

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

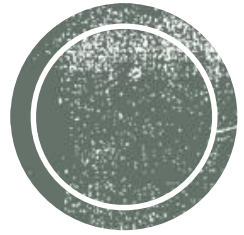


Introduction



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Midwives for Haiti





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).



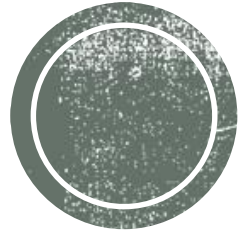
Maternal Mortality

- 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 (UNDP, 2005)
- Leading health indicators: poverty, hunger, disease (UNDP, 2005)
- MDGs 4 and 5: Decrease under-5 deaths and improve maternal health (UNDP, 2005)

**The time of greatest risk of death
to women and infants is during childbirth**

(UNDP, 2005; UNFPA, 2011; WHO, 2004)





**REDUCE
CHILD MORTALITY**

4a: Reduce by two-thirds the under-5 mortality

(United Nations, 2014)





5

**IMPROVE MATERNAL
HEALTH**

5a: Reduce by three-quarters the maternal mortality ratio

5b: Achieve universal access to reproductive health care

(United 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”

(WHO, 2004, p. 1).

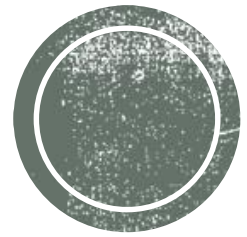


Competence

“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”

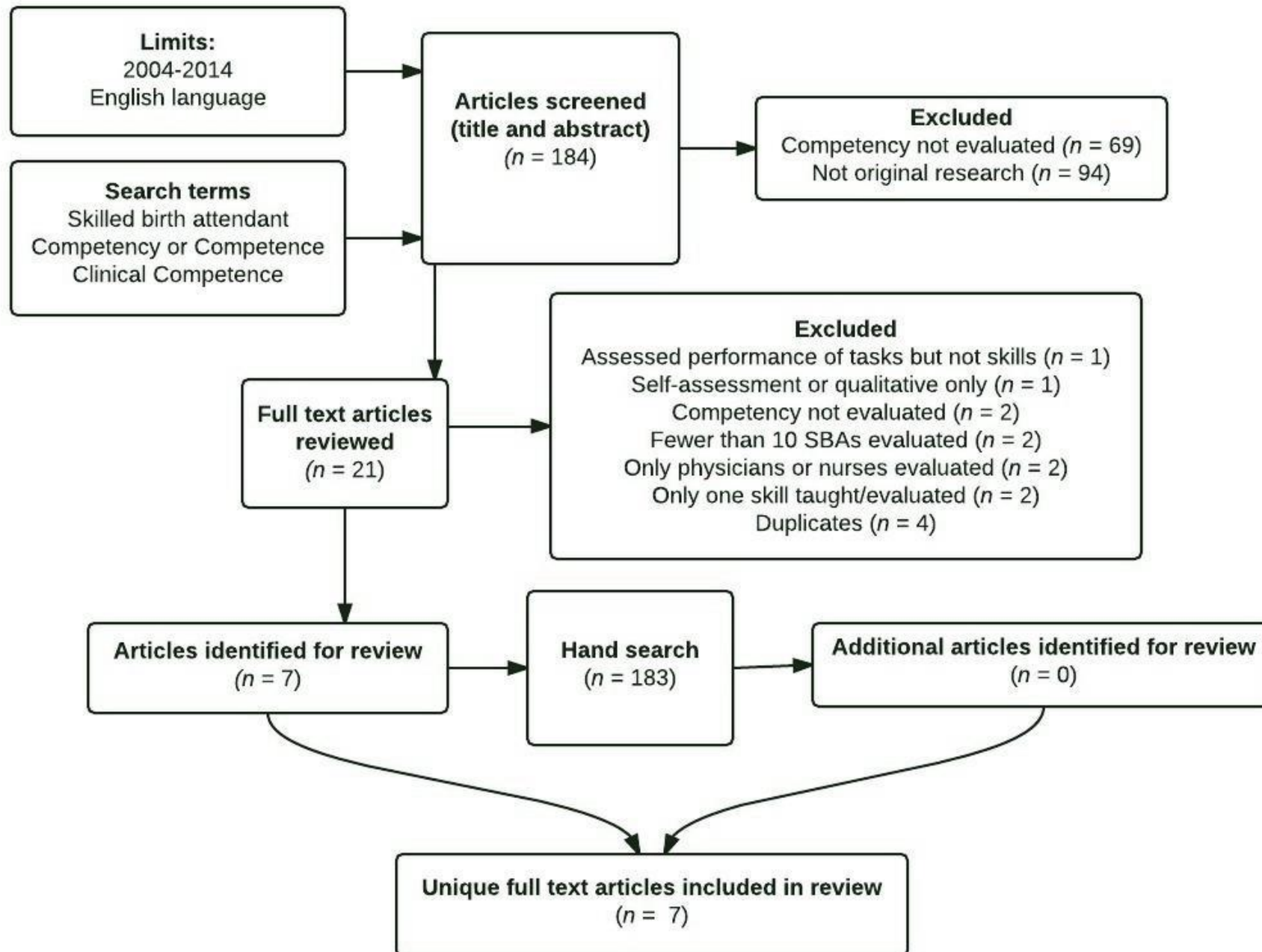
(International Confederation of Midwives, 2013, p. 19).





Literature Review





Study Characteristics

| | |
|---------------------|--|
| Participants | Level of training Professional designation |
| Sampling | Participants and facilities Purposive Randomized |
| Tools | Knowledge Skills |
| Tool design | Professional organizations Global health agencies National standards |

(All studies were cross-sectional)



Strength of Evidence

- Newcastle-Ottawa 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



| Article | NOS score (out of 9) | Quality designation |
|--|-------------------------|------------------------|
| Ariff et al. (2010) | **** | Fair |
| Carlough & McCall (2005) | ***** | Good |
| Charurvedi, Upadhyay, & DeCosta (2014) | ***** | Good |
| Harvey et al. (2004) | ***** | Fair |
| Huchon et al., (2014) | ***** | Good |
| Partamin et al., (2012) | ***** | Good |
| Traore et al., (2014) | ***** | Good |

Five articles of good quality; two articles of fair quality.

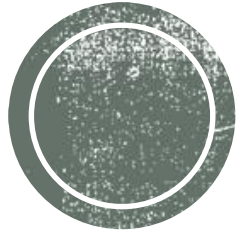


Findings

- 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.





Haiti





Determinants of Health

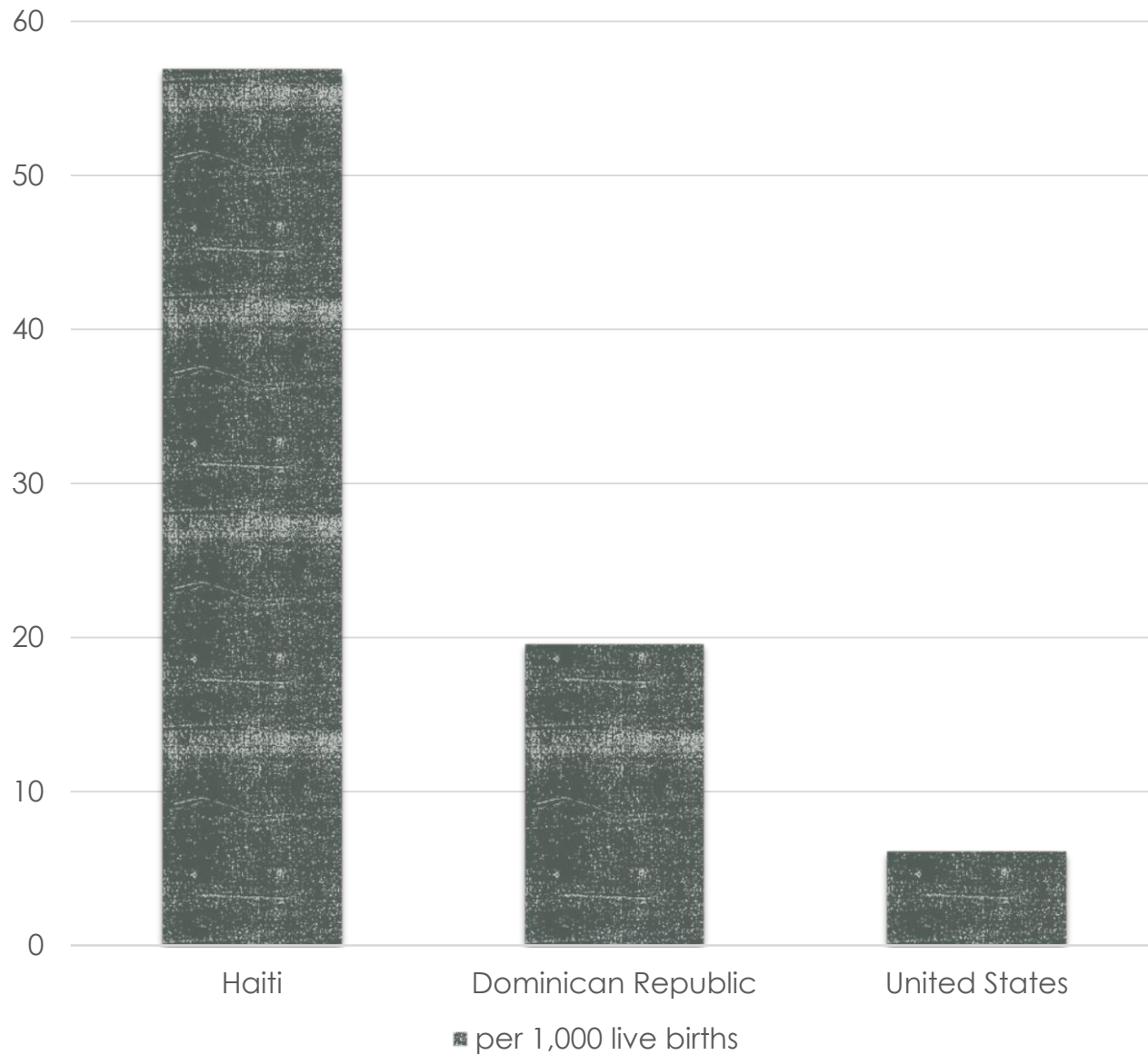
Poverty (The World Bank Group, 2011; WHO, 2010)

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

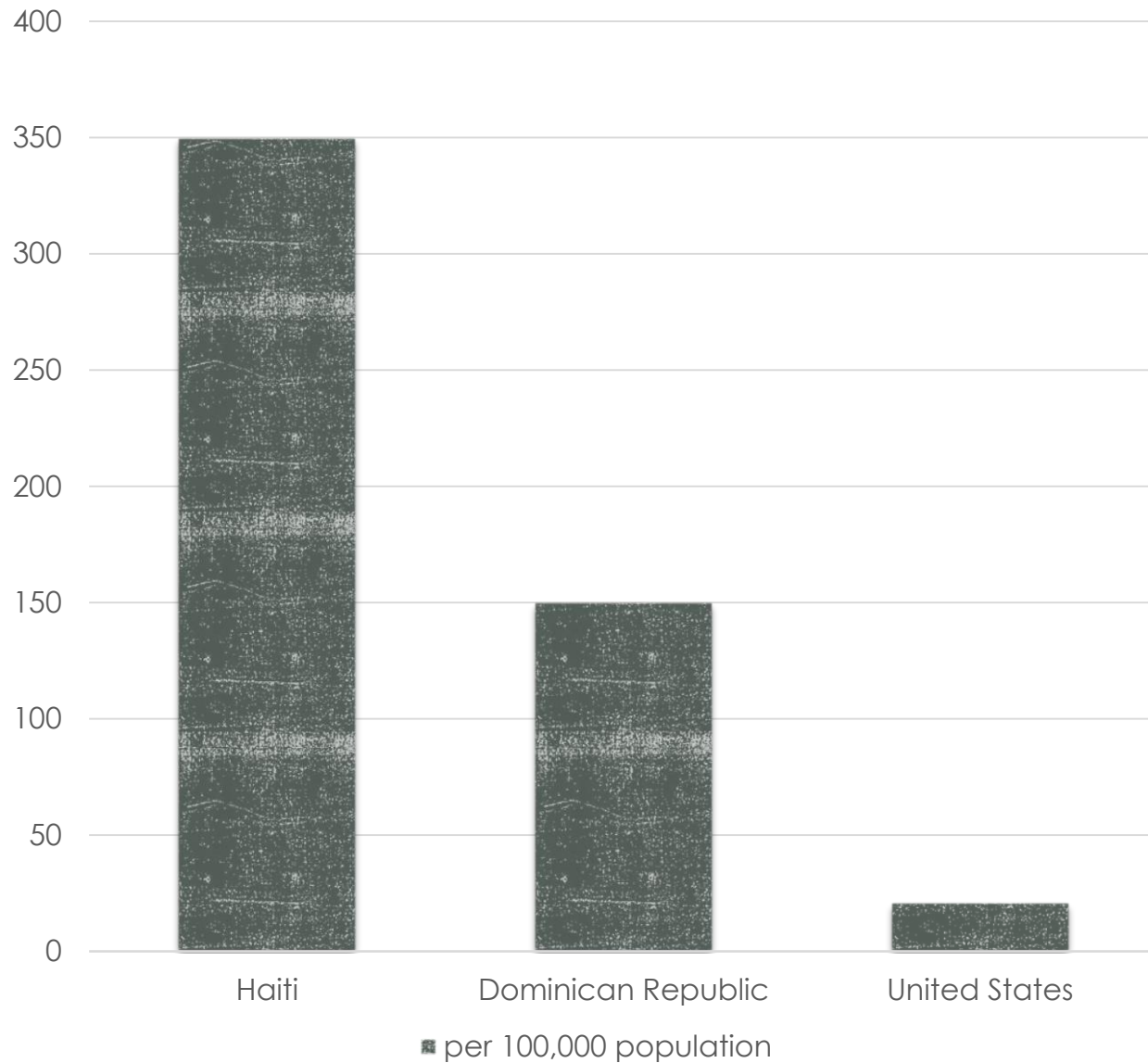
Birth asphyxia

Infections

Tetanus

(CIA, 2014)





Maternal Mortality

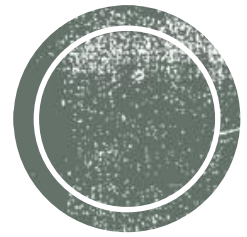
Pregnancy induced hypertension

Eclampsia

Postpartum hemorrhage

(Human Rights Watch, 2011)





Midwives for Haiti





Mission

To reduce maternal and infant mortality rates in Haiti by training Haitian nurses to be SBAs

(MFH, 2014)





Background

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

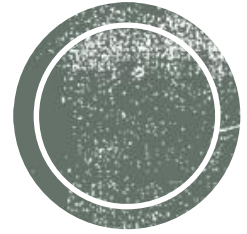
Matrène Outreach

Postnatal clinic

Birth Center

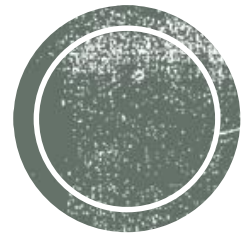
(MFH, 2014)





Can Midwives for Haiti help Haiti reach MDGs 4 and 5?





Curriculum Analysis

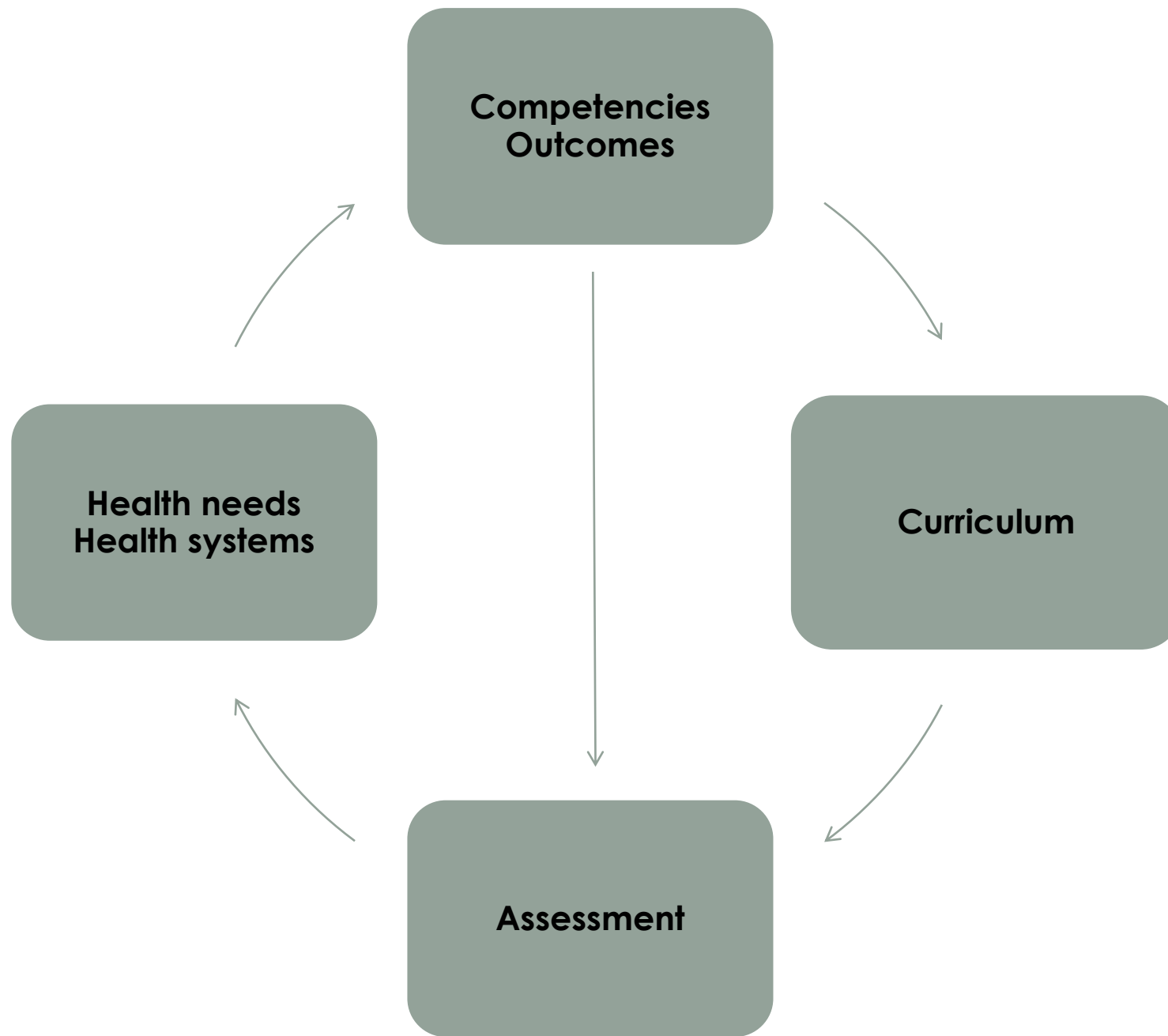


Competency-Based Medical Education

- **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)





(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)

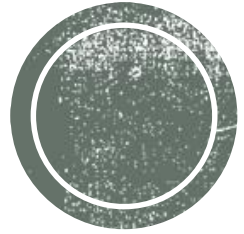


Midwives for Haiti Curriculum

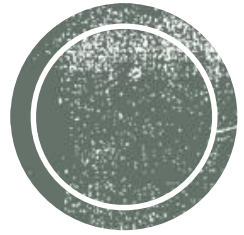
- Objectives
- **Knowledge**
 - Written exams
 - Comprehensive final exam
- **Skills**
 - Skills checklists
 - Communication skills
 - Decision-making skills

(MFH, 2014)



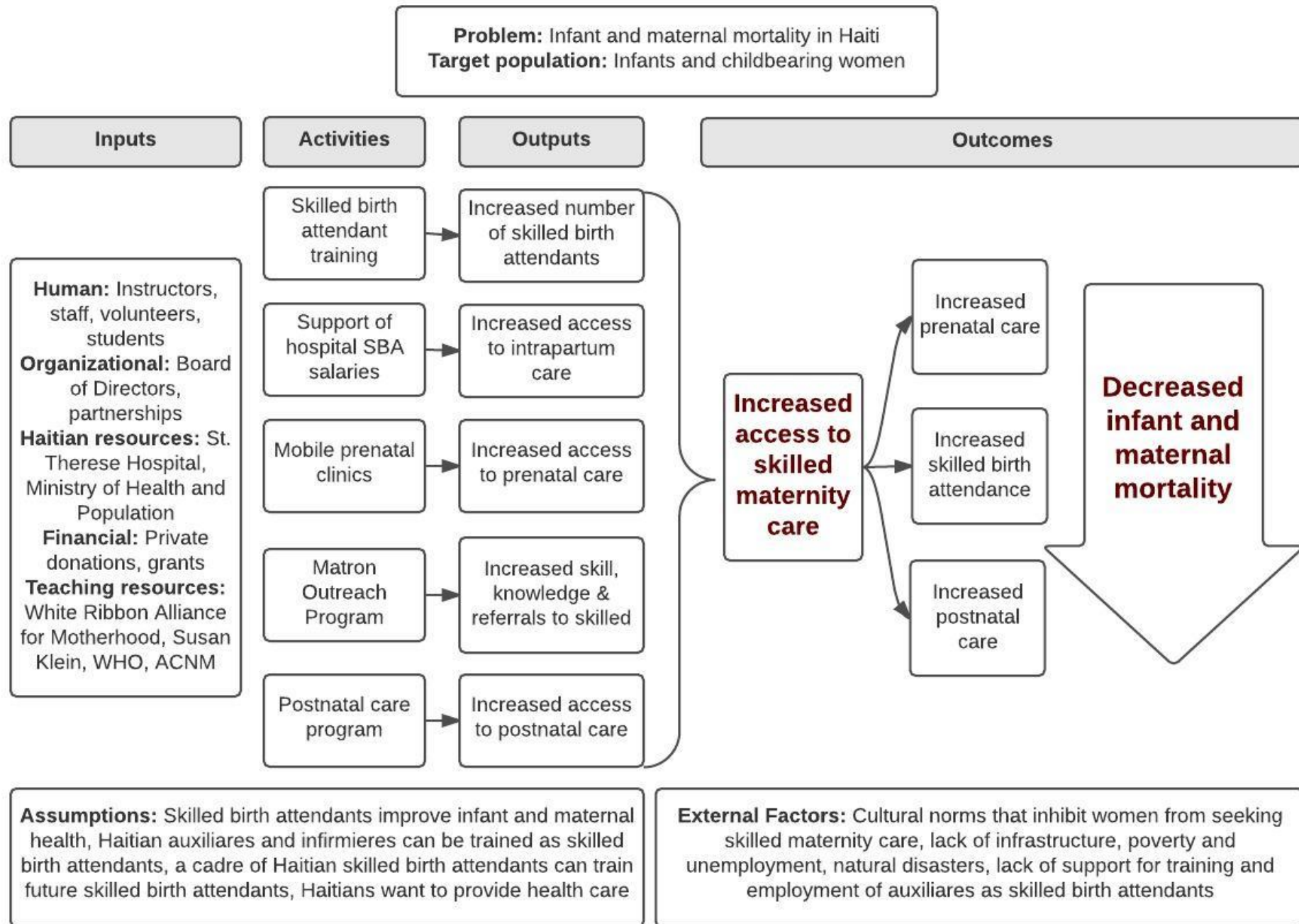


Midwives for Haiti curriculum demonstrated alignment with World Health Organization core skills and abilities



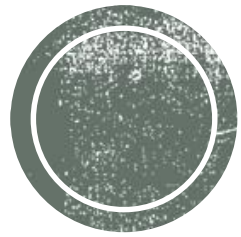
Logic Model Evaluation

(W. K. Kellogg Foundation, 2004)

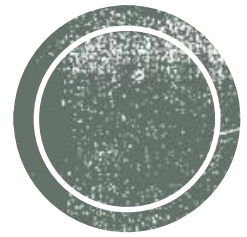


(Adapted from W. K. Kellogg Foundation, 2004)



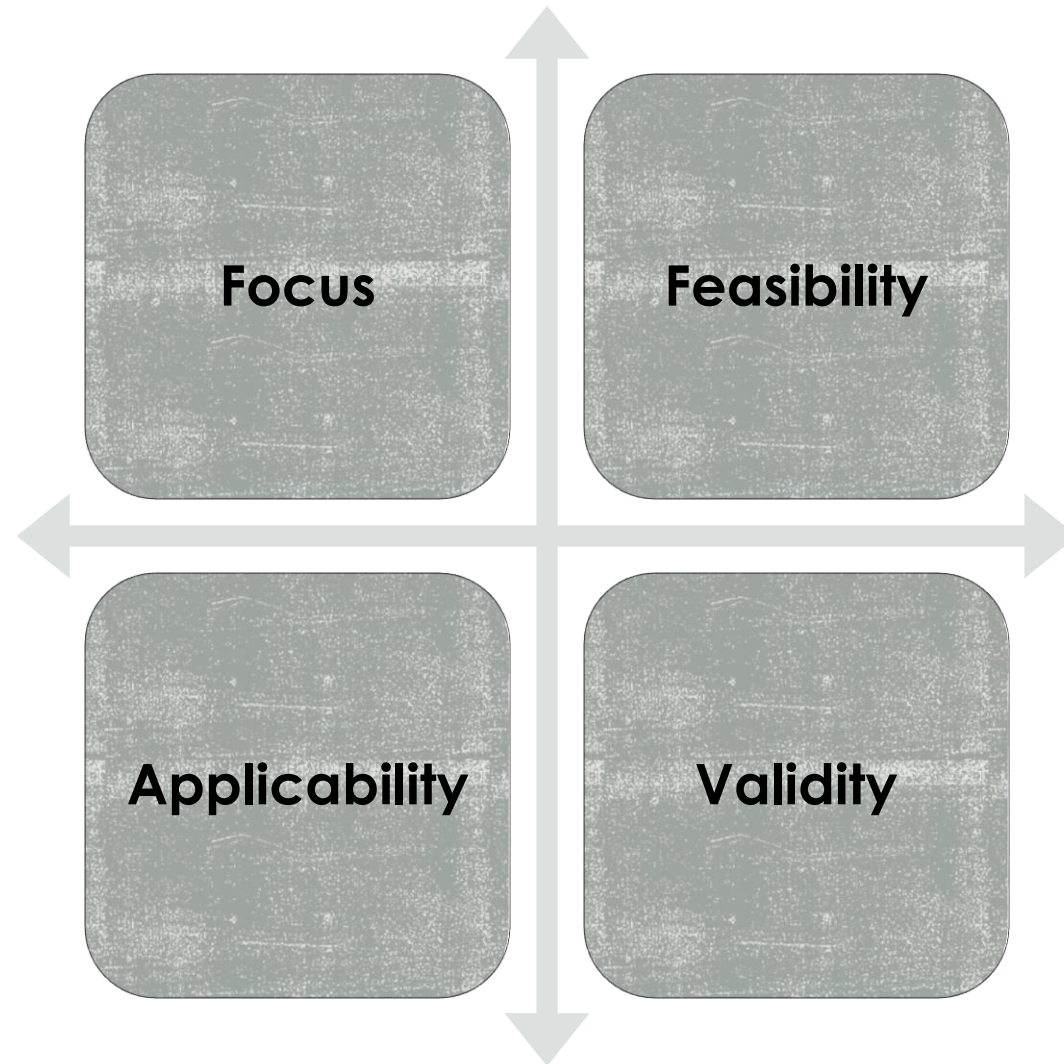


Analysis of Midwives for Haiti programs demonstrated the ability to train competent SBAs



Evaluation Plan

Evaluation Tool Criteria



Recommended Evaluation Tools

Case vignettes

(Chaturvedi et al., 2014; Peabody, Luck, Glassman, & Dresselhaus, 2000)

Partograph case study

(Maternal and Neonatal Health Program, 2002, 2004)

Neonatal resuscitation

(Maternal and Neonatal Health Program, 2004)

Self-evaluation

(Carlough & McCall, 2005)





Recommendations for the Future

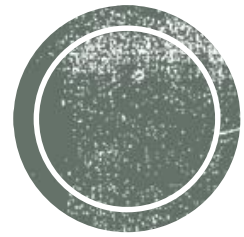
Curriculum review and revision

Focus continuing education efforts

Review international recommendations and national guidelines

Biennial competency evaluation





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)



Unmet Needs

- 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**



(United Nations, 2014)





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

- Alderman, H., & Behrman, J. R. (2004). *Estimated economic benefits of reducing low birth weight in low-income countries*. Washington DC: The World Bank.
- Amibor, P. (2013). What will it take to maintain the maternal and child health gains made in Haiti prior to the 2010 earthquake? An analysis of past progress, trends, and the prospects for the realization of the United Nations Millennium Development Goals 4 and 5. *The Journal of Maternal and Child Health*, 2013(17), 1339-1345.
- Ariff, S., Soofi, S. B., Sadiq, K., Feroze, A. B., Khan, S., Jafarey, S. N. ... Bhutta, Z. A. (2010). Evaluation of health workforce competence in maternal and neonatal issues in public health sector of Pakistan: An assessment of their training needs. *BMC Health Services Central Intelligence Agency*. (2014, February 26). The World Factbook: Haiti. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/geos/ha.html>
- Carlough, M., & McCall, M. (2005). Skilled birth attendance: What does it mean and how can it be measured? A clinical skills assessment of maternal and child health workers in Nepal. *International Journal of Gynecology & Obstetrics*, 89, 200-208. doi:10.1016/j.ijgo.2004.12.044
- Central Intelligence Agency. (2014, February 26). The World Factbook: Haiti. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/geos/ha.html>
- Chaturvedi, S., Upadhyay, S., & De Costa, A. (2014). Competence of birth attendants at providing obstetric care under India's JSY conditional cash transfer program for institutional delivery: An assessment using case vignettes in Madhya Pradesh province. *BMC Pregnancy and Childbirth*, 14(174), 1-11. doi:10.1186/1471-2393-14-174
- Frank, J. R., Snell, L. S., Cate, O. T., Holmboe, E. S., Carraccio, C., Swing, S. R., ... Harris, K. A. (2010). Competency-based medical education: Theory to practice. *Medical Teacher*, 32, 638-645. doi:10.3109/0142159X.2010.501190



References

- Frenk, J., Chen, L., Bhutta, Z. A., Cohen, J. J., Crisp, L. N., Evans, T. G., ... Zurayk, H. (2010). Health professionals for a new century: Transforming education to strengthen health systems in an interdependent world. *Education of Health Professionals for the 21st Century*. *The Lancet*, 376, 1923-1958. doi:10.1016/S0140-6736(10)61854-5
- Harvey, S. A., Ayabaca, P., Bucagu, M., Djibrina, S., Edson, W. N., Gbangbade, S., ...Burkhalter, B. R. (2004). Skilled birth attendant competence: An initial assessment in four countries, and implications for the Safe Motherhood movement. *International Journal of Gynecology & Obstetrics*, 87, 203-210. doi:10.1016/j.ijgo.2004.06.017
- Herzog, R., Alvarez-Pasquin, M., Diaz, C., Del Barrio, J. L., Estrada, J. M., & Gil, A. (2013). Are healthcare workers' intentions to vaccinate related to their knowledge, beliefs and attitudes? A systematic review. *BMC Public Health*, 13(154), 1-17. doi:10.1186/1471-2458-13-154
- Huchon, C., Arsenault, C., Tourigny, C., Coulibaly, A., Traore, M., Dumont, A., & Fournier, P. (2014). Obstetric competence among referral healthcare providers in Mali. *International Journal of Gynecology and Obstetrics*, 126, 56-59. doi:10.1016/j.ijgo.2014.01.012
- Human Rights Watch. (2011). "Nobody remembers us." *Failure to protect women's and girls' right to health and security in post-earthquake Haiti*. New York, NY: Author.
- International Confederation of Midwives. (2010). *Essential competencies for basic midwifery practice*. The Hague, Netherlands: Author. Retrieved from <http://www.internationalmidwives.org/what-we-do/education-coredocuments/essential-competencies-basic-midwifery-practice/>
- Maternal and Neonatal Health Program. (2002). *The partograph: An essential tool for decision-making during labor*. Baltimore, MD: JHPIEGO, Maternal and Neonatal Health Program.



References

- Maternal and Neonatal Health Program. (2004). *Guidelines for assessment of skilled providers after training in maternal and newborn healthcare*. Baltimore, MD: JHPIEGO, Maternal and Neonatal Health Program.
- Midwives for Haiti. (2014). Providing training for quality maternity health care. Retrieved from <http://www.midwivesforhaiti.org/>
- Ministry of Public Health and Population, Haitian Childhood Institute, ICF International. (2013). *2012 Haiti mortality, morbidity and service utilization survey: Key findings*. Calverton, MD: Author.
- Pan American Health Organization. (2012). *Health in the Americas: 2012 edition. Regional outlook and country profiles*. Washington, DC: Author. Retrieved from http://www.paho.org/saludenlasamericas/index.php?option=com_content&view=article&id=9&Itemid=14&lang=en
- Partamin, Kim, Y-M., Mungia, J., Faquir, M., Ansari, N., & Evans, C. (2012). Patterns in training, knowledge, and performance of skilled birth attendants providing emergency obstetric and newborn care in Afghanistan. *International Journal of Gynecology and Obstetrics*, 119(2), 125-129. doi: 10.1016/j.ijgo.2012.05.030
- Peabody, J. W., Luck, J., Glassman, P., Dresselhaus, T. R., & Lee, M. (2000). Comparison of vignettes, standardized patients, and chart abstractions: A prospective validation study of 3 methods for measuring quality. *Journal of the American Medical Association*, 283(13), 1715-1722. Retrieved from <http://jama.jamanetwork.com/article.aspx?articleid=192552>
- The World Bank Group. (2011). The World Bank Data: Haiti. Retrieved from <http://data.worldbank.org/country/haiti>
- Traore, M., Arsenault, C., Schoemaker-Marcotte, C., Coulibaly, A., Houchon, C., Dumont, A., & Fournier, P. (2014). Obstetric competence among primary care healthcare workers in Mali. *International Journal of Gynecology and Obstetrics*, 126, 50-55. <http://dx.doi.org/10.1016/j.ijgo.2014.01.012>



References

- United Nations. (2014). *The Millennium Development Goals Report 2014*. New York, NY: Author. Retrieved from <http://www.undp.org/content/undp/en/home/librarypage/mdg/the-millennium-development-goals-report-2014.html>
- United Nations Children's Fund. (2014). *Every child counts: The state of the world's children 2014 in numbers. Revealing disparities, advancing children's rights*. New York, NY: Author. Retrieved from <http://www.unicef.org/sowc/>
- United Nations Development Programme. (2005). *The Millennium Development Goals Report 2005*. New York, NY: United Nations Department of Public Information.
- United Nations Development Programme. (2014). *Haiti MDG report: Much progress has been made*. New York, NY: Author. Retrieved from <http://www.us.undp.org/content/washington/en/home/presscenter/articles/2014/06/25/undp-releases-haiti-mdg-report-significant-progress-has-been-made.html>
- United Nations Population Fund. (2011). *State of world's midwifery 2011: Delivering health, saving lives*. New York, NY: Author. Retrieved from <http://www.unfpa.org/sowmy/report/home.html>
- U.S. Department of Education, National Center for Education Statistics. (2002). *Defining and assessing learning: Exploring competency-based initiatives* (NCES 2002-159, prepared by E. Jones, R. A. Voorhees, and K. Paulson for the Council of the National Postsecondary Education Cooperative Competency-Based Initiatives Working Group). Washington, DC: Author.
- Voorhees, R. A. (2001). Competency-based learning models: A necessary future. *New Directions for Institutional Research*, 110, 5-13.
- W. K. Kellogg Foundation. (2004). *Using logic models to bring together planning, evaluation, and action: Logic model development guide*. Battle Creek, MI: Author. (Original work published 1998)



References

- Wells, G. A., Shea, B., O'Connell, D., Peterson, J., Welch, V., Losos, M., & Tugwell, P. (2014). The Newcastle-Ottawa (NOS) for assessing the quality of nonrandomised studies in meta-analysis. Retrieved from http://www.ohri.ca/programs/clinical_epidemiology/oxford.asp
- World Health Organization. (2004). *Making pregnancy safer: The critical role of the skilled birth attendant: A joint statement by WHO, ICM and FIGO*. Geneva, Switzerland: Author. Retrieved from http://www.who.int/maternal_child_adolescent/documents/9241591692/en/index.html
- World Health Organization. (2010). *Public health risk assessment and interventions. Earthquake: Haiti [Preliminary version]*. Geneva, Switzerland: Author. Retrieved from http://www.who.int/hac/crises/hti/who_rapid_health_assessment_15jan2010.pdf
- World Health Organization. (2012a). *Newborns: Reducing mortality*. Retrieved from <http://www.who.int/mediacentre/factsheets/fs333/en/>
- World Health Organization. (2012b). *Trends in maternal mortality: 1990 to 2010. WHO, UNICEF, UNFPA and World Bank Estimates*. Geneva, Switzerland: WHO Document Production.
- World Health Organization. (2013a, February). *Fact files: Maternal health*. Retrieved from <http://www.who.int/features/factfiles/en/>
- World Health Organization. (2013b). *World health statistics 2013*. Geneva, Switzerland: WHO Press. Retrieved from http://www.who.int/gho/publications/world_health_statistics/2013/en/
- World Health Organization. (2014). *MDG-5: Improve maternal health*. Retrieved from http://www.who.int/topics/millennium_development_goals/maternal_health/en/
- You, D., Bastian, P., Wu, J., & Wardlaw, T. (2013). *Levels & trends in child mortality-Report 2013*. New York, NY: United Nations Inter-Agency Group for Child Mortality.





Discussion

