

# 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<sup>1,3</sup>, Tezita Negussie MSW, MPH<sup>1</sup>, Ann Lemire, MD<sup>1</sup>, Victor Herson, MD<sup>2</sup>, Adam M Silverman, MD<sup>2</sup>, and Serge E. Charles, MD<sup>3</sup>

<sup>1</sup>Konbit Sante, <sup>2</sup>Connecticut Children's Medical Center, <sup>3</sup>Justinian 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 years<sup>1</sup>. 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

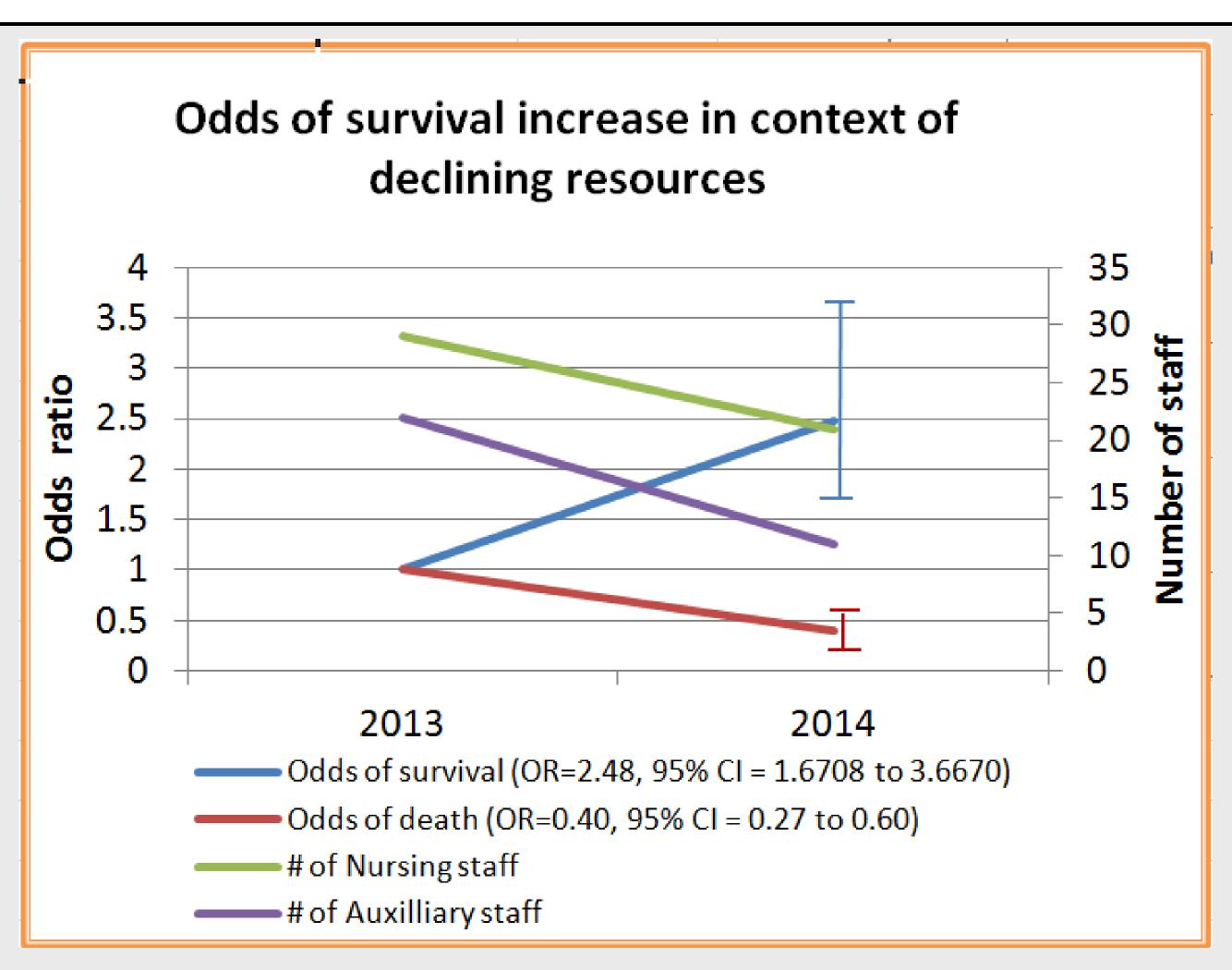
	Date de Naissance/Dat e of Birth		l'accouchement l'Place of Birth	Mode d'accouchem ent/Method of Birth	Moment du decès/Time of Death	Premature? Oui, Non	Si "oui", l'âge gestationnel estiméllf "yes", estimated gestational age	Diagnostic/Diagnosis	Charge/Provision of Care	Médicaments matériaux et l'équipement nécessaires disponible? Oui, Non/Needed drugs, materials and equipment available? Yes, No	Commentaires/Comments
169276	14/02/11	3/4/2014	Rep. Dominicaine	ac	РМ	Non	?	Coma d'etiologie ? (meningite probable) plus detresse respiratoire chez un patient avec kwashiorkor severe		Ceftriaxone prescrit d'abord mais remplacé par l'ampicilline	Ceftriaxone non disponible et parent r pouvait en acheter. Enfant arrivait trop tard.Décédé apres 48
169461	26/11/13	8/4/2014	Domicile(port margot)	vaginal	N	Non	?	Oedeme aigue du poumon par surchage liquidienne		retard a avoir les resultats de labo.Pas d'aiguille disponible pour Intra osseux	Enfant arrivé dans ur tableau de malnutrition sevère et septique. Hypoglycen e diagnostiquée et prise en charge
170441	9/4/2014	10/4/2014	HUJ	ac ac	РМ	Non	39 sem. Et 1 jr	Etat de mal convulsif plus hemorragie digestive haute chez un enfant avec anomalie chromosomique	cours de traitement et anticonvulsivant non		Score d'apgar 1 a 1mr ;6 à 5 mns;7 à 10 mns
170132	2/2/2014	9/4/2014	HUJ	vaginal	РМ	Non	?	Choc septic vs Endocardite chez un bébé avec malnutrition sevère	Antibiotique non recu par manque, Oxygene epuisé au cours du traitement Aucun		Mère agée de 15 ans bébé agé de 2 mois e pesant 2,2 kgs.Grossesse
170172	26/08/2002	9/4/2014	Domicile (Robillard)	vaginal	АМ			Bronchopneumonie vs TB pulmonaire chez un enfant avec malnutrition sevère et Xerose conjonctivale et corneene	d'urgence incomplète:		Enfant árrivé trop tarc ;décédé avant 48 hre:
172819	14 ans	26/04/14	HUJ	vaginal	N	Non		Bronchopneumonie severe vs TB pulmonaire chez un enfant chez un adolescent avec Trisomie 21	service a 8h 50 PM et		Patient arrive trop tar

Mortality review data collection tool utilized by the JUH

#### 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.





# 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).

## 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 Haïti Mortality, Morbidity, and Service Utilization Survey: Key Findings. Calverton, Maryland, USA: MSPP, IHE, and ICF International.

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## For further information please contact:

Rony Saint Fleur, MD: ronysaintfleur@hotmail.com