



A reduction in the odds of neonatal death in the context of reduced resources at Justinian University Hospital in Cap-Haitien, Haiti



Rony Saint Fleur, MD^{1,3}, Tezita Negussie MSW, MPH¹, Ann Lemire, MD¹, Victor Herson, MD², Adam M Silverman, MD², and Serge E. Charles, MD³
¹Konbit Sante, ²Connecticut Children's Medical Center, ³Justinian University Hospital

Introduction

The neonatal mortality rate in Haiti has remained steady even as the under-five mortality rate has declined significantly over the past 20 years¹. Newborns constitute the majority of pediatric deaths at Justinian University Hospital (JUH) in Cap-Haitien, the second largest public teaching hospital in Haiti. Since 2002, Konbit Sante, a non-profit organization focused on health systems strengthening, has supported quality improvement efforts at JUH. A priority of JUH's most recent collaboration with Konbit Sante is neonatal mortality reduction.

Purpose

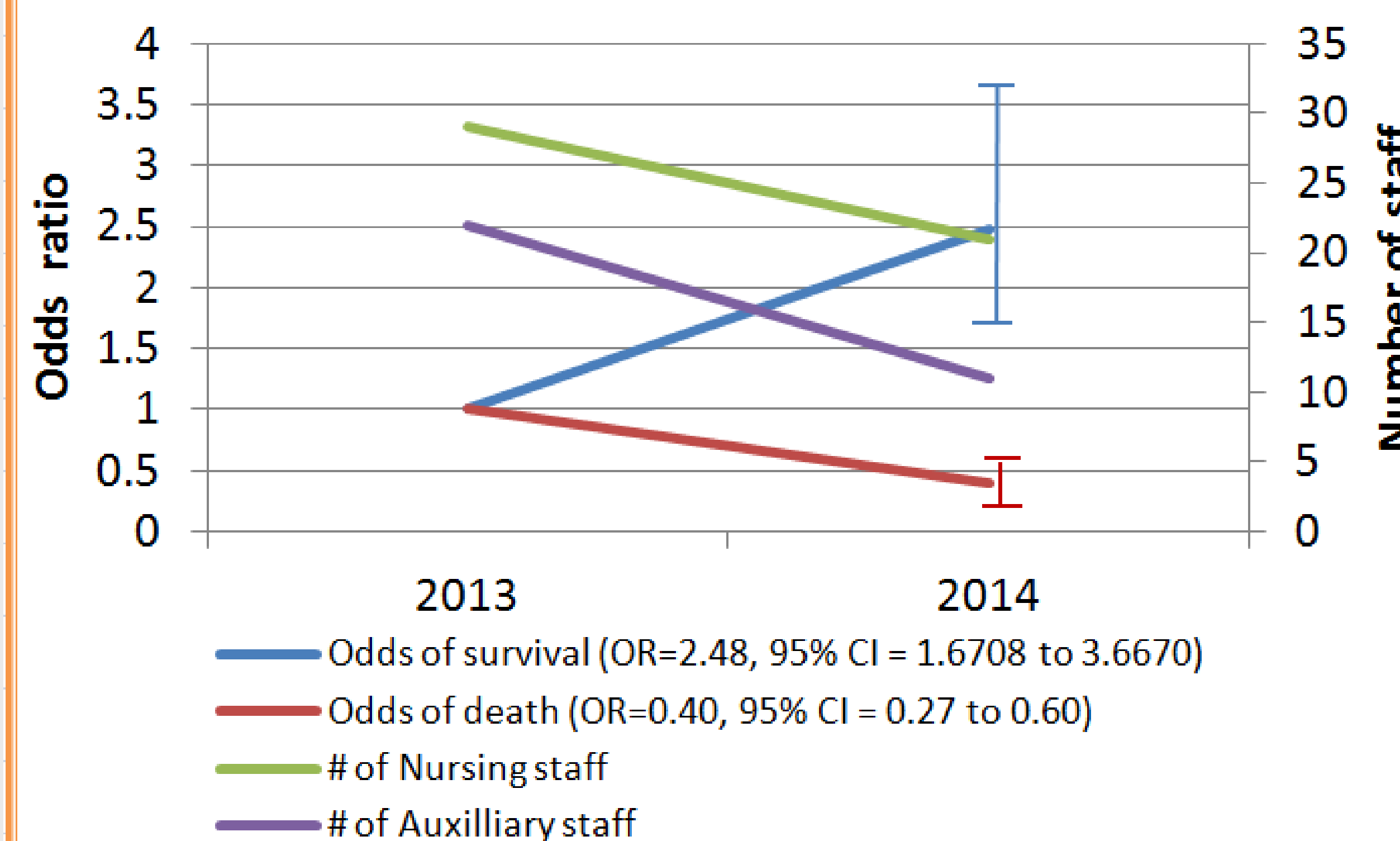
The objective of the quality improvement project was to reduce neonatal mortality at JUH's Pediatric Service

Methods

An attending Pediatrician led daily mortality reviews of all deaths in the Pediatric Service at JUH starting in April 2013. Prior to that date, no regular reviews were conducted. Data from the daily reviews were entered into a simplified Health Care Matrix. The Matrix captured factors believed to contribute to mortality, including deficiencies in clinical practice and knowledge and as well as systems issues. The attending Pediatrician discussed and attempted to resolve the contributing factors with residents on a daily basis and with Konbit Sante once a month. Odds ratio were calculated comparing neonatal mortality on the Service between April and August 2012, when the Pediatric Service received an external grant support for human and material resources to the same period in 2013 and 2014, after the completion of the grant.



Odds of survival increase in context of declining resources



Conclusions

A very significant reduction in neonatal mortality coincided with the initiation of a quality improvement project. The results suggest that the review of data by health care providers can motivate change in practice and improve health outcomes, despite limited resources. Additional research is needed to understand the specific changes in practices that resulted in reduced neonatal mortality.



Citations

1: Ministry of Public Health and Population [le Ministère de la Santé Publique and de la Population] (MSPP), Haitian Childhood Institute [l'Institut Haïtien de l'Enfance] (IHE) and ICF International. 2013. 2012 Haiti Mortality, Morbidity, and Service Utilization Survey: Key Findings. Calverton, Maryland, USA: MSPP, IHE, and ICF International.

Acknowledgments

- SG Foundation provided funding in support of the pediatric quality improvement initiative at JUH.
- This file from: <http://colinpurrington.com/tips/academic/posterdesign>.

Results

There was no significant difference in the odds of a neonate dying in the Pediatric Service in 2013 compared to 2012 (OR= 0.93, CI= 0.68 to 1.26). However, the odds of a neonate dying decreased by 60% between April 2013 and August 2013 and comparable dates in 2014 (OR=0.40, CI = 0.27 to 0.60).

Numero de Mortalité	Date de Décès	Date de Naissance	Lieu de Naissance	Mère	Mortel	Sexe	Age	Diagnostique	Prise en Charge	Facteurs de Mortalité	Commentaire
1026	18/01	18/01	Cap-Haitien	SC	PU	Non	38 sem ET 7	Causes d'admission: Syndrome respiratoire aigu sévère	Diagnostique: Syndrome respiratoire aigu sévère	Facteurs de Mortalité: Causes non ventilées par l'assistance médicale	Commentaire: Mortalité
1046	20/01	18/01	Cap-Haitien	SC	PU	Non	38 sem ET 7	Causes d'admission: Syndrome respiratoire aigu sévère	Diagnostique: Syndrome respiratoire aigu sévère	Facteurs de Mortalité: Causes non ventilées par l'assistance médicale	Commentaire: Mortalité
1044	18/01	18/01	Cap-Haitien	SC	PU	Non	38 sem ET 7	Causes d'admission: Syndrome respiratoire aigu sévère	Diagnostique: Syndrome respiratoire aigu sévère	Facteurs de Mortalité: Causes non ventilées par l'assistance médicale	Commentaire: Mortalité
1000	20/04	18/01	Cap-Haitien	SC	PU	Non	38 sem ET 7	Causes d'admission: Syndrome respiratoire aigu sévère	Diagnostique: Syndrome respiratoire aigu sévère	Facteurs de Mortalité: Causes non ventilées par l'assistance médicale	Commentaire: Mortalité
1002	20/04/2012	18/01	Cap-Haitien	SC	PU	Non	38 sem ET 7	Causes d'admission: Syndrome respiratoire aigu sévère	Diagnostique: Syndrome respiratoire aigu sévère	Facteurs de Mortalité: Causes non ventilées par l'assistance médicale	Commentaire: Mortalité
1036	18/01	18/01	Cap-Haitien	SC	PU	Non	38 sem ET 7	Causes d'admission: Syndrome respiratoire aigu sévère	Diagnostique: Syndrome respiratoire aigu sévère	Facteurs de Mortalité: Causes non ventilées par l'assistance médicale	Commentaire: Mortalité

Mortality review data collection tool utilized by the JUH

For further information please contact:

Rony Saint Fleur, MD: ronysaintfleur@hotmail.com