



Addressing UN Millennium Development Goal 4: Reduce Child Mortality & Goal 5: Improve Maternal Health

The Importance of Educating Mothers & Bringing Health Care to Women's Communities

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BRIEF BACKGROUND OF MILLENNIUM DEVELOPMENT GOALS

In September 2000, the United Nations General Assembly adopted the United Nations Millennium Declaration. Within the declaration, the General Assembly noted, “As leaders we have a duty therefore to all the world’s people, especially the most vulnerable and, in particular, the children of the world, to whom the future belongs” (United Nations Millennium Declaration). In order to make the declaration attainable, the United Nations then developed eight Millennium Development Goals (MDGs), which specifically focused on some of the world’s most vulnerable people – women and children (“United Nations Millennium Development Goals”).

The eight MDGs include:

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other disease
7. Ensure environmental sustainability
8. Global partnership for development

The United Nations set out to accomplish the eight MDGs by 2015. Some goals have already been accomplished. Extreme poverty has been halved. Almost 90% of people in the world now have improved drinking water. Over the past 16 years 20 million people with malaria and/or tuberculosis have been cured. Global partnerships for development have made great



advances, and hunger rates are close to being halved (“The Millennium Development Goals Report 2013” 4). While these are all great advances, certain goals are still far from being achieved. Universal primary education is still unattained, especially for women. Gender disparities persist. Child and maternal mortality rates must still be improved by more than a quarter. Over 2 million people acquire HIV each year and environmental degradation continues (“The Millennium Development Goals Report 2013” 14-51).

It is important to note MDG accomplishments, but it is also necessary to focus on the MDGs that seem unlikely to be achieved by 2015. This paper focuses specifically on two MDGs that have yet to be achieved: to reduce child mortality (mortality of children under 5 years old) and to improve maternal health. Two solutions that prove effective in addressing these MDGs are to educate mothers on mothering and to bring health care resources to women’s communities.

INTRODUCTION

When the United Nations created the eight MDGs in 2000, 1990 became the baseline for the goals. For MDG 4: reduce child mortality, it was decided to reduce the 1990 child mortality rate of 12.4 million by 2/3 by 2015 (“Goal 4: Reduce Child Mortality”). For MDG 5: improve maternal health, the UN set to reduce the 1990 maternal mortality rate of 543,000 by ¾ and create universal access to reproductive health (“Goal 5: Improve Maternal Health”). Currently in 2014, both maternal and child mortalities have reduced by about half and universal access to reproductive health has yet to be achieved. Still more than a quarter million maternal mortalities and six million child mortalities occur each year. (“The Millennium Development Goals Report 2013” 24-28). Of the six million child mortalities, an increasing



number are infant mortalities, or occurring within the first year of life (“Infant Mortality”). For this reason, this paper will focus on infant mortality rather than all child mortalities.

Poor maternal health and high rates of infant mortality are both critical issues that affect women and children worldwide. In order to make better progress it is important to learn from organizations and studies that are effectively targeting these issues. Two successful methods to tackle inadequate maternal health care and high infant mortality rates- in all nations- are educating mothers on mothering and bringing prenatal, postnatal, and infant care resources to mothers’ communities.

MATERNAL HEALTH & INFANT MORTALITY: GLOBALLY, NATIONALLY, & LOCALLY

MATERNAL & INFANT MORTALITY GLOBALLY

Maternal mortality rates remain incredibly high in developing nations where universal access to prenatal and postnatal care is not available (Hong and Ruiz-Beltran 199). In fact, 99% of all maternal mortalities worldwide are in developing nations (“Maternal Mortality”). Of all maternal deaths that occur in developing nations, about 80% result from one of four pregnancy complications that are easily avoidable when women receive proper care. These four complications are severe bleeding, infections, pre-eclampsia/ eclampsia, and unsafe abortion (“Maternal Mortality”). Prenatal and postnatal care help to greatly reduce the risk of death from these four avoidable complications. Pre-eclampsia can be detected when a woman receives prenatal care. If pre-eclampsia is detected soon enough, a woman can get medicine prescribed that will prevent eclampsia and therefore prevent mortality (“Maternal



Mortality”). Severe bleeding and infection can often be prevented when a woman receives medical assistance at birth and postnatal care (“Maternal Mortality”).

Infant mortality rates remain incredibly high as well. In fact, in 2011, there were 41 infant deaths for every 1,000 live births in developing regions (You, Rou New, and Wardlaw 22). Like maternal deaths, a majority of infant deaths could be avoided, as the main causes of infant and child mortality in developing nations –pneumonia, diarrhea, malaria, and undernutrition– are preventable (You, Rou New, and Wardlaw 13). Both maternal and infant mortality rates remain high in developing regions, even though they often result from preventable causes. While these rates remain highest in developing nations, the United States, a developed nation, still has shockingly high maternal and infant mortality rates.

MATERNAL & INFANT MORTALITY NATIONALLY: UNITED STATES

In 2010, there were 49 nations with lower maternal mortality rates than the United States (Deadly Delivery 3-6). Maternal mortality rates in the US have remained incredibly high over the past two decades with no signs of improvement. Maternal mortality rates have actually increased! In 1990, the maternal mortality rate was 12 deaths per 100,000 live births and 20 years later in 2010, the maternal mortality rate was 21 maternal deaths per 100,000 live births (“Maternal Mortality Ratio”).

The Centers for Disease Control (CDC) estimates that the top causes of pregnancy related deaths in the United States are cardiovascular diseases followed by infection/sepsis, non-cardiovascular diseases, cardiomyopathy, and hemorrhage (“Pregnancy Mortality Surveillance System”). Although these main causes of maternal mortality in the United States are different than the principal causes in developing nations, the ways to reduce risk of



pregnancy related deaths are similar. Prenatal care and postnatal care remain important factors in maintaining a woman's health. Women should receive prenatal care as early in their pregnancy as possible in order for doctors to detect any problems or potential areas for complications while they are still treatable. Postnatal care is necessary in order to detect possible complications in a woman's health after she has given birth ("Pregnancy-Related Deaths"). Infant mortality rates in the United States remain high as well. In 2011, there were 6 infant mortalities for every live birth ("Infant Mortality"). The top five causes of infant mortality in the U.S. include: congenital malformations, premature birth or low birth weight, Sudden Infant Death Syndrome (SIDS), maternal complications at pregnancy, and victims of injuries ("Infant Mortality"). Some of these top causes of death can be prevented.

It is important to note that there are huge disparities in maternal and infant mortality rates between privileged and more vulnerable women and infants in the United States. Black women have maternal mortality rates about 3 to 4 times higher than White women, and low-income women suffer from higher maternal mortality rates than high-income women (Deadly Delivery 6-7). Also, Black infants are 2.5 times more likely to die than non-Hispanic White infants (Hauck 209).

MATERNAL & INFANT MORTALITY LOCALLY: NORTH CAROLINA

North Carolina ranks 37th out of the 50 states in both maternal and infant mortalities (Stan; "Henry J. Kaiser Family Foundation"). This means there are 36 states with lower maternal and infant mortality rates. In addition to having some of the highest mortality rates in the United States, North Carolina has large racial disparities in maternal and infant mortality rates. In 2011, there were 28.1 pregnancy related deaths per 100,000 live births among Black



women versus only 11.8 pregnancy related deaths per 100,000 live births among White women (“Trends in Maternal Mortality”). Women from vulnerable groups often have a harder time accessing the prenatal and postnatal care they need due to various reasons including: insufficient income to afford the care, finding transportation to get to the care provider, and finding childcare for when they go to receive care for themselves (Deadly Delivery 7). Research finds that “families that are poor or uninsured may be less likely to receive health services even when these services are available” (Lansky et al. 282). Women from vulnerable groups also tend to hold lower education levels and as a result, may not be as aware of the best ways to care for their infants and their own health.

SOLUTIONS: TWO EFFECTIVE METHODS

Maternal health and infant mortality are two health issues that still need much improvement on a global, national, and local scale. Past research and projects reveal two successful ways to address maternal health and infant mortality. If nations hope to improve maternal health and decrease infant mortality it is necessary that further efforts are placed in bringing prenatal, postnatal, and infant care resources to women’s communities and in educating mothers on mothering.

BRING PRENATAL, POSTNATAL, AND INFANT CARE RESOURCES TO WOMEN’S COMMUNITIES

Prenatal care allows a better chance that any health issues a pregnant woman may have can be treated before too late; also, she can learn about the pregnancy process and what to expect while pregnant, and she can find out if she needs more intensive care during



her pregnancy (Hong and Ruiz-Beltran 199-200). It is recommended that every pregnant woman have a **minimum** of four prenatal care visits (“The Millennium Development Goals Report 2013” 30). However, in low-income nations, about 60% of pregnant women do not receive the four recommended prenatal care visits (“Maternal Mortality”). In addition to the lack of prenatal care in developing nations, many mothers also give birth without the assistance of a doctor, nurse, or midwife and do not receive postnatal care. In 2011, about 1 in 4 mothers gave birth without any medical assistance. Lack of medical assistance was especially concentrated in rural areas (“The Millennium Development Goals Report 2013” 29). According to the World Health Organization, “Poor women in remote areas are the least likely to receive adequate health care” (“Maternal Mortality”). Oftentimes this occurs because the women lack sufficient transportation or funds in order to travel to health clinics. While prenatal and postnatal care are incredibly important in helping to improve maternal health, such care greatly impacts an infant’s health as well. Research shows that mothers that receive prenatal care are more likely to have a safer pregnancy and a healthier baby; babies of mothers that received prenatal care “are less likely to die during the first year” of life (Hong and Ruiz-Beltran 199-200). It is crucial that nations continue to work to improve women’s access to prenatal and postnatal care if MDGs 4 and 5 are to be achieved. If all women are to receive adequate prenatal and postnatal care, it is necessary that resources are brought to the communities of women that cannot otherwise access prenatal and postnatal care.

Ethiopia is one country that has started bringing resources to rural, poor, and secluded communities. In 2004, the Ethiopian government implemented Ethiopia’s Health Extension Program (HEP). Health extension workers are trained and sent to rural villages in order to help address maternal and child health and to help combat HIV/AIDS, malaria and other



diseases (Banteyerga 46-49). The program is incredibly helpful in getting care to pregnant women and infants. Health extension workers have been taught how to provide prenatal and postnatal care to women and how to detect and treat illnesses like pneumonia in infants and children (“In Rural Ethiopia”). Since the beginning of Ethiopia’s HEP, mothers’ access to prenatal and postnatal care has improved and both maternal and child mortalities have decreased (Banteyerga 48).

A study in Bangladesh revealed the benefits of bringing postnatal care to women’s communities. Many women in Bangladesh have home births without the help of skilled assistance. As a result, both the mother and newborn can suffer from pregnancy complications or illness. In Bangladesh, “among infants who survived their first day of life, the mortality rate was substantially lower for those visited by a health care worker on day 1 than those who never received a visit (21 vs. 65 per 1,000)” (Doskoch). When health care workers visit women, the workers can answer questions, check the newborns for illness, and provide women with advice on how to best care for their newborn. Findings in both Ethiopia and Bangladesh reveal the benefits of bringing maternal and childcare to rural, secluded, and poor communities.

A mobile health van in California also revealed the benefits of bringing the resources to women’s communities. A women’s mobile health van was initiated in 1999 at Stanford University in California. The purpose of the Women’s Health Van was to provide women with a variety of services including, but not limited to: breast exams, STI screenings, and pregnancy tests. The van travelled to low-income areas two times a week and provided its services to any women that desired them. The van “was created to address barriers to health care access such as language, transportation, and cost for undocumented immigrants and



the uninsured...” (Edgerley et al. 235). One of the great benefits of the van was that it provided women who had positive pregnancy tests with initial prenatal care and connected pregnant women to local clinics (Edgerley et al. 236).

After following the van for four years, researchers found that the van services had positive effects. Women that used the van tended to begin receiving prenatal care three weeks sooner than other women and did not experience as many newborn intensive care unit admissions (Edgerley et al. 237). This is important, as the sooner a mother receives prenatal care, the sooner health problems can be detected and the mother’s questions can be answered.

Ethiopia’s HEP, research in Bangladesh, and the mobile health van in California all provide evidence of the positive effects of bringing resources to communities. By bringing resources to communities, some of the most disadvantaged women and their newborns are able to receive important care.

EDUCATING MOTHERS ABOUT MOTHERING

In addition to bringing prenatal, postnatal, and infant care resources to women’s communities, it is also important to educate mothers about practices that will keep their babies healthier. Many studies reveal that oftentimes mothers do not perform best practices when caring for their infants, because they simply are unaware of the best practices. If mothers are to know about the best ways to care for their infants, it is crucial that they are educated about the best ways to provide care.

Exclusive breastfeeding is one “best practice” that mothers are often unaware of. The United Nations notes that “infants who are exclusively breastfed for the first six months of life



and who receive continued breastfeeding through age 2 and older develop fewer infections and suffer less severe illness than those not breastfed” (Pneumonia and diarrhoea 20-21). When women are educated about such benefits, they are become more likely to exclusively breastfeed.

A woman in Ethiopia did not know the benefits of exclusively breastfeeding. When a health extension worker taught her about the benefits she decided to exclusively breastfeed her newborn, and her baby was significantly healthier than if she had been fed water in addition to breast milk (“In Rural Ethiopia”). Research in Papua New Guinea found that about 30% of mothers were not feeding their babies colostrum, because mothers often thought colostrum was harmful to the baby. Additionally, 83% of mothers were not exclusively breastfeeding their infants under six months of age. Many of those moms believed their infants also needed solid food or water in order to thrive. (Kuzma 1-5). A study in Singapore found that most mothers in Singapore did not exclusively breastfeed during the first six months of life. Education level of the mother is often a strong indicator of the length of breastfeeding. The more education a mother has, the more likely she is to breastfeed for a longer time period. Another indicator of the time period of breastfeeding was the mother’s awareness of breastfeeding benefits. If she knew at least one benefit of breastfeeding, she was more likely to continue breastfeeding (Foo et al. 231-235). These examples from Ethiopia, Papua New Guinea, and Singapore show the importance of educating mothers on important mothering practices.

Efforts to educate mothers on other important practices have also shown success. In Nepal, mothers were taught about the importance of washing their hands with soap and water prior to handling their babies. The infants of mothers that consistently washed their



hands with soap and water had a 60% lower chance of mortality (Ramashwar). In the United States, in 1994, the Back to Sleep campaign was launched. The campaign's purpose was to educate mothers on how to reduce the risk of SIDS. The campaign has been hugely successful, and SIDS deaths have reduced by more than 50% (*Continuing Education on SIDS Risk Reduction* 10). As these studies show, educating mothers on how to keep their infants healthy is a truly effective tool in working to decrease infant mortality rates.

BRINGING IT ALL TOGETHER: *DURHAM CONNECTS*

After presenting two methods that have been successful in working to improve maternal health and decrease infant mortalities, the question arises: how can these methods be used together? Durham Connects is a nonprofit organization located in Durham, North Carolina that educates mothers about mothering *and* brings resources to the women. Durham Connects provides a best practice example as to how these two methods can work together in one program.

Durham Connects began in 2008 with the mission “to increase child well-being by bridging the gap between parent needs and community resources” (“History”). The purpose of Durham Connects is to offer mothers of newborns in Durham County one free (more than one if needed) in-home nurse visit about three weeks after the mother's delivery. The service is voluntary and offered to all mothers of newborns regardless of their socioeconomic status or whether they are or are not first time moms (“History”). The two main goals that Durham Connects hopes to achieve with each home visit. “1) To connect with the mother in order to enhance maternal skills and self-efficacy; 2) to connect the mother with needed community



services such as health care, child care, and financial and social support” (Dodge and Goodman 2).

Monday through Friday of each week, each nurse on the staff at Durham Connects makes about two home visits per day. The nurses spend about two to three hours at each home that they go to, and they address any and all questions that the mothers, fathers, and/or other family members may have. While at the homes, the nurses spend a lot of time talking to the family and answering any questions they may have. The nurses often help the moms find the best, most effective way to breastfeed, and if the mother does not plan to breastfeed, they make sure the mother is properly preparing the baby’s formula. Nurses also help the mom schedule her postnatal doctor visit and they screen the mom for signs of depression, substance abuse, and domestic violence. They screen for these potential problems in order to ensure that both the mother and infant are in the best environment possible. The nurses also weigh and measure the babies, check their breathing and heartbeat, and look for any health issues the baby may have. Every visit conducted by Durham Connects nurses is thorough. At the end of the visit, each mother is provided with a bag and a Durham Connects folder that is full of resources and educational materials. Additionally, if the mothers have any persistent concerns or the nurses feel they need to check in on the mother again, they will visit the home up to two more times.

Durham Connects is an exemplary program that brings the resources to mothers and educates mothers on various aspects of mothering. Evaluations of the program have found numerous benefits. Mothers that participate in Durham Connects have greater connections to community resources, report lower levels of anxiety, have 82% fewer overnights at the hospital with their infants, and 34% less infant emergency medical care (Dodge and



Goodman 4). Furthermore, Durham Connects is an incredibly cost effective program. Since Durham Connects's services result in less infant emergency medical care, a local government investment of about \$2.2 million per year yields health care savings of about \$3.5million per year (Dodge and Goodman 4).

CONCLUSION

UN MDGs 4: Reduce Child Mortality and 5: Improve Maternal Health have both made significant improvements since they were initiated in 2000. However, there is still much more to be done if these two goals are to be achieved by 2015. Maternal and infant mortalities are both issues that still affect millions of people worldwide in both developing and developed nations. As the United Nations strives to improve the health of both mothers and infants, it is incredibly important that focus is placed on the mother's health and parenting education. Durham Connects puts forth an exceptional example of how education and providing resources to communities can come together to create a successful program that addresses both a mother and her infant's health. Education and improvement of access to prenatal, postnatal, and infant care are the keys to achieving the goals set out in the UN Millennium Development Declaration in 2000.



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