

Saving Children's Lives

How to Reduce Childhood Deaths through Quality Improvement



PRESENTED AT:

MINISTRY *of* HEALTH
REPUBLIC OF BOTSWANA

Saving Children's Lives

Reducing Infant and Child Mortality through Active
In-Service Training, Quality Improvement and System Monitoring

Peter Meaney, MD, MPH

Christine Joyce, MD

Jose Maria Ferrer, MD

Segolame Setlhare, RN

PRESENTED AT:



MINISTRY *of* HEALTH
REPUBLIC OF BOTSWANA

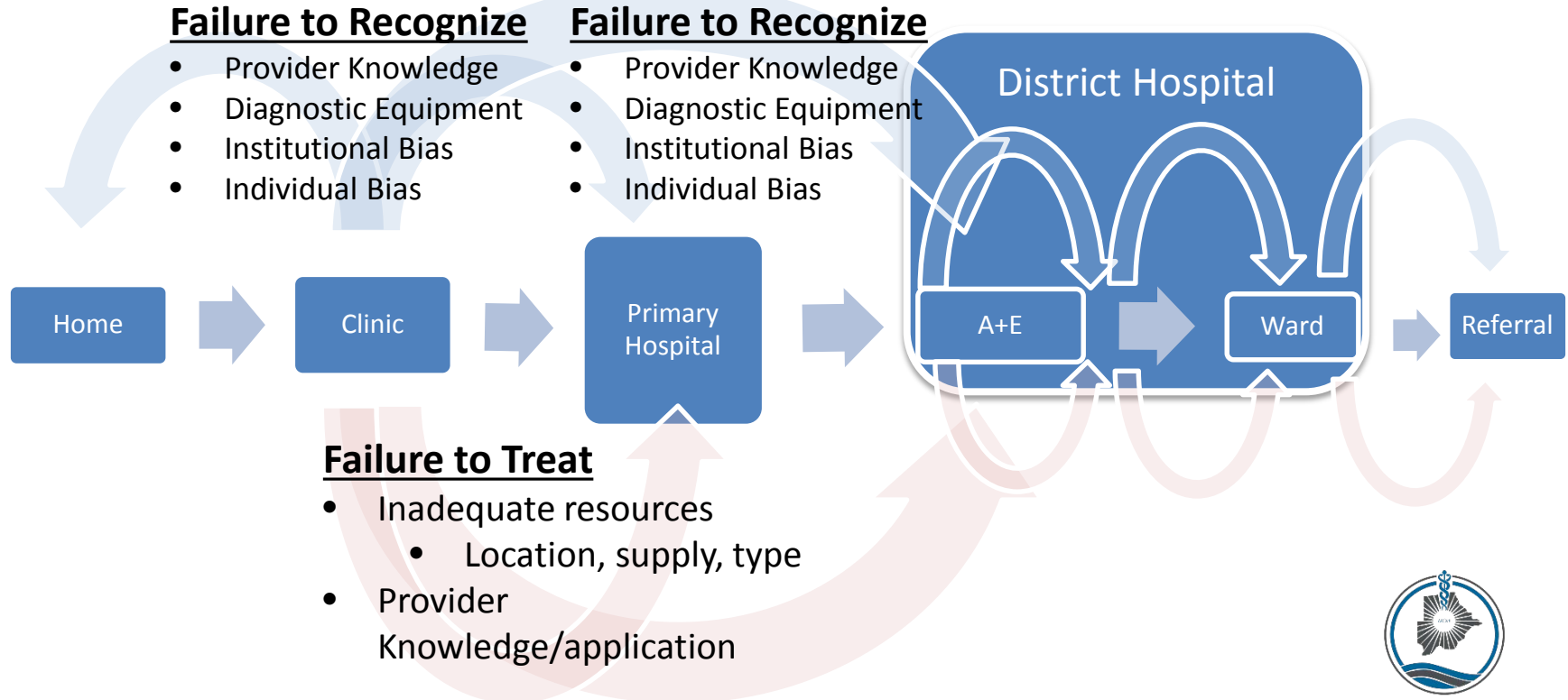
Objectives

- Review the essential components of Saving Children's Lives
- Discuss data regarding the impact of SCL on provider knowledge, patient outcomes and health system utilization
- Discuss next steps of Saving Children's Lives

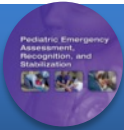
The Challenge for Children

- On 58/195 Achieved MDG #4 2015 goal
- Top 10 causes of DALY include Lower Respiratory Infections and Diarrheal Disease
- Challenges with secondary prevention of major causes of child mortality
 - ETAT and PALS in LMIC
 - Designed for least resourced or most resourced
 - implementation not as effective as could be
 - Passive process
 - Inadequate resources
- Health Access and Quality of Health Service Delivery is poor
 - Health Access and Quality Index, Lancet Publication 2017

Model of Care of the Critically Ill Child



Saving Children's Lives



High Intensity In-Service Training



Active Audit and Feedback



System Surveillance



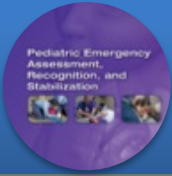
Saving Children's Lives Pilot

Simulation and education

Impact of contextualized pediatric resuscitation training on pediatric healthcare providers in Botswana[☆]

Shelton W. Wright^a, Andrew P. Steenhoff^{a,b,g}, Okan Elci^c, Heather A. Wolfe^a,
Mark Ralston^d, Thandie Kgosiesele^e, Ishmael Makone^f, Loeto Mazhani^g,
Vinay M. Nadkarni^a, Peter A. Meaney^{a,b,*}

- 2012: Modified PEARS to incorporate Hospital and National protocols
- 2013: Piloted at Referral (PMH) and District Hospital
 - Feedback to better align better with IMCI teaching
 - 61 Providers
- Demonstrated feasibility



District Level Training

- Initiated January 2014
 - SLH, Kweneng
- Clinic and Hospital Based Providers
- Local Program Coordinator
- Program Metrics
- 28 Provider courses
 - > 500 providers
- 5 Trainer of Trainer (TOT) programs
 - 47 instructors
 - Performance based, not administrative



Knowledge Acquisition

Knowledge Acquisition

Recognition of Respiratory distress

- 43% vs. 81%, $p < 0.001$

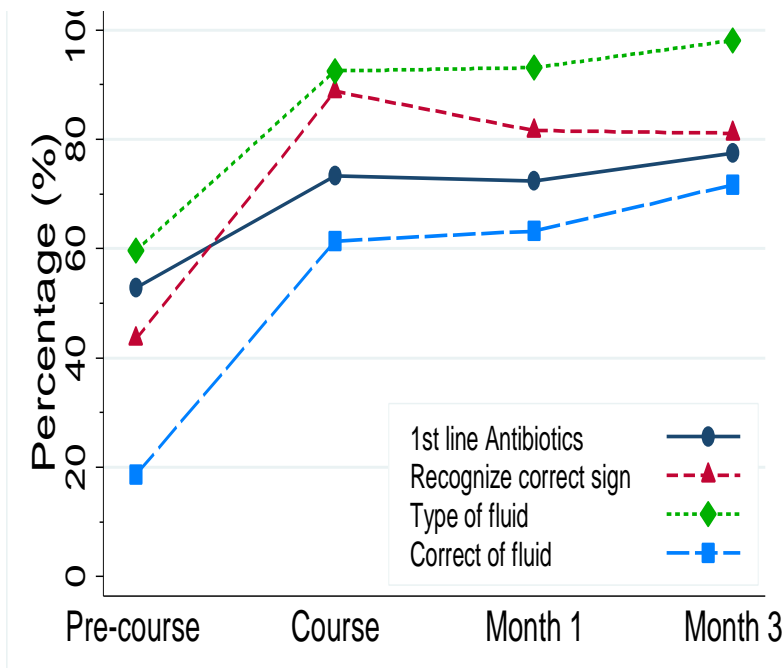
Treatment of respiratory distress

- 51% vs. 77%, < 0.001

Treatment of shock

- 18% vs. 72%, < 0.001

Improvements sustained up to 3 months after training.





SLH: Pediatric Ward

Patient Outcomes – '13 v '15

Significantly Lower (p<0.01):

Admission Rates: 82 vs 61/month

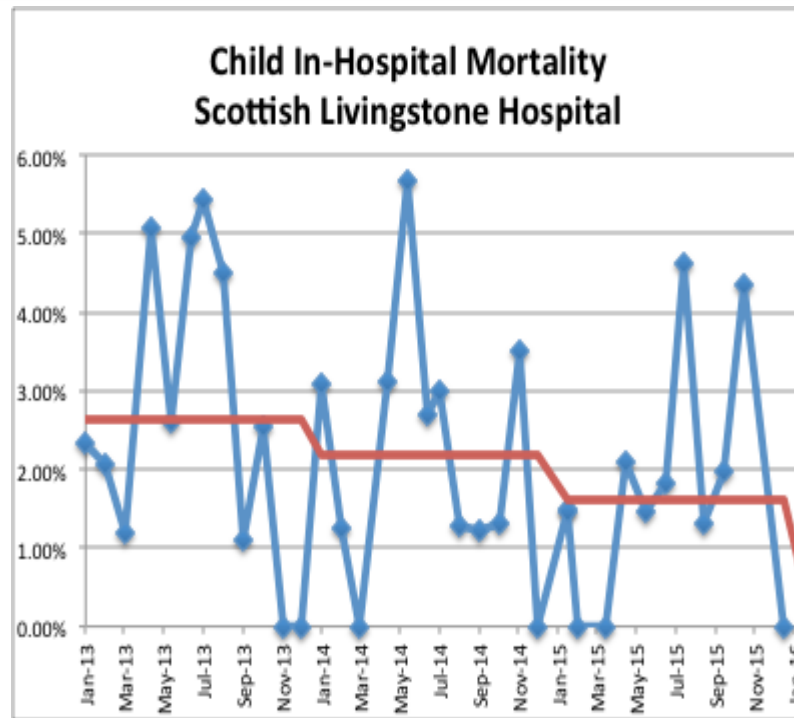
Total deaths: 27 v 9 deaths/yr

Mortality rates 2.7% vs 1.64%

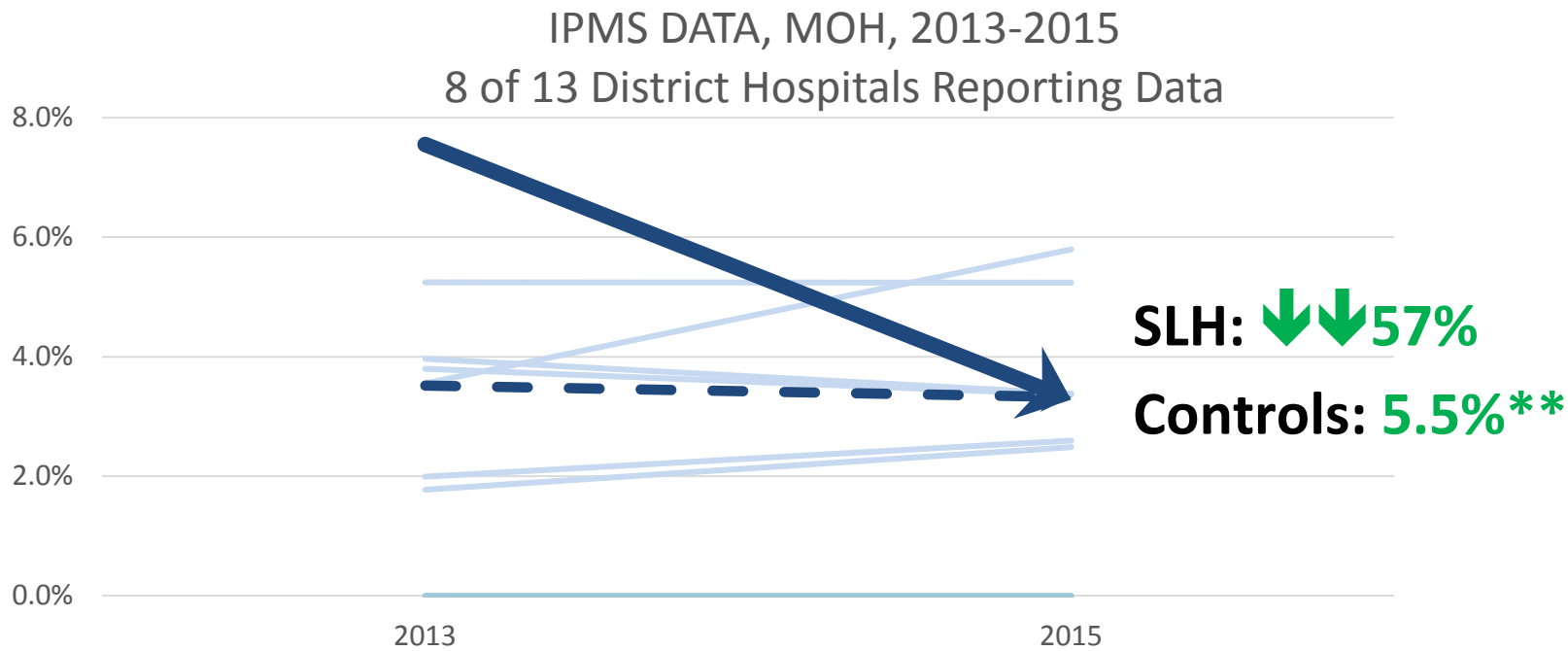
Transfer rates 6.8% vs 5.2%

No Significant Change

length of stay (5.3 days vs 5.3 days).



Infant Mortality (age 1mo – 1year)



Intervention district: larger volume of admissions at baseline, admission reduction vs no change compared to volume in controls

Next Steps:

- **Study:**
 - Verify dataset is optimally complete (IPMS, Child Mortality) for formal analysis
 - Identify potential sources of confounding during study period
 - Add BID register data for deaths in community
 - Administrative changes in intervention or control hospitals
 - Differential rollout/penetration of national programs
 - Validate findings through peer review process (publications)
- **Scale**
 - Phased rollout for DHMTs with significant burden of amenable child mortality



Next Steps: SCL Global

- **Broaden** Global Steering Committee:
 - Health System Leaders, USAID, Gates, ILCOR and Resus Councils, International Pediatric Association, KEMRI
- **Revise** program materials:
 - Standardize active implementation - Allow for scalability in other health systems (TNZ, India):
 - Increased audio/visual, mHealth, eHealth, remote tele-mentoring
 - Additional modules (neurologic, shock with malnutrition, trauma)



National SCL Program: Needs

- **Needs from DHMT:**
 - **Administrative leadership:**
 - Identification of training burden, integration with QI system, relevant stakeholders and issues
 - **Office/training space** at District Hospital
 - **Transport** to all participating clinics (monthly)
 - **Site Coordinators** (2, 50% clinical, 1.0FTE total)
 - **Support for training equipment and consumables**
 - (e.g. books, manikins, lunches, IV tubing, pulseox)
 - **Imprest and Lodging for DHMT participants** as appropriate
- **Centralized support for continuous national program monitoring and development**
 - data management and reporting, logistics of training initiation and maintenance, site coordinator meetings



Conclusions

- Successful initial district level Implementation
 - Validated relevance to system and clinical care
 - 100% providers of target district trained in < 2yrs
 - locally sustainable instructor core
- SCL Program implementation is associated with significant knowledge acquisition and retention of healthcare providers up to 3 months after training
- There may be an association between SCL and significant reductions in Neonatal, Infant, and Child Mortality in District Hospitals

Questions?

- Successful initial district level Implementation
 - Validated relevance to system and clinical care
 - 100% providers of target district trained in < 2yrs
 - locally sustainable instructor core
- SCL Program implementation is associated with significant knowledge acquisition and retention of healthcare providers up to 3 months after training
- There may be an association between SCL and significant reductions in Neonatal, Infant, and Child Mortality in District Hospitals

Saving Children's Lives Team

