



### Effect of Implementation of **Modified Early Warning Score (MEWS)** in PYNEH on Outcome of *Adult Septic Patients* Compared with Regional Hospitals Not Implementing MEWS

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#### Introduction

- Mortality rate for sepsis is high
- Outcome may be improved with early aggressive therapy
- In **2008**, Pamela Youde Nethersole Eastern Hospital (PYNEH) was the first hospital to have hospital-wide implementation of Modified Early Warning Score (MEWS) observation chart together with a standardized response plan
- **Have we improved the outcome of adult septic adult patients?**

#### Objective

- To compare the mortality & ICU admission rate before & after full implementation of MEWS

#### Methodology

- Controlled pre & post study
- Data-mining exercise
- Patients included
  - Aged ≥ 18 years &
  - Coded as sepsis on discharge (038.9, 785.59 or 998.5)
  - Admission in 2006 or 07 → Pre-MEWS
  - Admission in 2009 or 10 → Post-MEWS
- Summary data from 6 other regional hospitals were collected using the same criteria

#### Results

- 31289 episodes of sepsis analyzed
  - 10259 episodes in 2006/07 (Pre)
  - 21030 episodes in 2009/10 (Post)

	PYNEH	
	2006/07	2009/10
Episodes	1859	3498
Age (mean ± SD)	73.5 ± 14.8	71.1 ± 16.1
Male	48.7%	50.7%
Crude Hospital Mortality	<b>24.9%</b>	<b>20.8%</b>
	<i>p=0.0005</i>	
ICU Admission	19.4%	17.3%
	<i>p=0.0570</i>	

	Control Hospitals	
	2006/07	2009/10
Episodes	8400	17532
Age (mean ± SD)	73.6 ± 16.1	72.6 ± 16.5
Male	49.1%	51.7%
Crude Hospital Mortality	22.2%	23.3%
	<i>p=0.0504</i>	
ICU Admission	<b>10.3%</b>	<b>11.7%</b>
	<i>p=0.0011</i>	

- With MEWS in PYNEH
  - **Hospital mortality ↓4.1%** (significant)
  - **ICU admission ↓2.1%** (marginally significant)
- **Opposite** direction of change in the control hospitals
- Odds Ratio for mortality after MEWS was **0.78** (0.68-0.89, 95% CI) (*p=0.000*), with control of confounding factors (**Logistic regression** with age, chronic renal failure, cirrhosis, COAD, diabetes, malignancy, ICU admission & hospital attended as variables)

#### Conclusion

MEWS implementation in PYNEH was **effective** in reducing crude mortality rate among adult septic patients