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Project title

A Web-based ICU Consultation System with Structured Reply Generation

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Introduction

Poor clinical handover of critically ill patients associates with misunderstanding, delay in treatment and adverse outcomes. Feedback from clinical departments relating to the quality of ICU consultation reply including illegible handwriting, ambiguous ICU admission decision and lack of an appealing mechanism for general team to liaise with ICU seniors on admission decision were received.

Objectives

1. To improve the quality of ICU consultation reply and enhance communication among ICU and general ward staff.
2. To collect a data pool for audit cycles.

Methodology

We have collaborated with the IT Section of NTWC and designed an ICU consultation system (ICON), which is linked to the webpage of Department of A&IC. Immediately after urgent patient assessment and resuscitation: - ICU doctors access a Hospital Authority (HA) intranet computer in wards - Click "ICU consultation database" - Logon by user name and password - Submit patient's hospital number with barcode system - Classify patient according to Society of Critical Care Medicine (SCCM) Priority System - Submit patient's quality of life, physiology and diagnoses which for the calculation of the Mortality Prediction Model (MPMO-III) - Record the history and physical examination. A structured ICU consultation reply form involves precise consultation date and time, name and code of assessing doctor, patient's assessment, definite ICU admission decision and the argument behind, and appeal mechanism is printed. The parent team doctors and nurses can act accordance with the suggestions and know who to ring if further dialogue is desired. Periodic introduction on the concept and definitions of terms used in ICONS is conducted to rotating staff to ensure the compliance and accuracy of data collection.

Result

The system was considered user friendly. The rate of using printed ICU consultation reply increased from 16% to over 90%. Apart from producing consultation replies, the platform acted as a handover tool during ICU handover round and consultation information was accessible anytime, anywhere within the hospital. Last but not the least, ICON served as a data source for audit cycles, which could help ICU service improvement and resources planning.