have access to the social determinants of health to achieve their highest standard of health. Commitment to maternal health as a human right requires country-led health system innovations to address shifting epidemiologic profiles as countries move through the stages in the Obstetric Transition Theory, a theory that explains the changes countries experience as they eliminate avoidable maternal deaths, therefore decreasing inequities in maternal

health and ensuring maternal health as a human right. The end of preventable maternal deaths suggests the elimination of the inequities that stifle women from achieving their highest standard of reproductive health and well-being.

This thesis uses three case studies in chapter three to compare country-led health system innovations to reduce inequities in health, targeting mothers and the most vulnerable segments of society. These countries have made measureable progress in the past two decades toward the reduction of preventable maternal deaths through human rights-based approaches. Nonetheless, gaps in maternal health care access and health outcomes persist. Under the renewed global commitment of the Sustainable Development Goals, which center on the reduction of health inequities and human-rights based approaches, countries are continuing momentum toward reducing preventable deaths. At the conclusion of the SDGs in 2030, countries will have to meet an annual rate of reduction (ARR) of 7.5%. There is much progress to be made in the reduction of inequities and maternal mortality. Centering maternal health as a human right will require the commitment of UN member States and global stakeholders to the application of strategies outlined in the *Global Strategy for Women's Children's and Adolescent's Health 2016-2030*, and adoption of international human rights instruments to ensure commitment of women's health.

2.0 INTERNATIONAL AGREEMENTS: HEALTH AS A HUMAN RIGHT

In the first half of the twentieth century international agreements established provisions for health as a human right. The right to the "highest attainable standard of health without distinction of race, religion, political belief, economic or social condition" [12] was recognized in the Constitution of the World Health Organization (WHO) in 1946.[12] This was reiterated in the 1948 Universal Declaration of Human Rights, the International Covenant on Economic, Social and Cultural Rights (ICESCR) in 1966 and in international human rights treaties.[13] Furthermore, in 1978 the Alma-Ata Declaration explicitly reaffirmed and "identified primary health care as the key to attainment of the goal of Health for All."[14] Specific provisions for the protection of women in relation to pregnancy, childbirth and post-natal care were established by two of the core international human rights instruments, the ICESCR and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW).

The Committee on Economic, Social and Cultural Rights (CESCR) specified that states must guarantee maternal health care as a core obligation to the right to health[15] and established the essential elements for the right to health such as availability, accessibility, acceptability and quality (AAAQ).[16,15] In 2017, a delegation of experts at the Pan American Health Organization (PAHO) stated that using the provisions in the international human rights instruments will ensure mandatory commitments to maternal health.[17] The right to health is further embodied in the social determinants of health identified by the ICESCR. These include "safe drinking water and sanitation; safe food; adequate nutrition and housing; safe working and environmental conditions; health-related education and information; and gender equality."[13] These social determinants were

prioritized to reduce eradicate extreme poverty in the largest global commitment by UN Member States in 2000.

Tangible changes began to appear in 2000, when 191 UN member states committed to the Millennium Development Goals (MDGs). The goals centered on poverty and hunger, achieving universal primary education, promoting gender equality and women's empowerment, reducing child mortality, improving maternal health, combating HIV/AIDS, malaria and other diseases, ensuring environmental sustainability, and developing global partnership for development.[18] The fifth MDG, improve maternal health, aimed to reduce the maternal mortality ratio by three quarters between 1990 and 2015 through health care interventions including strategically increasing the percent of births assisted by skilled health personnel, increasing the proportion of women receiving four or more antenatal visits and ensuring universal access to reproductive health. Globally, the maternal mortality ratio declined 45 percent worldwide since implementation and more than 71 percent of births were assisted by skilled health personnel.[18]

The final Millennium Development Goals Report 2015 recognizes the global achievements toward the eradication of extreme poverty and maternal mortality reduction during the MDGs, while acknowledging significant gaps in progress, especially between the poorest and richest quintiles of the population and rural and urban areas. For example, the report estimated that in developing regions 56 percent of births in rural areas were attended by skilled health personnel compared with 87 percent in urban areas.[18] It also points to the fact that most of the maternal deaths that occurred during this period were preventable with health care interventions, with the greatest proportion of maternal deaths resulting from hemorrhage.

The fact that most maternal deaths were from preventable causes to which there are proven interventions, makes maternal mortality as an outcome inequitable. According to the WHO health

inequities "entail a failure to avoid or overcome inequalities that infringe on fairness and human rights norms."[19] Inequities imply that the situation is unfair or unjust. During the MDGs era the UN States focused too closely on the achievement of national aggregates and driving down maternal mortality at the national level, failing to ensure proven life-saving maternal health interventions reached the poorest and marginalized segments of the population.[15] At the core of the problem, the UN stated in its 2015 report that the poorest and most disadvantaged are bypassed because of gender and discrimination, ethnicity and disability inequities.[18] To emphasize the inequities in health care access in the region of the Americas, Haiti, has extremely inequitable access to care. The poorest quintile of the population (22.6% of affected population) has 10.9% of births attended by skilled health personnel. In comparison, the richest quintile (14.3% of affected population) has 82.5% of births attended by skilled health personnel.[20] Mothers living in rural areas have 26.8% of births attended by skilled health personnel compared to 61.7% in urban areas.[20]

In 2014, The Pan American Health Organization (PAHO) reported that the most persistent challenges moving forward in health coverage and access are barriers to health care access and social exclusion; inefficient health models that cannot adequately meet population demand; lack of health financing; weak leadership and health governance; and care that does not meet beneficiaries' expectations due to health system inefficiencies.[21] Other significant problems in the provision of health care are the shortage and distribution of health workforce, weak vital and health information systems to capture accurate data on maternal health, lack of cultural acceptability of health systems and those which routinely exclude populations that have been historically marginalized from care. [15, 22]

Despite current inequities in health and uneven progress toward poverty and maternal mortality reduction, incredible gains were achieved during this period and millions were lifted out of poverty. The global UN member states are in a new era, shifting their focus to the SDGs, to reduce blatant inequities in health and empowering women to realize their reproductive rights. Global institutions are building off the previous development goals to effectively close the gaps in preventable maternal mortalities that the MDGs overlooked.

2.1.1 The SDGs, Continuing Momentum toward Maternal Health as a Human Right

In January 2016, 170 UN Member States joined together to commit to another fifteen years of global partnerships for the universal call to action to end poverty through the Sustainable Development Goals.[23] This global commitment by country governments and international organizations further progress toward health as a human right. To this end, reducing inequities and ensuring that no one person is left behind are values at the heart of the SDGs. [11,24]

The SDGs are 17 interconnected, inter-sectoral goals that are guided by values of gender equality and reducing inequities with an overarching goal to ensure that no one is left behind in development. The goals are centered on eliminating poverty, reducing inequalities, good health and well-being, and gender equality, among others.[23] In goal 3, good health and well-being, the targets are focused on reducing maternal mortality ratio (to less than 70 per 100,000 live births), achievement of universal health coverage, access to quality essential health care services, and safeguarding reproductive health into national strategies.[23] Goals are centered in human rights-based approaches. Country governments are pursuing innovative strategies, collaborative inter-sectoral partnerships, and pushing for the expansion of universal health coverage (UHC) to achieve the SDGs. The central objective of UHC is to ensure that no one will experience financial hardship

for accessing health care. [25] This goal is so important, when considering that at least half of the global population cannot access needed health services.[25] The SDGs promote the development of skilled and motivated health workforces to improve quality of care as strategic priorities.[5] The SDGs reflect the global paradigm toward interventions that have a human rights-based approach.[16] Health as a human right is at the forefront of the SDGs, ensuring the most vulnerable populations have access to quality health care to attain their highest standard of health.

The United Nations Secretary General established The *Global Strategy for Women's Children's and Adolescent's Health 2016-2030* (hereby referred to as the Global Strategy) and its *Every Women Every Child (EWEC) Global Movement* as a framework for obtaining the SDGs. This created a heightened sense of global priority around children, adolescents and women and has placed their health needs at the center of the SDGs. The Global Strategy has three central objectives: to end preventable maternal and newborn deaths (survive), ensure that women and children realize human rights (thrive) and ensure strong health systems (transform).[5] It promotes nine action areas and guiding principles through its Operational Framework that align with the SDGs. The action areas are country leadership, individual potential, financing for health, community engagement, research and innovation, health system resilience, multi-sector action, accountability and humanitarian and fragile settings.[26] The *Global Strategy* has mobilized country governments to commit a total of US$28.4 billion to support maternal, child and adolescent health.[5]

Other global initiatives stemmed from The *Global Strategy* and *EWEC Global Movement*, including The World Bank Group's 2015-2030 *Global Financing Facility (GFF)*, which supports country-led health financing, with the objective to ultimately reduce inequities and preventable maternal and child deaths.[27] Based on the underlying values of equity and quality in the *EWEC*

Global Movement, the WHO and UNICEF have developed the *Quality Of Care Network 2017-2019* program, which focuses on the quality of care from health provider (provision) and women's perspectives (experience).[28] Additionally, the WHO through its *Global Strategy on HRH: Workforce 2030*, is leading the role in mobilizing Member States to invest in HRH to close gaps in coverage through the AAAQ values.[29] Commitment to *The Global Strategy* and initiatives Commitment to *The Global Strategy* and initiatives require the support of whole governments, including strong country-led political leadership, and the backing from the ministries of health and other inter-sectoral levels of government to ensure that all women, children and adolescents fulfill their highest attainable standard of health by 2030.

2.1.2 The importance of the Obstetric Transition Theory toward equitable maternal health

The Obstetric Transition Theory explains the changes countries experience as they eliminate avoidable maternal deaths.[30] Countries are organized into stages according to the extent to which they meet the criteria in each stage. This thesis will leverage the Obstetric Transition Theory to identify interventions that countries should focus on during a key stage of the transition. For the purposes of the comparative case study analysis, the selected countries are in Stage III of the Obstetric Transition, where access to health facilities and quality of healthcare remain barriers to improved health outcomes. The focus of the analysis will be on the transition from Stage III to IV.

Table 1 contains a summary of the five stages in the Obstetric Transition Theory that countries experience as they eliminate avoidable maternal mortality and progress toward Stage V. In **Stage I** countries have a MMR greater than 1,000 maternal deaths per 100,000 live births, high fertility and the leading cause of death is from direct causes and infectious disease. Health care in

this stage is likened to the "natural history" of childbirth where formal health care access is virtually non-existent.

Table 1: Obstetric Transition Theory Stages

STAGE I	STAGE II	STAGE III	STAGE IV	STAGE V
MMR>1000; High fertility Direct cause of death	**MMR 990-300; fertility high; direct causes of death**	**MMR 299-50; fertility variable;**	**MMR <50; low fertility; indirect causes death**	**All avoidable maternal deaths are avoided**
Natural history childbirth	**Access to care is critical, weak health systems**	**Tipping point; direct causes predominate, chronic disease more important**	**Quality of care improves; however, increasing role of over-medicalization**	**Excellence in quality of care**

Source: author using the Obstetric Transition Theory by Souza et al.

In **Stage II** the MMR is between 300-990 deaths/100,000 live births and access to care is important for the maternal population; however, the health system is weak and unable to provide services. In **Stage III**, MMR is between 50-299 maternal deaths/100,000 live births and fertility is variable. [31] In **Stage IV** is characterized by MMR<50 per 100,000 live births, low fertility, and indirect causes of maternal mortality.[31] In **Stage V**, all avoidable maternal deaths are avoided and there is excellence in the quality of care provision provided by health systems.

Souza et al. characterize achieving Stage III of the Obstetric Transition Theory as reaching the "tipping point": Compared to the transition between Stages I and II, where countries achieve increased access to weak health systems, Stage III countries have stronger health systems; however, quality of healthcare remains an important barrier to improved health outcomes. In Stage

III deaths due to infectious causes decrease and a larger proportion of maternal deaths due to non-communicable causes is registered due to low quality of care. Souza et al. suggest that to move from Stage III to Stage IV, countries will need to achieve improved quality of care, focusing on advancing primary, second and tertiary prevention and providing improved skilled birth attendance and management of complications.[31] These suggestions are important for determining policies, partnerships and investments for progression to Stage IV. However, it is important to note that in this Stage IV, there is an increasing risk of over-medicalization by health systems, which is not necessarily desirable.

For all countries to progress toward Stage V, the Obstetric Transition Theory suggests several health interventions that countries can leverage to eliminate avoidable maternal mortality including provision of emergency obstetric care; highly functioning referral systems; family planning; contraception; humanized birthing processes; access to safe abortion; adequate equipment and personnel; and health information and surveillance systems.[30]

3.0 LATIN AMERICA COUNTRIES CASE STUDIES

The countries chosen for the case studies -- Bolivia, Nicaragua and Guatemala -- were identified based on shared national-level characteristics. First, these countries have large disparities in maternal mortality rates (MMR) and access to health. Second, these countries also are classified in Stage III of the Obstetric Transition Theory wherein access to health facilities and quality of healthcare remain important barriers to improved health outcomes. The studies focus on brief introductions to the health system, health inequities in maternal health outcomes and access to health care and health care innovations countries have implemented since the 1990s to reduce inequities in maternal health. The cases in this study have implemented several different types of maternal health interventions including: maternal health packages, expanded universal health coverage, provided supplementary health coverage, scaled-up inter-sectoral models and have adapted their health models to guarantee equitable care.

The chart below summarizes the decreases in the maternal mortality ratio in Bolivia, Nicaragua and Guatemala since 1990. The chart demonstrates steeper declines in MMR in Bolivia prior to the implementation of the Millennium Development Goals in 2000.

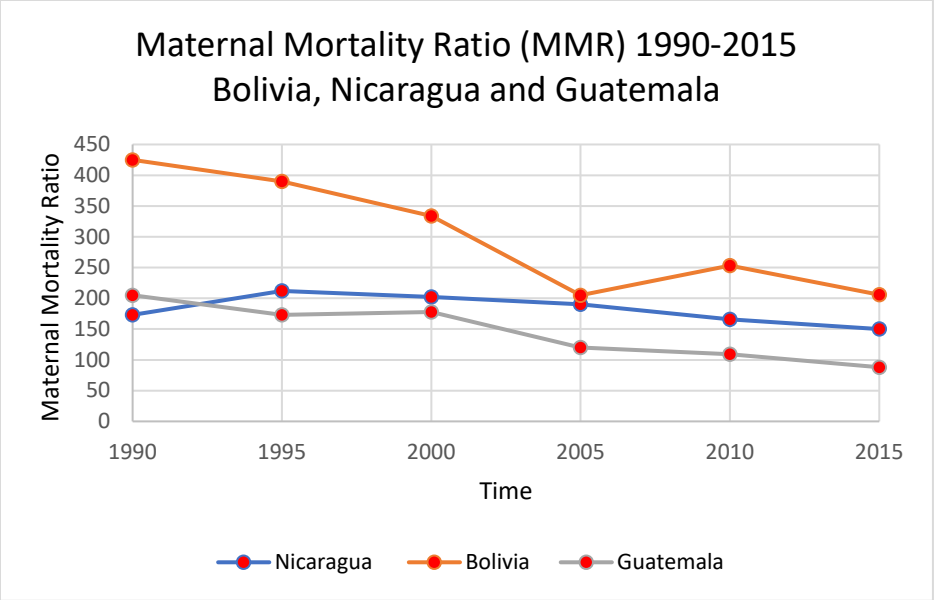

Figure 2: Maternal mortality ratio 1990-2018 in selected countries

Source: author using Maternal Mortality Estimation Inter-Agency Group data, 2015

3.1 BOLIVIA

3.1.1 Overview of health care system

The main providers of health services to the population in Bolivia are the public, social security and private sectors. The Ministry of Health is responsible for covering 74% of the populations' health services, organizing public health service delivery, and informing policies and strategies at the national level. [32] Public health facilities are locally owned by municipal and department governments and are responsible for their management.[32] Public health facilities charge user fees for medicines, medical supplies, medications and inpatient care). [32] The health system of Bolivia is characterized by a combination of health insurance, maternal health packages, and expansion of Universal Health Coverage to reduce maternal and infant mortality and reduce inequities in health.

The Government of Bolivia is prioritizing strategies to combat financial barriers to health care access and working toward greater financial health protection of its citizens.

3.1.2 Inequities in maternal health outcomes and health care access

Bolivia, a country of 11 million people, has among the worst income inequalities in the world.[33] Nearly 40% of the population lives below the poverty line.[33] The poorest areas are located in the Departments of La Paz, Oruro, Potosí, Cochabamba, and Chuquisaca,[34] with La Paz, Santa Cruz, and Cochabamba collectively holding 71% of the population.[34] More than half (62%) of the Bolivian population self-identifies as indigenous.[35] National-level statistics report high percentages of births attended by skilled attendants (85%) and institutional deliveries (71%) in 2015.[36] The government currently covers approximately 80% of the expenditure on reproductive and maternal health and spends 7.3% of its national gross domestic product (GDP) on healthcare.[37]

Bolivia has one of the highest MMR in the Americas with 206 maternal deaths/ 100,000 live births in 2015.[1] The leading cause of maternal death is from hemorrhage, disproportionately affecting women in rural areas. [1] A 2011 study found that maternal deaths were highest in La Paz (286/100,000 live births) and lowest in Santa Cruz (60/100,000), with the main causes of maternal death related to hemorrhage (59%), pregnancy-induced hypertension (19%), miscarriage (13%), and infection (7%).[34] Moreover, the rate of infant mortality in Bolivia is extremely high with 19 neonatal deaths/1,000 live births in 2017. In 2016, 52% of the under-five deaths were newborn deaths. [36] According to 2008 Demographic Health Survey (DHS) data, infant mortality was highest in the following departments : Potosí (101 infant deaths/ 1,000 live births) followed by infant deaths in La Paz (63/1,000) and Cochabamba (63/1,000).[3838(p133)] In Cochabamba 52% of deliveries occurred in the public sector, 35% at home and 13% in the private sector.[38]

Income disparities between the poorest quintile and richer quintiles differentially impact access to care. For example, the poorest quintile (1/4 affected population) has 39.4% of births attended by skilled health personnel whereas the top two wealthiest quintiles have between 93.7-98.8% coverage.[20] To parse this out further, the poorest quintile has 29.3% of births attended by a doctor, 8.7% by a nurse, 7.3% by a midwife and 52% with 'other person' whereas the richest quintile has 97.4%, 1.3%, 0.0% and 1.2%, respectively. [15] Furthermore, approximately 70% of women in the poorest quintile gives birth at home, compared to 2% of those in the richest quintile. [15,,37] Geographic location also impacts access. Compared to urban areas, women in rural areas have 52.6% of deliveries with a skilled birth attendant compared to 90% in urban areas.[20]

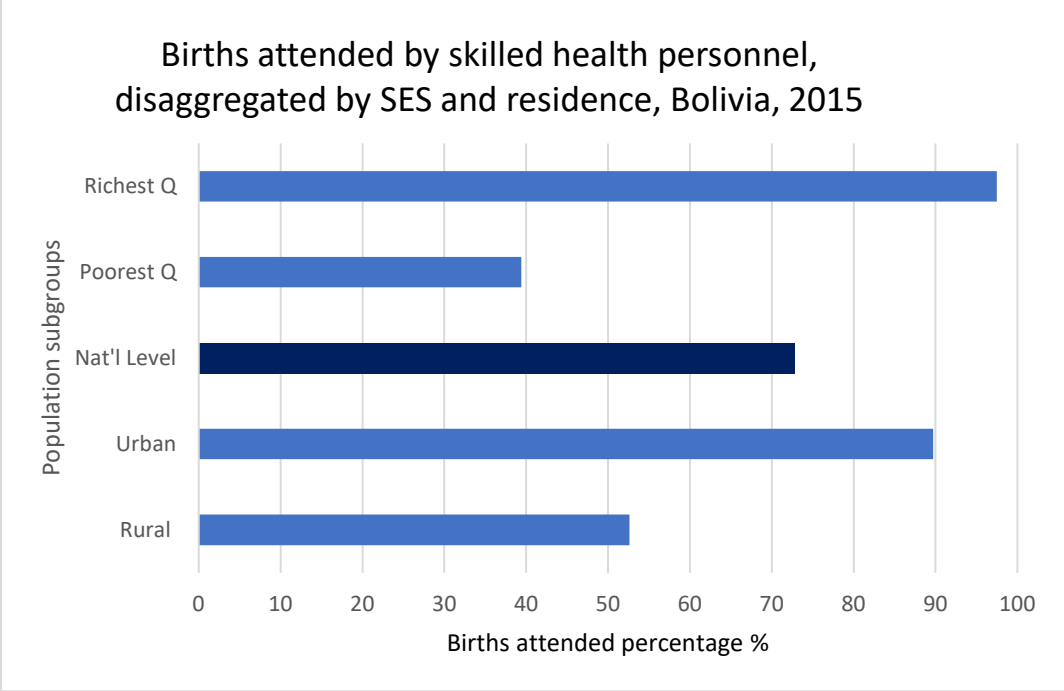

Figure 3: Births attended by skilled health personnel, disaggregated by SES and residence in Bolivia

Source: author, using Inequality in reproductive, maternal, newborn and child health (RMNCH) interventions, composite coverage index

3.1.3 Health system innovations to improve maternal care

Maternal health and health equity were at the forefront of the government of Bolivia's agenda in the 1990s as the health care system became more decentralized from the national government. To reduce health inequities in Bolivia, the government created public health insurance in 1996, guaranteeing the entire population free access to health services.[39] However, while health services were technically free, user fees were charged for consultations, hospitalizations, diagnostic exams and medication, creating barriers to health services for vulnerable populations.[32]

In response to this, the government created a subsidized health insurance for pregnant women and children under five years old to decrease disparities in access. It implemented two programs, the *Seguro Nacional de Maternidad y Ninez* (SNMN) which had 26 interventions and in 1999 implemented the *Seguro Basico de Salud* (SBS) to expand the number of interventions to 92.[40] In 2003, the Government of Bolivia instituted an insurance program, the Universal Maternal and Infant Health Insurance (SUMI), which offers a comprehensive package of 400 maternal health interventions and maternal health services for the target population, covering antenatal, labor, delivery, postnatal and newborn care.[41,39,40] To further guarantee access, the government implemented the EXTENSA program in conjunction with SUMI. It also at the same time implemented The Strategic Health Plan 1997-2002 with the objective to ensure Universal Health Coverage and to reduce infant and maternal mortality and eliminate financial barriers to care and increase equity of the health financing system. [40]

In 2002, the government officially integrated indigenous customs and practices in the SUMI health coverage for greater inclusion of indigenous traditional medicine and practices in the public health sector.[42] Coinciding with this, the Pregnant Woman's Rights Charter and Patient's Right Charter which mandate humanized birthing practice and respectful care and consideration

for traditional health beliefs in the formal health care system were recognized by the Ministry of Health. Six years later, the Bolivian government adopted the new health model, the Unified Family, Community Intercultural Health System (SAFCI) in 2008. This model extended equitable coverage to rural populations, therefore reducing disparities in access. [43] Among the most significant changes in the health system due to this model were the erection of intercultural childbirth rooms and the acceptance of traditional birth attendants (parteras) and traditional homeopathic remedies during delivery.[37,44]

In 2009, the Bolivian government recognized health as a human right in the ratified Bolivian Constitution.[45] Despite continual efforts to expand access to populations, by 2009, only 28.4% of the population had access to public health insurance.[35] In 2014, the LAW 475, Provision of Comprehensive Health Services was mandated, and is an intercultural, inter-sectoral primary health care model[45] that ensures maternal and child and reproductive health services. [34]

In addition to modifications in the health care system, the government partnered with the World Bank in 2009 to implement the Juana Azurduy program, a $25million initiative targeting pregnant women and mothers who had low access to health care services.[46] Women received vouchers totaling US$260 to both attend prenatal visits and deliver in a health facility. To continue to receive funding, mothers were required to bring their children for postnatal checkups and regular care.[46] The program had measurable impact, reaching 350,000 recipients since implementation in 2009.[35] However, this program was not met without specific challenges. Approximately 60,000 women who enrolled did not receive a stipend because they were unable to provide a birth certificate for their child(ren), a stipulation for the program.[35,46]

At present, lack of public financing for the public health sector is a concern. For example, social security spending accounts for nearly all of the available resources and only serves a small

segment of the population, whom belong to the highest income quintile. In comparison, the public sector covers 42% of the population, owns 20% of public resources and serves individuals who belong mostly to indigenous groups.[35]

3.2 NICARAGUA

3.2.1 Overview of health system

The main providers of health services to the population in Nicaragua are the public, social security and private sectors. The Ministry of Health (MINSA) in the public sector covers 70% of the uninsured population and the Social Security Institute (INSS) which covers 10% of the population.[47] The private sector provides health services through for-profit or nonprofit companies to a small percentage of the population.[47] MINSA is responsible for organizing public health service delivery and guaranteeing citizens universal health coverage. The health system of Nicaragua is characterized by a combination of laws to support universal health coverage, policies to support adolescent and maternal health and multi-lateral partnerships to strengthen the current model to improve health equity for its citizens. The Government of Nicaragua is prioritizing the strengthening of its health model to improve the quality of its services and focusing on reducing maternal and child mortality. [48]

3.2.2 Inequities in maternal health outcomes and health care access

Of the six million people living in Nicaragua, approximately 30% lives below the poverty line. [49] The country suffers from problems of income inequality, particularly among the rural poor, agriculturalists and indigenous populations, who continue to have less access to healthcare facilities. [49] The poorest areas are located in the Southern Atlantic Autonomous Region (RAAS).[50,51] The populations living in these areas identify as Mestizo, Creole, Garifuna, Rama, Sumu and Miskitu (indigenous groups).[50] Nicaragua spends 9% of its GDP on healthcare. [49] The prevalence of chronic disease in the country is increasing and is characterized by a "triple burden of disease" in which chronic and infectious diseases and maternal mortality dominate.[48]

In 2016, Nicaragua ranked number 66 in the world for maternal deaths[36] with 150 deaths/ 100,000 live births.[20] Approximately 40% of deaths occurred during pregnancy and 62% after childbirth.[47] Hemorrhage is the main cause of maternal mortality. Approximately 70% of maternal deaths occur in rural areas. [47] The regions with the highest MMR are located in Río San Juan, Jinotega and Matagalpa. The data reflects gaps in skilled birth attendance coverage among the richest and poorest quintiles and rural and urban areas. Urban populations have much higher percentages of births attended by health personnel: 93.2% compared to 60.5% in rural areas.[20]

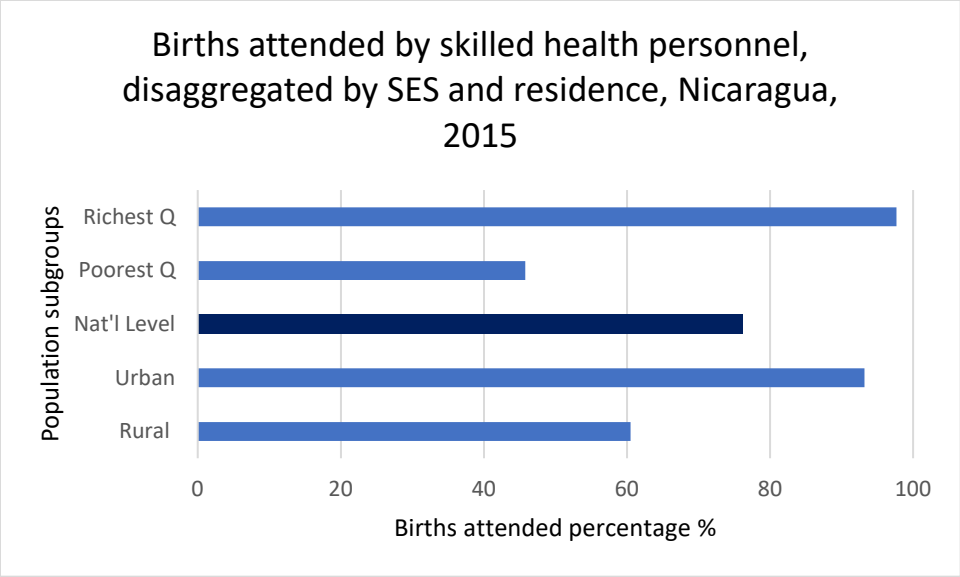

Figure 4: Births attended by skilled health personnel disaggregated by SES and residence in Nicaragua

Source: author, using Inequality in reproductive, maternal, newborn and child health (RMNCH) interventions, composite coverage index

3.2.3 Health system innovations to improve maternal care

In 2002, the government instituted the General Health Law, which developed three financing schemes to support Universal Health Coverage, primarily contributory, non-contributory and voluntary.[51] The law spurred an increase in maternal waiting homes (Casas Maternas) throughout the country to provide safe pregnancy, delivery and newborn healthcare to women living in rural municipalities.[51, 52] The Nicaraguan government began devolving health services to the local level in 2004 with the implementation of the National Health Plan 2004-2015, and focuses on issues related to maternal health. Under the umbrella of the National Health Plan, the government has created laws around child and adolescent health, breast-feeding, delivery and post-national care and laws preventing non-traditional professionals from participating in deliveries.[53]

In 2007, a new health care model, the Community and Family Health Model (MOSAFC) was implemented with the objective to provide equitable care, increase financial health protection,

and to generate quality care outcomes for the poorest and most vulnerable populations.[51] Through this, the MOH has focused on providing basic maternal and child health care package – however, women have to pay out-of-pocket costs for many basic services that are not included in the package (laboratory testing, detection of cervical cancer).[48] The program has had significant achievements including increasing the number of human resources for health which has benefited poorer population in remote areas.[48] One year after the implementation of the MOSAFC, in 2008, 40% of the population purportedly did not have access to any public service, in particular, those individuals living in the RAAS.[51] The World Bank partnered with the health systems to strengthening the MOSAFC budget system, improvement of primary health care hospitals, improvement of health equity for marginalized populations. To achieve UHC, the government eliminated user fees from the public health system to promote equitable access.[54]

Despite free public health services, the model is hampered by lack of resources (including financing, human resources for health, and structural), reducing quality of care.[51] Women avoid institutional delivery and care for fear of poor treatment, long waiting lines, lack of trust of the system, overburdened systems that cannot provide essential medicines and disrespectful care and interactions with health personnel.[54,55] Other factors that preclude women from care include limited access to social insurance and social security. Out-of-pocket spending for the population is a problem, with payments for medicine being a main obstacle.[53] In Nicaragua, health facilities often lack electricity, sewage and running water and stockouts of essential medicines occur frequently. [47] A report by the World Bank, the Bank lists the main challenges for provision of healthcare services in Nicaragua including: inefficient allocation of resources; low financial protection; high out-of-pocket expenses for the poor; lack of access to health care services; and unregulated private sector.[53]

The Government is currently implementing the National Strategy for Integral Health and Development of Adolescents 2012-2017 with the objective to promote behavioral changes among adolescents and provide efficient access to and delivery of health and social services for young mothers.[48] The World Bank and Nicaragua have the World Bank Country Partnership Strategy GY2013-2017 with the goals to improve access to quality basic services, and raise incomes; the cross cutting theme is empowerment of women. The Bank is helping Nicaragua scale-up inter-sectoral models (water, sanitation, education, health, social protection) to strengthen the health system, USD $28million.[48]

3.3 GUATEMALA

3.3.1 Overview of health system

The main providers of health services to the population in Guatemala are the Ministry of Public Health and Social Welfare (MSPAS) [75% of the population accesses MSPAS public services], the *Instituto Guatemalteco de Seguridad Social* (IGSS) [covers 17.5% of population], and the private sector[<5% of population]. [56] The Ministry of Public Health and Social Welfare (MSPAS) covers three levels of public health care, including primary (health posts, health centers, the Extension of Coverage Program), second level (health centers and integrated maternal and child health centers) and third level (hospitals).[57] The health system of Guatemala is characterized by supplementary coverage and basic maternal health packages to support provision of health coverage, focusing on safe births and maternal and child health care. The Government of

Guatemala is prioritizing strategies to strengthen primary health care services and improving maternal health through a project to combat chronic malnutrition.

The country is currently in the midst of an epidemiological transition, commonly described as the "double burden of disease," where non-communicable diseases are becoming increasingly more important in the epidemiologic profile of the population. [56,58] In Guatemala's 1985 Constitution, the government of Guatemala promised universal health care for all Guatemalans; however, lack of public finance in public institutions hampers the realization of health as a human right for all populations.[56] The country is plagued by large structural inequities, poverty and violence.[56] The Ministry of Health (MSPAS), the main regulatory actor and provider of public health services; Despite contributions to reduce inequities in health care access and outcomes among indigenous populations, the health sector is confronted with the elimination of its basic health care coverage program, *Coverage Extension Program* (CEP), which has provided care to more than three million people since its implementation in 1997.

3.3.2 Inequities in maternal health outcomes and access to maternal care

In Guatemala, roughly 41% of the population is considered indigenous and approximately half of the population lives below the poverty line. More than half the population lives in rural areas.[10] The populations living in situations of vulnerability are primarily from the Mayan, Garífuna and Xincas indigenous groups who constitute "58% of the poor and 72% of the extremely poor."[57] Access to health facilities varies by economic status wherein the poorest quintile has 37% of births in an institution compared to the richest quintile who have 95% of institutional deliveries.[59] Differences in geography play a role in determining access – 83% of births occur in a facility in urban areas whereas in rural areas, only 55% of births occur in a facility.[59] There are large

inequities in healthcare access and services between indigenous and non-indigenous (ladino) populations.[56]

The highest rates of maternal deaths are in northwest highlands of Guatemala in the department of Huehuetenango (338 maternal deaths per 100,000 live births). This area is predominantly Mayan.[60] According to a study by Stollak et al., "the maternal mortality rate for indigenous women (163 per 100,000) is twice that of non-indigenous women (78 per 100,000) and indigenous women account for 71% of the country's maternal deaths compared with 54% of the country's births. Furthermore, the national percentage of deliveries that take place in facilities is 29% for indigenous women and 70% for non-indigenous women."[60] Hernandez et al., also point out that approximately 80% of women of Mayan origin deliver at home without receiving prenatal care due to limited access. [61]

In Guatemala, national level statistics report that 68% of births are attended, while the poorest quintile has 39.9% of births attended. [20] The top three richest quintiles have between 78.6-96.4% of births attended.[20] The data also reflect gaps in coverage when they are disaggregated by place of residence. The percent of births attended by health personnel in rural areas of Guatemala was 58.4%. Urban populations have much higher percentages of births attended by health personnel: 85.7%.[20] Health facilities and HRH are disproportionately located in the Department of Guatemala, where only 25% of the population resides.[10] In Guatemala approximately half of all deliveries occur in health facilities[57] and 86% of women receive at least four or more antenatal appointments.[36] Free health coverage is offered through the Ministry of Health (MSPAS) and covers 70% of the population.[62] In rural areas, more women deliver with midwives.[61]

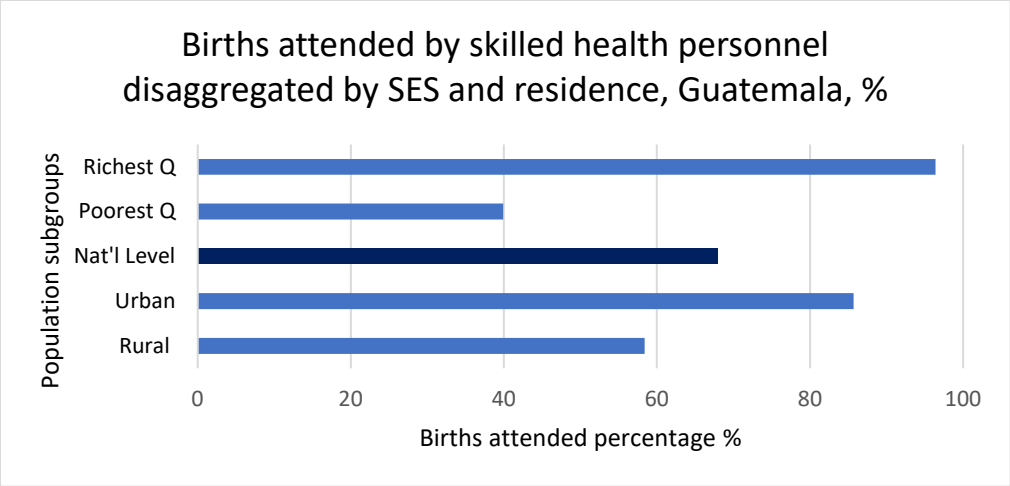

Figure 5: Births attended by skilled health personnel disaggregated by SES and residence, Guatemala

Source: author, using Inequality in reproductive, maternal, newborn and child health (RMNCH) interventions, composite coverage index

3.3.3 Health system innovations to improve maternal care

In 1996, Guatemala signed the Peace Accords , ending three decades of civil war and making commitments to cut the 1995 infant mortality rate in half by 2000. [63,58] In 1997, the Government of Guatemala began to decentralize and modernize its healthcare system and implemented the Integrated Health Care System (SIAS) run by the MSPAS.[58] In this way, health reform policy included a set of initiatives to provide quality care under the umbrella of the Integrated Health Care System (SIAS) and through the Coverage Extension Program (CEP), basic healthcare coverage implemented by the MSPAS which included maternal health care, family planning, infant and under-5 care, and some environmental and injury/illness care.[58] In partnership with the Inter-Development Bank, Guatemala received loans to implement CEP, targeting women children in largely indigenous areas. The PEC services are based on a model of health care in which mobile health care providers provide care.[58] This program extended healthcare coverage to three million individuals in rural areas by 2001 through a basic package of maternal and child health care

services that included prenatal care and immunizations. The target beneficiaries reached were indigenous, rural and impoverished populations who did not have access to public health services.

The Government of Guatemala contracted out services with nongovernmental organizations to provide basic health care services.[63] In 2005, the government strengthened the Coverage Extension Program. This program strengthened 40 secondary level facilities, focusing on the promotion of safe births and maternal and child nutrition centers.[64] Because of programming, between 2002 and 2012, institutional deliveries increased from 22.3% to 42% and indigenous MMR decreased from 3.2% to 1.24%.[64] However, in 2013, the CEP was cancelled due to widespread inefficiencies and lack of transparency of programming, leaving the millions of individuals who were covered without care.[56]

In 2015, MPSAS expanded its coverage at the first level of care to provide coverage to the areas that were previously covered by CEP under the *Estrategia de Fortalecimiento y Dasarrollo Institutional del Primer Nivel de Atencion*, the new proposed health care strategy.[56] The strategy is still evolving and would be a full-service primary health care strategy. Though the health system has focused on extending coverage to the populations most vulnerable, challenges exist, in particular, the capacity to provide culturally acceptable care.[10] The government is currently partnering with The World Bank and the Global Financing Facility (GFF) for country-led health financing to reduce preventable maternal mortality through the *Crecer Sano*: Guatemala Nutrition and Health Project. The project is geared toward women and children <24 months in the departments with the highest prevalence of chronic malnutrition.

A 2015 evaluation of the Guatemalan health care system by United States Agency for International Development (USAID) identified the largest challenges in the health system as the following: structural inequity in health care and outcomes and problems with the cancellation of

the Extension of Coverage Program (*Programa de Extension de Cobertura*, PEC).[56] Other challenges remain such as the lack of integration of traditional birth attendants and indigenous community-based organizations, which are vital to the health system are excluded.[56]

The report included important recommendations for the health system: guarantee financial risk protection under the developing primary health care strategy; stronger leadership to address inequities; develop health financing strategy to address funding and budgetary gaps [mobilizing resources to the public health sector]; strengthening of the health workforce and deployment to rural areas and accountable governance of the health system through increasing participation of community development councils.[56] Other important problems are limited care at rural health posts, lack of referral systems and stock outs of medicines.[56]

3.4 SUMMARY OF HEALTH SYSTEM INNOVATIONS

The table below summarizes the different stages of health system interventions each of the countries implemented from 1990-2018. The strategies have focused on a combination of maternal health packages, expanding universal health coverage, supplementary coverage, conditional cash transfer programming, adaptations of country health models to provide equitable care, and health financing for inter-sectoral projects.

Table 2: Health System Innovations in Bolivia, Nicaragua and Guatemala

Country	Innovation	Service Provision
Bolivia	**Seguro Nacional de Maternidad y Ninez (SNMN) and Seguro Basico de Salud (SBS), 1999**	Maternal health packages
	Strategic Health Plan 1999-2002	Strategy toward universal health coverage & health financing
	Health Insurance Program: Universal Maternal and Infant Health Insurance (SUMI), 2003	Comprehensive package 400 maternal health services
	EXTENSA, 2003	Supplementary health coverage
	Pregnant Woman's Rights Charter and Patient's Right Charter	Mandate humanized birthing practices and respectful care / traditional practices
	Unified Family, Community Intercultural Health System (SAFCI), 2008	Health model to extend equitable coverage
	Juana Azurduy program, 2009	Conditional cash transfer program targeting pregnant women and children <5
	Law 475, Provision of Comprehensive Health Services, 2014	Inter-cultural primary health care model for reproductive health care
Nicaragua	**General Health Law, 2002**	Universal Health Coverage and Casas Maternas
	National Health Plan 2004-2015	Policies for maternal health
	Community and Family Health Model (MOSAFC), 2007	Guarantee equitable care, basic maternal health packages, eliminate user fee
	National Strategy for Integral Health and Development of Adolescents 2012-2017	Strategy behavioral change for adolescents & improved service provision
	World Bank Country Partnership Strategy GY2013-2017	Scaling-up inter-sectoral models, gender empowerment, equitable care
Guatemala	**Integrated Health Care System (SIAS), 1997, MPSAS**	Health model implemented, quality of care
	Coverage Extension Program (CEP), 1997	Supplementary health coverage, basic maternal health package
	Coverage Extension Program (CEP), 2005	Strengthening of secondary level facilities, promotion of safe births
	Cancellation of CEP, 2014	Health system crisis, coverage pulled from beneficiaries
	Estrategia de Fortalecimiento y Dasarrollo Institutional del Primer Nivel de Atencion, 2015	Strengthening MPSAS Level I care, full service primary health care strategy
	Global Financing Facility, 2018	Country-led health financing for inter-sectoral project in maternal health

The health system of Bolivia is characterized by a series of health insurance coverage schemes to provide greater and more equitable care to vulnerable populations. In 2003, The Government of Bolivia instituted the *Universal Maternal and Infant Health Insurance* (SUMI), which offers a comprehensive package of 400 maternal health interventions and services, covering antenatal, labor, and delivery, postnatal and newborn care. It also has been working toward expanding Universal Health Coverage since the implementation of its Strategic Health Plan in 1997 with the objective to ensure Universal Health Coverage and to reduce infant and maternal mortality. This strategy also aims to eliminate financial barriers to care and increase equity of the health financing system.[40,32] In 2009, the Government of Bolivia partnered with The World Bank to implement the *Juana Azurduy* conditional cash transfer program. The Government is strategizing ways to increase financial health protection, effectively reducing catastrophic spending.[32]

Nicaragua's health system is characterized by the *Modelo de Salud Familiar y Comunitario* (MOSAFC) health model, to which the World Bank has touted as the model that best fits the Nicaraguan context. The World Bank is partnering with the Nicaraguan Government to strengthen the model by improving the quality of services with the long term objective to reduce maternal and child mortality.[48] The World Bank and Nicaragua collaborated to develop the World Bank Country Partnership Strategy GY2013-2017 with the objective to improve access to quality basic services and raise incomes. The cross-cutting theme to this approach is the empowerment of girls and women. The Bank is working with the Government of Nicaragua to scale-up inter-sectoral approaches (water, sanitation, education, social protection and health) to strengthen the health system. [48] The latest 2015 USAID assessment of Nicaragua's health system, touts Nicaragua's health model as one that fits the needs of the population, but that needs additional supports through

health financing, inter-sectoral collaboration and the multi-lateral partnership. The Government of Nicaragua has aligned its health strategies to the ones recommended in the *Global Strategy*.

Guatemala's health system is characterized by the Extension of Coverage Program (PEC), implemented in 1997-2014 in partnership with Inter-Development Bank to support the provision of health coverage to more than three million people, focusing on safe births and maternal and child health care. The cancellation of the PEC program in 2014 has had profound impacts on the health system of Guatemala and those who depend on the PEC for health care. The Government is focusing on an approach to improve primary health care through the *Estrategia de Fortalecimiento y Desarrollo Institutional del Primer Nivel de Atencion* (Institutional Development of Primary Health Care Strategy). The Government of Guatemala is partnering with The World Bank and the Global Financing Facility (GFF) for country-led health financing to reduce preventable maternal mortality through the *Crecer Sano:* Guatemala Nutrition and Health Project. The project is geared toward women and children younger than 24 months in the departments with the highest prevalence of chronic malnutrition.

Despite making remarkable progress, the countries fell short of the MDG annual rate of reduction (ARR) targets for maternal mortality reduction. For these countries to have had achieved the MDG target for maternal health during the MDGs, each country would have had to have had an average annual rate of reduction (ARR) in MMR of 5.5%.[15] In 2015, Nicaragua had an ARR of 0.6%[65], Bolivia 2.9% ARR[66] and Guatemala 3.4% ARR.[67]

These countries will need to continue to advancing in health system innovations to reduce preventable maternal mortality, to reach the ARR of 7.5% set in the SDGs. .[15] The literature on each of these countries points out gaps in the health systems with recommendations from the Global Strategy that guide the discussion on action areas to achieve maternal health goals by 2030.

4.0 DISCUSSION

Bolivia, Nicaragua and Guatemala have made significant strides toward ensuring maternal health as a human right, as evidenced by the myriad of health care innovations, including maternal health packages, health care model adaptations, health laws, inter-sectoral collaboration, strategies and multi-lateral partnerships to reduce inequities in maternal health outcomes. These changes have been incremental, moving health systems forward toward equitable health care. Countries are currently partnering with multi-lateral organizations, more specifically, The World Bank, to develop and implement multi-sectoral strategies to improve maternal health and integrating approaches that align with *The Global Strategy.*

The countries in the case studies offer free government health services through basic health packages to ensure populations can access health systems; however, not all basic services are covered and therefore necessitate high out-of-pocket expenditures, further exacerbating the inequity divide in populations. To tackle this issue, the governments of Bolivia and Guatemala implemented supplementary health coverage programs (*Extensa* and *Coverage Extension Program, CEP*), respectively, to expand health coverage to the most vulnerable segments of their populations. While CEP extended coverage to more than three million people, problems persisted in regulation, coordination and transparency of health service provision. The failure of the CEP supplementary health coverage program in Guatemala indicates the difficulty of contracting out health services with nongovernmental organizations.

To reduce maternal and infant mortality, Bolivia, Nicaragua and Guatemala implemented basic and comprehensive packages of maternal health services; however, the mechanisms for implementation of services were different in all three countries. Bolivia conducted its maternal

health package programming through its SUMI health insurance program. Nicaragua implemented services through its MOSAFC health model and Guatemala through its supplementary CEP health coverage program. The different mechanisms for implementation of maternal health packages may have different implications for the sustainability and longevity of maternal health programming.

Bolivia (SAFCI health model) and Nicaragua (MOSAFC health model) have adapted their health systems to integrate community engagement and participation in the health systems and have made positive strides to provide health services that are culturally acceptable to populations that have been historically marginalized from health systems. Historically, Bolivia has had great momentum and emphasis toward the integration of indigenous practices in the formal health sector. Through its SUMI health insurance, SAFCI health model and law 475, and Pregnant Woman's Right Charter, it has ensured inter-cultural health, focusing on mainstreaming traditional practices in the public health system. To this end, the Government of Nicaragua developed law 774 to ensure cultural health practices integration into the formal health system; however, significant barriers persist with implementation. Incorporation of cultural practices into the formal health system is largely left to the discretion of health professionals, who limit these practices. In contrast, the Government of Guatemala is behind in this area. It struggles to ensure provision of culturally acceptable care. Lack of integration of traditional birth attendants and limited participation of community-based organizations in decisions of the formal sector hamper efforts for an equitable system.

Both Nicaragua and Bolivia have prioritized UHC as a strategy to provide equitable care to their populations. Bolivia prioritized UHC in its Strategic Health Plan 1997-2002 with the objective to ensure Universal Health Coverage and to reduce infant and maternal mortality and eliminate financial barriers to care and increase equity of the health financing system.[32,40]

Nicaragua rallied around UHC in its implementation of the General Health Law in 2002. Nicaragua, additionally eliminated user fees at the point of service.

Despite fitting into the Stage III of the Obstetric Transition Theory, countries are moving toward reducing inequities in maternal health outcomes at different rates than others because of health care innovations that support equitable maternal health.

4.1.1 Recommendations: Global Strategy

Centering maternal health as a human right will require the commitment of UN member States and global stakeholders to the application of strategies outlined in the *Global Strategy for Women's Children's and Adolescent's Health 2016-2030,* and adoption of international human rights instruments to ensure commitment of women's health. The Global Strategy and the Obstetric Transition Theory provide frameworks for strengthening health systems to provide quality maternal health services. Based on gaps in the health systems identified in each one of the country contexts, the *Global Strategy* provides a framework for meeting objectives.

Of the nine action areas identified in the *Global Strategy*, Guatemala should focus on financing for health, and mobilize financial inputs for spending in the public health sector to ensure reductions in catastrophic spending. It should invest in child and adolescent development and focus on removing barriers, including discrimination and deprivation that prevent women from reaching individual potential and prioritize gender-responsive development. It should invest in community engagement to strengthen the participation of community development councils to ensure cultural representation and acceptability in the public health care system. The government's commitment to the *Crecer Sano*: Guatemala Nutrition and Health Project through the GFF to improve inter-sectoral collaboration to reduce preventable maternal and newborn deaths would benefit from

increased approaches for multi-sector action. Finally, it should ensure strategies or laws that promote UHC to provide good quality care in all settings.

From the gaps identified in the 3.2.3 section on Nicaragua, the government should increase financing for health to ensure that financial inputs and resources are allocated efficiently to the public health sector and ensure that financial protection is a top priority; effectively reducing high out-of-pocket expenditures for medicine which so often can lead to catastrophic spending. The Government of Nicaragua is currently taking steps to improve multi-sector action through the World Bank Country Partnership Strategy to increase gender-responsive policies and scaling-up inter-sectoral collaboration through water, sanitation, education, health and social protection. The health model provides provisions for traditional practices in the formal health sector, but would benefit from greater community engagement and voice in the health care system.

Bolivia would benefit from health financing and mobilization of health resources to the public health sector which provides the majority of services to the population but owns little of the public resources. All countries would uniformly benefit from improving civil registration and vital statistics and improving overall accountability of health governance and systems to ensure that maternal deaths are accurately reported for greater understanding of the types of interventions appropriately applied to population context.

Each country should implement policies and programs that specifically target inequities. Interventions cannot work in silos – countries need to move beyond free health services for women's health and provide comprehensive packages of maternal health care. In order to achieve health care as a human right countries should implement inter-sectoral approaches including safety, food security, health, gender, education, empowerment, infrastructure, sanitation. [11] Countries should continue expanding health coverage to vulnerable populations and should

incorporate culturally acceptable care in health models, increase community engagement, focus on country-led financing for health approaches and improve system accountability.

Commitments to a human rights-based approach is at the center of the SDGs. The countries in this study are working towards implementing policy change promoted in the *Global Strategy*, including garnering support from multi-lateral partnerships, inter-sectoral collaboration, universal health coverage and health financing to innovate health model adaptations to reduce maternal mortality.

4.1.2 Recommendations from the Obstetric Transition Theory

The Obstetric Transition Theory discussed in chapter 2.1.2. suggests health care interventions to reduce avoidable maternal mortality in Stage III so that countries can progress to Stage IV where the MMR is <50 maternal deaths/100,000 live births. It posits that countries in Stage III should focus on improving the quality of primary, secondary and tertiary prevention care and improve skilled birth attendance capacity and ability to manage complications.[31] The focus on strengthening primary, secondary and prevention care is important for countries that are at the "tipping point" of the epidemiologic transition because the transition to three to four focuses on the improvement of quality of care.

In Guatemala, the government should develop health interventions that account for the "double burden of disease" where non-communicable diseases are increasingly more prevalent in the population in addition to infectious disease.[56,58] The dimensions identified above in the Global Strategy can help to identify the quality interventions that are needed to progress into the next stage such as focusing on child and adolescent development and focus on removing barriers, including discrimination and deprivation that prevent women from reaching individual potential.

The government of Nicaragua should focus on health interventions that target the "triple burden of disease" in the population where infectious, chronic and maternal mortality are of equal burden.[48] Facilitating these changes are the recommendations to improve quality of care outlined in the Global Strategy. Country governments should focus on strengthening health systems to provide quality health services to progress into Stage IV where maternal deaths from infectious disease has declined substantially and health systems shift toward medicalization. Despite Stage IV being characterized as the shift to over-medicalization, maternal deaths from infectious diseases are eliminated.[31]

The theory provides an overarching set of effective health interventions for all Stages in the Obstetric Transition that have been proven to reduce avoidable maternal mortality including: provision of emergency obstetric care; highly functioning referral systems; family planning; contraception; humanized birthing processes; access to safe abortion; adequate equipment and personnel; and health information and surveillance systems.[30]

5.0 CONCLUSION

In the first half of the twentieth century, a set of international agreements were established to declare health as a human right. While these agreements were essential in creating provisions for health, they were less successful in ensuring tangible outcomes for health as human right. In 2000, the global commitment to the MDGs spurred momentum toward tangible interventions; however, not all populations benefitted from health interventions. During the MDGs, The Committee on Economic, Social and Cultural Rights (CESCR) specified that States must guarantee maternal health care, as a core obligation to the right to health[15] and established the essential elements for the right to health such as availability, accessibility, acceptability and quality (AAAQ).[16,15] The establishment of the SDGs in 2016 set forth momentum toward maternal health as a human right and in 2017 PAHO recognized the use of provisions in international human rights instruments as a viable solution to ensure mandatory commitments to maternal health.[17] The Global Strategy, aligning its action areas with the SDGs, places placing human rights at the center of its efforts and yet women who are marginalized disproportionately suffer from maternal deaths, indicating continue failure of current interventions and systems.

The countries in this case study took different approaches to eliminating inequities and preventable maternal deaths; however, at the core of the approach, health systems' values are the same – maternal health as a human right. The countries in this study have made progress toward the reduction of preventable maternal mortality and will need to continue to follow recommendations set forth in the SDGs and *The Global Strategy* to strengthen health systems and ensure that women realize their reproductive rights as countries move through the Obstetric Transition.

Despite differing country contexts, the findings show that governments are successfully translating the language of health as a human right into tangible action, implementing health models for greater inclusion of vulnerable populations and are collaborating with diverse stakeholders across sectors to support health financing. Countries, in recognition of population health inequalities are investing in health to achieve health as a human right. Evidence shows that country-led models, inter-sectoral collaboration, and health financing are key to improving access to health care for vulnerable populations.

Despite these findings, there are several main limitations of this study. There is a dearth of research published on the health systems of these countries between the periods of 1990-2018. There are few sources that analyze the health system of Bolivia post 2014 and few that examine the health system of Nicaragua in the decade of 1990. Therefore, much of this analysis relies on the synthesis of country-reports and information derived from The World Health Organization, World Bank, Pan American Health Organization and United Nations.

Ending preventable maternal mortality is in sight and achievable by 2030 with shared country-led and multi-lateral inter-sectoral action. This problem of preventable maternal mortality is the shared responsibility of all global actors and to put it more succinctly in the words of PAHO director, Carissa F. Etienne, “no woman should die in the process of becoming a mother.”[17]

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