



**Jefferson**

Philadelphia University +  
Thomas Jefferson University

# Nurse Perceptions of Facilitators and Barriers to Effective Delivery Room Neonatal Resuscitations: A Comparison Across Settings

Presenter: Valerie Clary-Muronda, PhD, RN



# Disclosure

There is no actual or potential conflict of interests in relation to this presentation.

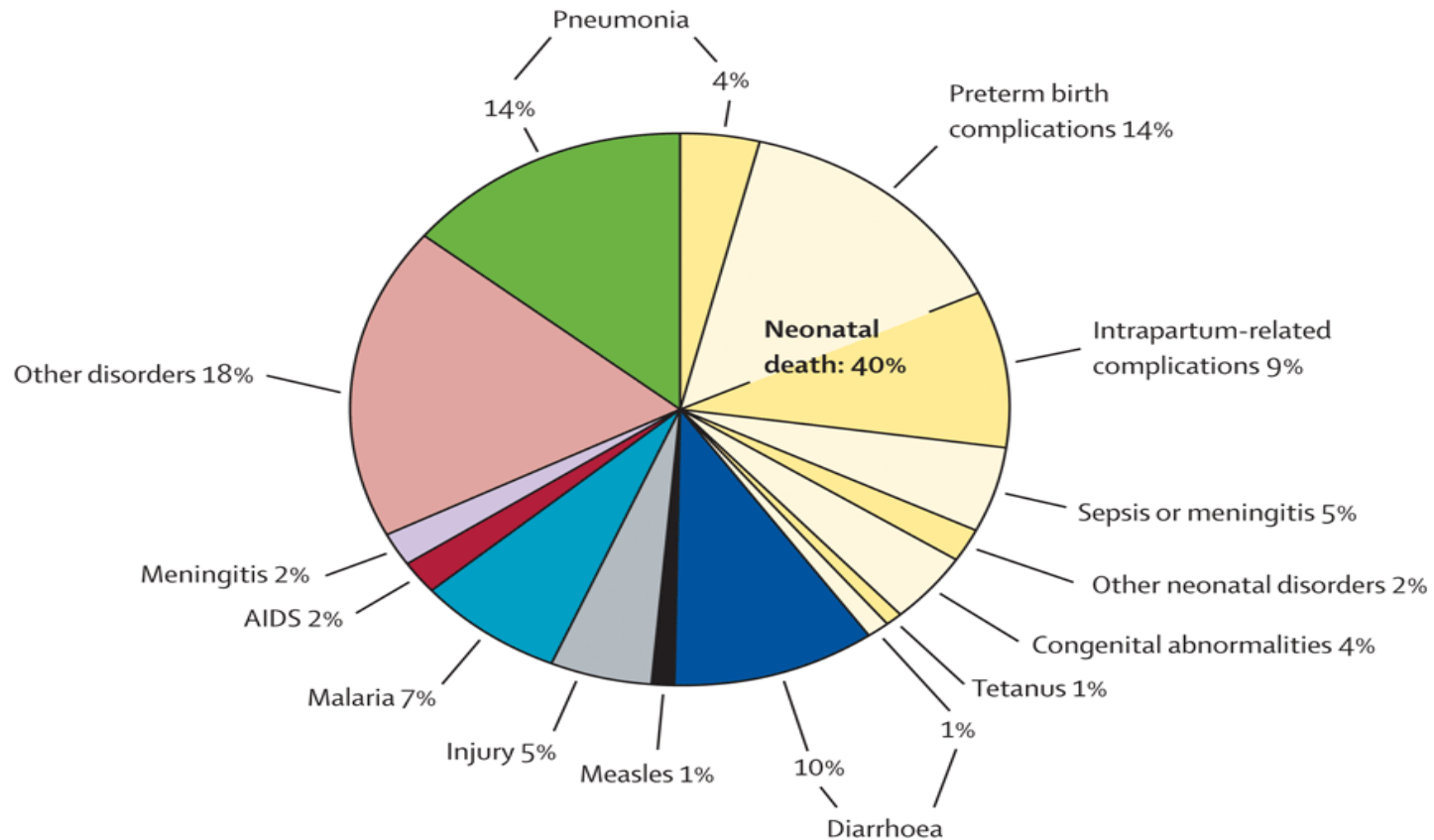
# Problem Statement

Birth asphyxia continues to be one of the major causes of neonatal mortality worldwide. While most newborns transition outside the uterus without difficulty, 4-10% will need assistance establishing respirations. Although delivery room resuscitation require prompt action, most delivery room resuscitations do not occur in accordance with recommended guidelines.

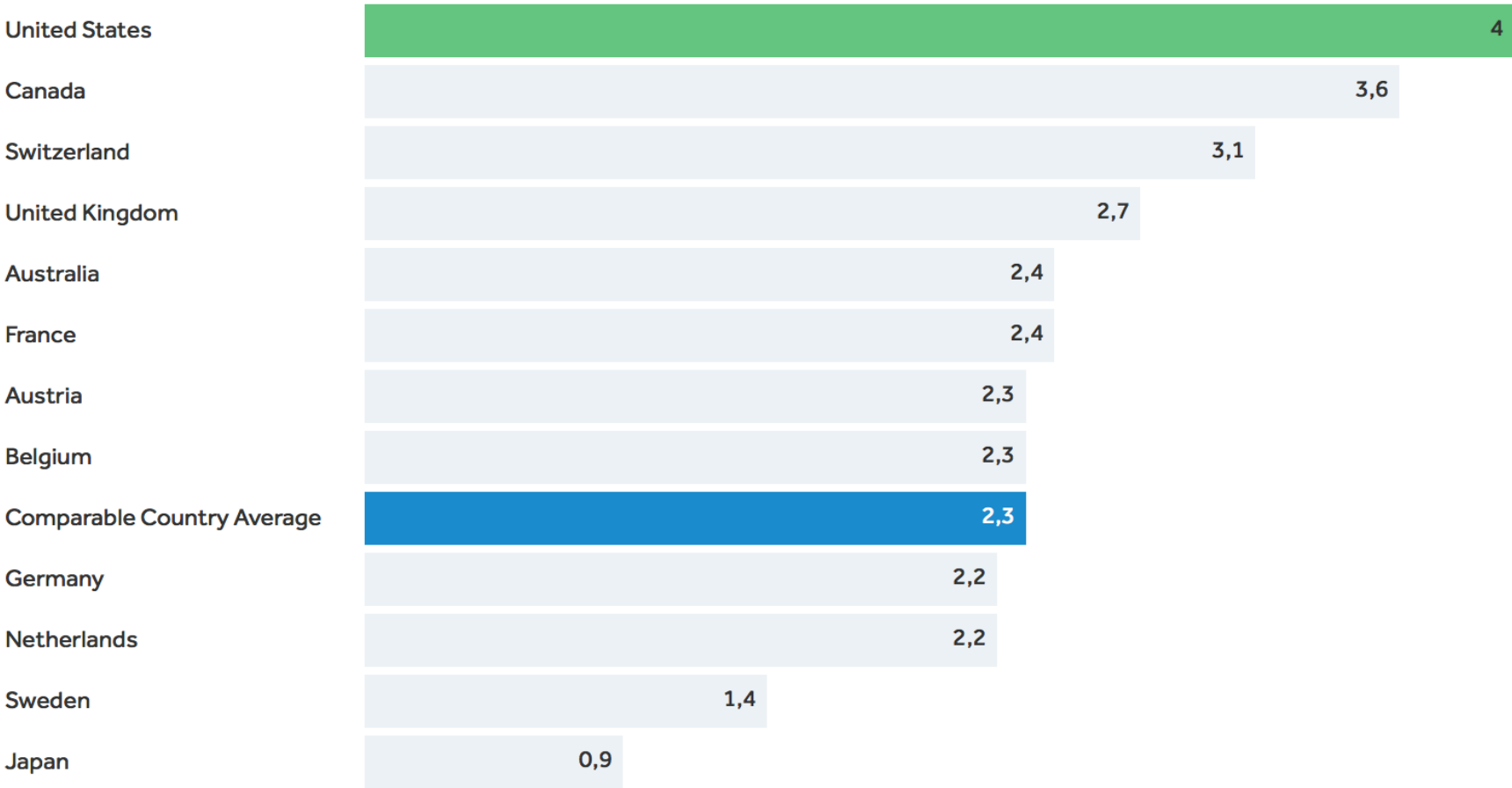


# Gaps affecting neonatal mortality globally

- Social status for women
- Inadequate prenatal care
- Confounding health issues



# Neonatal mortality per 1,000 live births, 2014



Comparable countries are defined as those with above median GDP and above median GDP per capita in at least one of the past 10 years. In cases where 2014 data were unavailable, data from the last available year are shown.

Quelle: Kaiser Family Foundation analysis of data from OECD (2017), "OECD Health Data: Health status: Health status indicators", OECD Health Statistics database. (Accessed on July 5, 2017). • PNG

Peterson-Kaiser

**Health System Tracker**

# Zimbabwe Neonatal Mortality Rate



WORLD BANK | TRADINGECONOMICS.COM

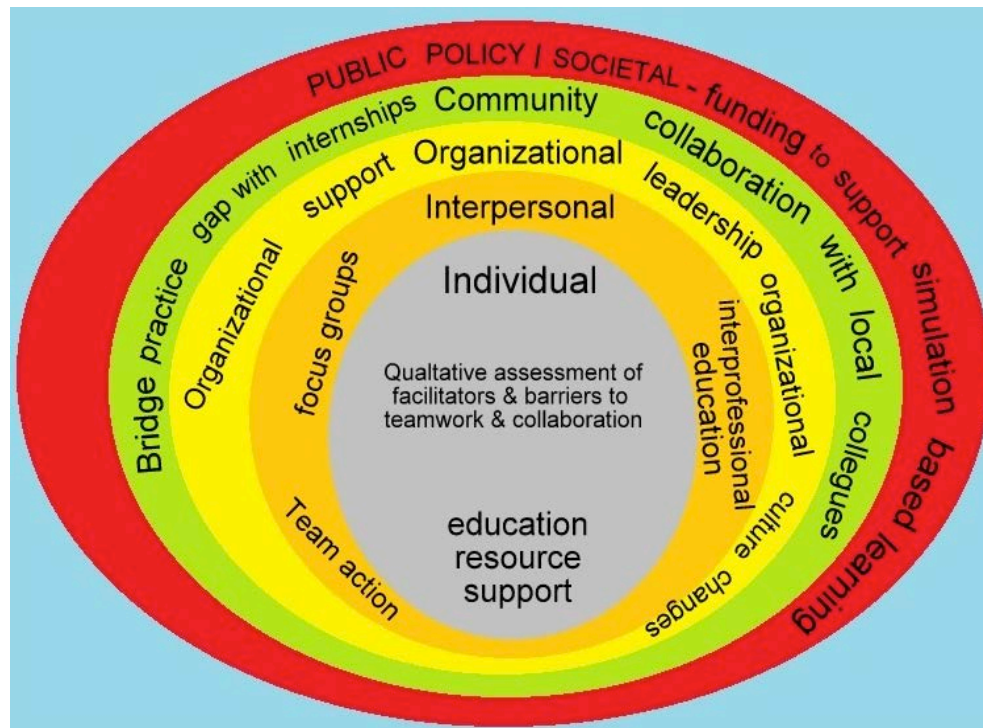
# Aims

- To examine the facilitators for and barriers to delivery room neonatal resuscitations from the perspectives of nurses in Zimbabwe and the United States
- To identify areas for improvement that may be similar across settings
- To develop areas for potential collaborative partnership



# Methods

- Semi-structured key informant interviews
- Qualitative description
- Direct Content Analysis
- McLeroy et al. (1988) Social Ecological Model (SEM)





# Subjects, Sampling, and Setting

United States

Virtua Health, Voorhees, NJ

12

Nurses in a community setting

Labor and delivery nurses



Kutama Clinic

Darwendale area

Zvimba District

3 Nurses in a rural government health clinic

Midwives



# Emergent Themes

## Zimbabwe

Triage and decision-making

Knowledge

Practice

Competency

Equipment and supplies

Level of care



## United States

Skills

Resources

Practice

Equipment

Teamwork



# Coding Categories (SEM)

- Individual: skills, knowledge, practice, competency
- Interpersonal: level of care, teamwork
- Organizational: Equipment, supplies
- Societal: triage and decision making
- Policy: Resources, equipment

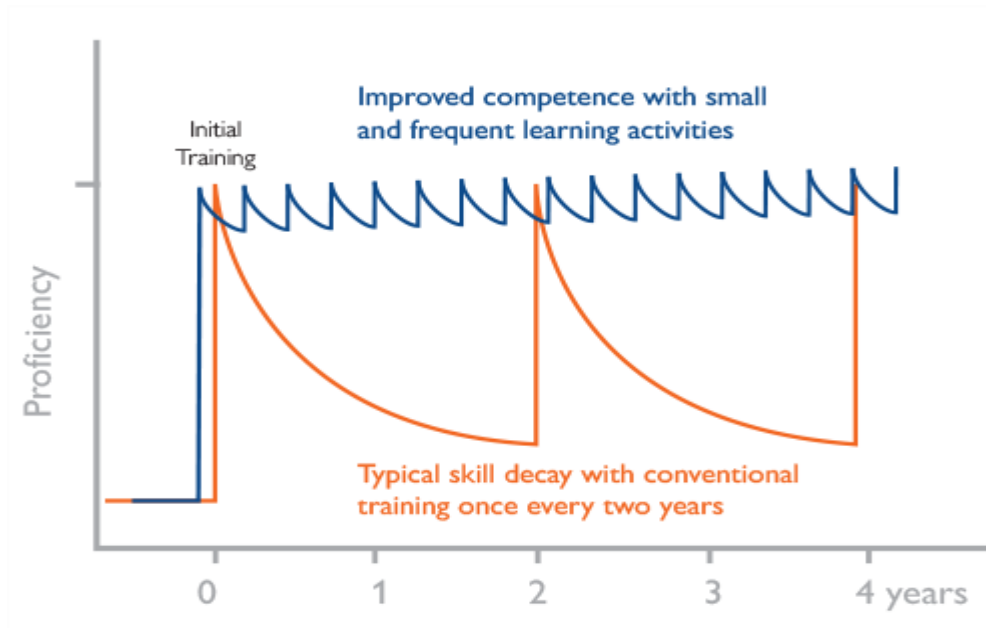
# Simulation-based Education to Enhance Skills

- Neonatal resuscitation training has focused on well-resourced settings
- Helping Babies Breathe has shown skill improvement
- Retention of skills skills is minimal in both
  - Resource-limited and well-resourced settings
  - In the United States skills decline to an unsatisfactory level after just 3 months

(Bang, Patel, Bellad, Gisore, & Goudar, et al., 2016)

# Approaches to enhance skill retention in both settings

- Low dose- high frequency practice
- Daily equipment check with a structured checklist
- Self evaluation checklist
- Weekly review meetings
- Telemedicine consultations

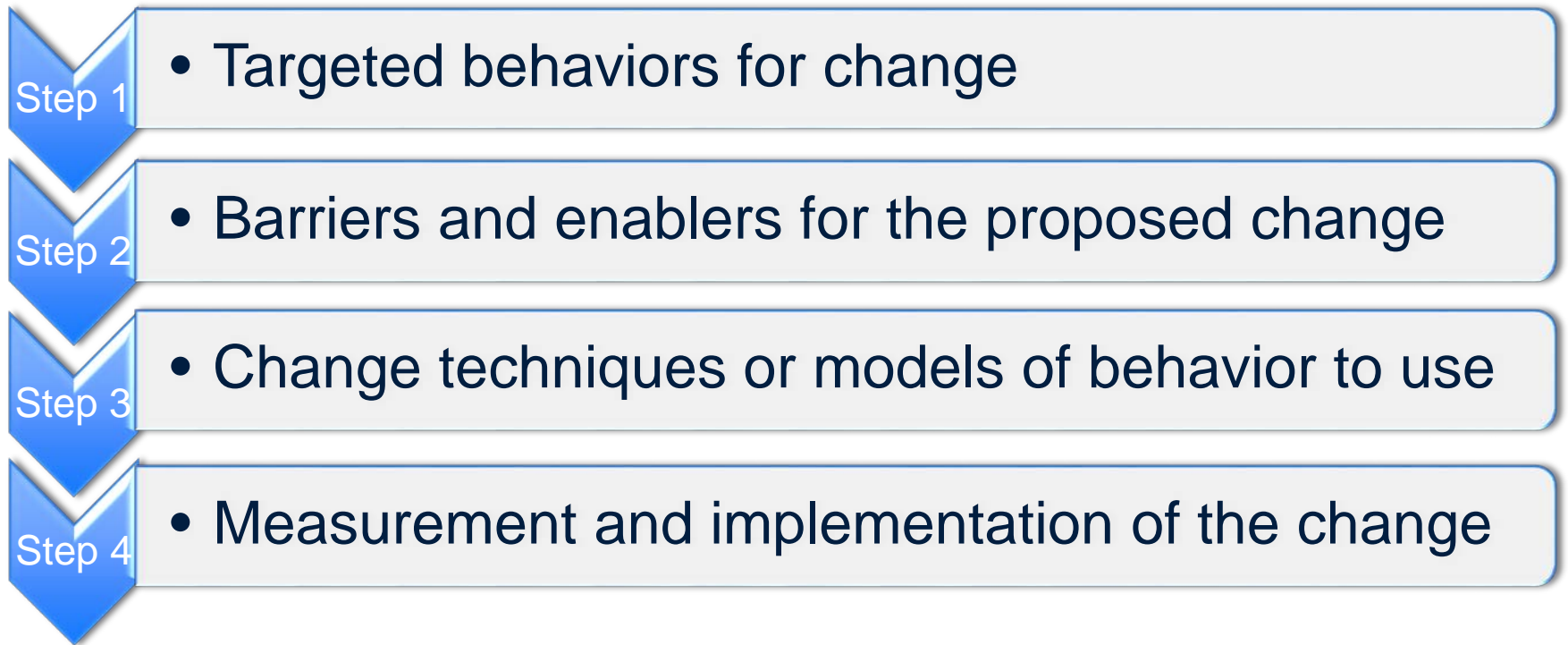


# Next Step: Baseline Assessment of Neonatal Resuscitation Practices

- Implementation Science framework
- Theoretical Domains framework
  - Identification of targeted behaviors for change
  - Barriers and enablers for the proposed change
  - Change techniques or models of behavior to change
  - Measurement and implementation of the change

# TDF Intervention Implementation Process

(Michie et al., 2005)



# Study Limitations

- Sample size
  - Preliminary assessment
    - Comprehensive assessment





# Lessons learned

- Access is dependent upon relationship with key stakeholders
- In resource limited environments, more is done with less



# Thanks to the following:

- Virtua Health IRB
- Government of Zimbabwe
- Nurses of the Kutama Clinic
- Thomas Jefferson University

# References

- Bang, A., Patel, A., Bellad, R., Gisore, P., & Goudar, S., et al. (2016). Helping Babies Breathe (HBB) Training: What happens to knowledge and skills over time? *Biomed Central Pregnancy and Childbirth*, 16, 364.
- Ersdal, H., Singhal, N., Msemo, G., KC, A., Data, S., et al. (2017). Successful implementation of Helping Babies Survive and Helping Mothers Survive programs-An Utstein formula for newborn and maternal survival. *PLOS One*, 12(6).
- Katmath-Rayne, B., Berkelhamer, S., KC, A., Ersdal, H., & Niermeyer, S. (2017). Neonatal resuscitation in global health settings: an examination of the past to prepare for the future. *Pediatric Research*, 82(2), 194-200.
- Kassebaum, N., Bertozzi-Villa, A., Caggeshall, M., Shackeford, K., Steiner, C., et al. (2014). Global, regional, and national levels and causes of maternal mortality during 1990-2013: a systematic analysis for the global burden of disease study, *Lancet*, 384, 980-1004.
- Michie, S., Johnston, M., Abraham, C., Lawton, R., Parker, D. (2005). Making psychological theory useful for implementing evidence-based practice: a consensus approach. *Quality and Safety in Health Care*, 14, 26-33.
- Peterson-Kaiser. (2017). Health System Tracker. How does infant mortality in the United States compare to other countries? Retrieved from <https://www.healthsystemtracker.org/chart-collection/infant-mortality-u-s-compare-countries/>
- Trading Economics (2018). Zimbabwe Mortality Rate; neonatal (per 1000 births). Retrieved from <https://tradingeconomics.com/zimbabwe/mortality-rate-neonatal-per-1-000-live-births-wb-data.html>
- Wang, H., Liddell, C., Coates, M., Mooney, M., Levitz, C. (2014). Global, regional, and national levels of levels of neonatal infant, and under-5 mortality during 1990-2-13: a systematic analysis for the global burden of disease study, *Lancet*, 383, 980-1004.



**Jefferson**

**Philadelphia University +  
Thomas Jefferson University**