An Evaluation of Midwives for Haiti Programs: Can They Reduce Infant and Maternal Mortality in Haiti?

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Objectives

Following the presentation, participants will be able to:

- Describe the origin and purpose of the Millennium Development Goals (MDGs), including goals specific to infant and maternal health
- Identify the necessity of having skilled attendance at every birth as imperative to MDGs 4 and 5
- Describe the Midwives for Haiti (MFH) programs and analyze their ability to reduce infant and maternal mortality in Haiti
Introduction
Background of the Problem
Infant Mortality

- Child dies before one year of age (You, Bastian, Wu, & Wardlow, 2013)
- Strongest indicator of a country’s healthcare status (Alderman & Behrman, 2004)
- Disproportionally prevalent in poor and medically underserved areas (World Health Organization [WHO], 2013b)
- Most often preventable or treatable causes (You et al., 2013)

In 2012, 5 million children died worldwide before the age of one (WHO, 2013b).
Neonatal Mortality

- Childhood deaths most likely to occur during neonatal period (United Nations Children’s Fund [UNICEF], 2014; WHO, 2012a)
- 75% occur during the first week following birth (United Nations Population Fund [UNFPA], 2011; WHO, 2012a)
- 2.6 million stillbirths in 2010 (UNFPA, 2011)
- Preterm birth complications, asphyxia during birth, and infections (WHO, 2012a)
- Lack of quality healthcare (WHO, 2012a; You et al., 2013)

Each year, 2 million newborns die within 24 hours of birth (UNFPA, 2011; WHO, 2012a).
Maternal Mortality

- Death during pregnancy, childbirth, or within 6 weeks postpartum (WHO, 2012b)
- 287,000 maternal deaths in 2010 (WHO, 2012b)
- Second only to HIV/AIDS deaths among women of childbearing age (WHO, 2013a)
- Hemorrhage, infection, unsafe abortion, and hypertensive disorders (United Nations Development Programme [UNDP], 2005; WHO, 2013a)
- Lack of access to quality maternity care (WHO, 2013a)

Ninety-nine percent of all maternal deaths occur in developing countries (WHO, 2012a, 2014).
The world’s poorest children are 2.7 times less likely to have skilled attendance during birth (UNICEF, 2014; WHO, 2004).
Millennium Development Goals

- Improve global health \(\text{[UNDP, 2005]}\)
- Leading health indicators: poverty, hunger, disease \(\text{[UNDP, 2005]}\)
- MDGs 4 and 5: Decrease under-5 deaths and improve maternal health \(\text{[UNDP, 2005]}\)

The time of greatest risk of death to women and infants is during childbirth \(\text{[UNDP, 2005; UNFPA, 2011; WHO, 2004]}\)
4a: Reduce by two-thirds the under-5 mortality

(United Nations, 2014)
5a: Reduce by three-quarters the maternal mortality ratio

5b: Achieve universal access to reproductive health care

(Untied Nations, 2014)
Skilled Birth Attendant

A healthcare worker, “who has been educated and trained in the proficiency of skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns”

Competence

“The combination of knowledge, psychomotor, communication and decision-making skills that enable an individual to perform a specific task to a defined level of proficiency”

(International Confederation of Midwives, 2013, p. 19).
Literature Review
## Study Characteristics

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Participants</strong></td>
<td>Level of training&lt;br&gt;Professional designation</td>
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<tr>
<td><strong>Sampling</strong></td>
<td>Participants and facilities&lt;br&gt;Purposive&lt;br&gt;Randomized</td>
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<tr>
<td><strong>Tools</strong></td>
<td>Knowledge&lt;br&gt;Skills</td>
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<td><strong>Tool design</strong></td>
<td>Professional organizations&lt;br&gt;Global health agencies&lt;br&gt;National standards</td>
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*(All studies were cross-sectional)*
Strong evidence of Evidence

- Newcastle-Ottowa Scale (Wells et al., 2014)
  - Adapted for cross-sectional design (Herzog et al., 2013)
  - Further adapted for project

- Strength criteria
  - Selection, comparability, outcome

- Scored out of nine stars

- Quality designation
  - Poor, fair, good
<table>
<thead>
<tr>
<th>Article</th>
<th>NOS score (out of 9)</th>
<th>Quality designation</th>
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<tbody>
<tr>
<td>Ariff et al. (2010)</td>
<td>****</td>
<td>Fair</td>
</tr>
<tr>
<td>Carlough &amp; McCall (2005)</td>
<td>********</td>
<td>Good</td>
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<tr>
<td>Charurvedi, Upadhyay, &amp; DeCosta (2014)</td>
<td>********</td>
<td>Good</td>
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<tr>
<td>Harvey et al. (2004)</td>
<td>*****</td>
<td>Fair</td>
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<tr>
<td>Huchon et al., (2014)</td>
<td>********</td>
<td>Good</td>
</tr>
<tr>
<td>Partamin et al., (2012)</td>
<td>********</td>
<td>Good</td>
</tr>
<tr>
<td>Traore et al., (2014)</td>
<td>********</td>
<td>Good</td>
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Five articles of good quality; two articles of fair quality.
Findings

- Competency in Pakistan was poor (Ariff et al., 2010)
- Lack of access to competent emergency obstetric care in India (Chaturvedi, Upadhyay, & De Costa, 2014)
- Wide gaps in levels of competence in Benin, Ecuador, Jamaica, and Rwanda (Harvey et al., 2004)
- Deficiency of competency among primary healthcare workers in Mali (Traore et al., 2014)
- Need for required skills in Afghanistan (Partamin et al., 2012)
- Retraining program improved competency of Maternal Child Health Workers in Nepal (Carlough & McCall, 2005)

Overall, findings demonstrated a lack of or inconsistent competence among SBAs.
Determinants of Health

**Poverty** (The World Bank Group, 2011; WHO, 2010)

**Inadequate infrastructure** (Central Intelligence Agency [CIA], 2014; Ministry of Public Health and Population [MSPP], 2013; Pan American health Organization [PAHO], 2012)

**Natural disasters** (Amibor, 2013)

**Political unrest** (CIA, 2014; MSPP, 2013; PAHO, 2012)
Infant Mortality
Preterm birth
Birth asphyxia
Infections
Tetanus
(CIA, 2014)
Pregnancy induced hypertension
Eclampsia
Postpartum hemorrhage
(Human Rights Watch, 2011)
To reduce maternal and infant mortality rates in Haiti by training Haitian nurses to be SBAs (MFH, 2014)
503(c) based in Richmond, VA
Primary teaching site Hinche, Haiti
March 2014: Class 7
(MFH, 2014)
Impact
71 skilled birth attendants
12,000 births attended
60,000 free prenatal visits
Matròne Outreach
Postnatal clinic
Birth Center
(MFH, 2014)
Can Midwives for Haiti help Haiti reach MDGs 4 and 5?
Competency-Based Medical Education

- **Knowledge and skills** as outcomes
- Mastery of learning experience
- Emphasizes abilities
- Promotes learner-centeredness

(Frenk et al., 2010; U.S. Department of Education, 2002; Voorhees, 2001)
Competencies
Outcomes

Health needs
Health systems

Curriculum

Assessment

(Adapted from Frank et al., 2010)
World Health Organization

- Defined SBA and competence
- Core functions
- Collaboration and referral
- Additional options

(WHO, 2004)
Core Functions

- Skills and abilities
  - Assessment and care
  - Identification, care and referral of life-threatening conditions
- Ethos of shared responsibility and partnership with women
- Communication
- Cultural competence
- Patient education

(WHO, 2004)
Midwives for Haiti Curriculum

- Objectives

- Knowledge
  - Written exams
  - Comprehensive final exam

- Skills
  - Skills checklists
  - Communication skills
  - Decision-making skills

(MFH, 2014)
Midwives for Haiti curriculum demonstrated alignment with World Health Organization core skills and abilities
Logic Model Evaluation

(W. K. Kellogg Foundation, 2004)
**Problem:** Infant and maternal mortality in Haiti

**Target population:** Infants and childbearing women

**Inputs**

- **Human:** Instructors, staff, volunteers, students
- **Organizational:** Board of Directors, partnerships
- **Haitian resources:** St. Therese Hospital, Ministry of Health and Population
- **Financial:** Private donations, grants
- **Teaching resources:** White Ribbon Alliance for Motherhood, Susan Klein, WHO, ACNM

**Activities**

- Skilled birth attendant training
- Support of hospital SBA salaries
- Mobile prenatal clinics
- Matron Outreach Program
- Postnatal care program

**Outputs**

- Increased number of skilled birth attendants
- Increased access to intrapartum care
- Increased access to prenatal care
- Increased skill, knowledge & referrals to skilled care
- Increased access to postnatal care

**Outcomes**

- Increased access to skilled maternity care
- Increased prenatal care
- Increased skilled birth attendance
- Increased postnatal care
- Decreased infant and maternal mortality

**Assumptions:** Skilled birth attendants improve infant and maternal health, Haitian auxiliaries and infirmières can be trained as skilled birth attendants, a cadre of Haitian skilled birth attendants can train future skilled birth attendants, Haitians want to provide health care

**External Factors:** Cultural norms that inhibit women from seeking skilled maternity care, lack of infrastructure, poverty and unemployment, natural disasters, lack of support for training and employment of auxiliaries as skilled birth attendants

(Adapted from W. K. Kellogg Foundation, 2004)
Analysis of Midwives for Haiti programs demonstrated the ability to train competent SBAs
Evaluation Plan
Evaluation Tool Criteria

- Focus
- Feasibility
- Applicability
- Validity
Recommended Evaluation Tools

- **Case vignettes**
  - (Chaturvedi et al., 2014; Peabody, Luck, Glassman, & Dresselhaus, 2000)

- **Partograph case study**

- **Neonatal resuscitation**
  - (Maternal and Neonatal Health Program, 2004)

- **Self-evaluation**
  - (Carlough & McCall, 2005)
Curriculum review and revision
Focus continuing education efforts
Review international recommendations and national guidelines
Biennial competency evaluation

Recommendations for the Future
MDGs 15 years later: Where are we?
MDG 4: Global Progress

- Under-5 mortality rate declined by more than half from 12.7 million in 1990 to 6 million in 2015
- Rate of decline has more than tripled worldwide
- Measles vaccination helped prevent nearly 15.6 million deaths

(United Nations, 2014)
MDG 5: Global Progress

- Maternal mortality ratio has declined by 45% worldwide
- More than 71% of births were attended by SBAs
- Contraception prevalence increased 55%

(United Nations, 2014)
Progress in Haiti

- MDG 4
  - Infant mortality has decreased 44% since 1990

- MDG 5
  - At least one prenatal visit: 90% in 2010
  - An estimated decrease in maternal deaths

(UNDP, 2014)
- 1.2 billion people still live in extreme poverty
- Progress toward the education of children has slowed
- Child poverty goals have not been met
- Maternal mortality rates still need to be reduced
- Too many new cases of HIV
The Millennium Development Goals (MDGs) are the most successful global anti-poverty push in history. Let's step up action to the 2015 MDG target date and beyond.

MDG4: Reduce child mortality.
17,000 fewer children die each day than in 1990.

Let's step up. 6 million+ children still die before their fifth birthday each year.
THE MILLENNIUM DEVELOPMENT GOALS (MDGs) ARE THE MOST SUCCESSFUL GLOBAL ANTI-POVERTY PUSH IN HISTORY. LET’S STEP UP ACTION TO THE 2015 MDG TARGET DATE AND BEYOND.

MDG5
IMPROVE MATERNAL HEALTH

MATERNAL MORTALITY
FELL BY 45% SINCE 1990

LET’S STEP UP
ONLY HALF OF WOMEN IN DEVELOPING REGIONS RECEIVE RECOMMENDED HEALTH CARE DURING PREGNANCY.
“Haiti is the most dangerous country in the Western hemisphere in which to give birth”

(UNFPA, 2011).
References


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Discussion