

# Review of QEH ICU performance in 2009 by benchmarking with HA ICU database



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## Introduction

ICU is a scarce and expensive component to back up our health care service. The utilization of ICU beds should be closely monitored and evaluated to make them be used in the most reasonable and cost-effective way. Studies showed that ICU with the best standardized mortality rate (SMR) had excellent organizational characteristics and it provides a reliable and validated indicator for ICU benchmarking.

## Objective

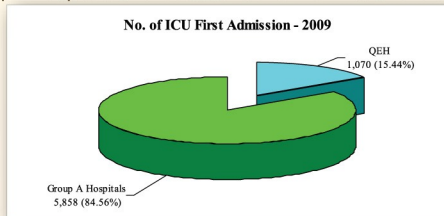
Review of QEH ICU performance by benchmarking with HA ICU database

## Method

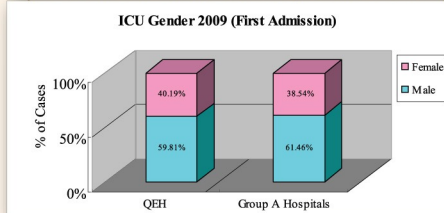
HA has successfully developed a reliable and validated ICU database which allows overseas benchmarking of ICU performance. A user-friendly APACHE (Acute Physiology and Chronic Health Evaluation) data entry interface was incorporated in the HA Clinical Management System (CMS) facilitated data capture for ICU performance monitoring in individual hospitals.

## Results

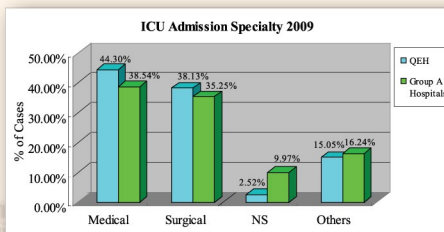
The APACHE summary reports of 2009 were retrieved from the Clinical Data Analysis and Reporting System (CDARS) and the QEH data were compared with the overall performance of the ICUs with trauma service, so-called the Group A ICUs including QMH, PWH, QEH, PMH, TMH and PYNEH. There were 1,070 patients first admitted to QEH ICU out of 6,928 patients from Group A hospitals and it accounted for 15.44% of overall patients.



The mean age of the patients was 59.03 years and 59.81% were male for QEH while the mean age was 59.66 years and 61.46% were male patients for Group A hospitals.



For QEH ICU, 44.30% of patients came from medical unit and 38.13% came from surgical unit. For the Group A hospitals, 38.54% of patients were from medical unit while 35.25% of patients were from surgical unit. Neurosurgical patients accounted for 2.52% of admission in QEH ICU compared with 9.97% of Group A hospitals ( $p < 0.05$  by chi-square test).



The mean APACHE IV score (which is a reflection of the illness severity) of the ICU patients in QEH:

	2009	QEH ICU	Group A ICU overall
Mean APACHE IV score		58.37	59.04
APACHE IV SMR		0.72	0.78
95% CI		(0.62, 0.84)	(0.73, 0.82)

(CDARS Apache IV Report – Table C3a & C4a – data retrieved on 12 April 2010)

## Conclusion

In comparison with other Group A ICUs, QEH ICU had a different casemix of patients as we had a smaller proportion of patients from neurosurgical unit. The outcome of our patients was satisfactory as the risk-adjusted SMR of our patients was comparable to that of other Group A hospitals. Such periodic ICU performance review on the outcomes of patients is useful for future planning for ICU bed allocation, staffing and budget.