What's Next: The Power of A Smart Solution Incorporated With Electronic Bed Panel And Vital Signs App Leading Beneficial Change To HA Hospitals

TANG PY[1], YU WMW[1], LAI CS[1], WU SY[1], TONG YH[1], LEE CY[1], TSAI PCC[1], WAN CNJ[1], AU WC[1], CHEUNG NT[1]

[1]Information Technology and Health Informatics Division, HAHO, HKSAR

Vital Signs observation is a fundamental activity performed for hospitalized patient every day. Nurses or healthcare assistants perform vital signs measurements and chart readings on paper forms for documentation. Clinical staffs will then interpret vital signs data with other clinical conditions for prescription or treatment. Besides, signage cards with care information have been widely used in hospital wards. Some local hospitals developed their own electronic systems to serve the purpose of displaying patient care information at bedside. However, these silo systems without interfacing with corporate systems require duplication of data entry and subsequent updates by clinical staff. Under the Smart Hospital Program, the project team has started to develop an electronic Bed Panel and Vital Signs application using mobile technology, to facilitate timely and accurate data entry via electronic documentation or machine interface, and provide automatic charting of measured data to allow reviewing of patient's condition anytime and anywhere. The use Bed Panel as a platform for accessing Mobile Clinical Suite for patient record and facilitate safe patient selection in multiple way.

Objectives:

(1)   To digitalize vital signs data and frequencies

(2)   To facilitate timely and accurate data entry

(3)   To facilitate viewing of electronic charts at-a-glance via mobile device

(4)   To interface with other existing clinical systems in the Hospital Authority (HA), such as Patient Assessment Form (Nursing) and (Paediatric), to avoid duplication of data entry

(5)   To facilitate data use for automatic clinical reminder & alerts e.g. early warning score and aberration alert

(6)   To provide Work List for different staffs group at point of care

(7)   To reduce duplication of data entry and transcription error

Result & Outcome:

The project was initiated in Oct-2017 under the Smart Hospital Program and the Smart solution with electronic Bed Panel and Vital Signs app will be piloted in Oct-2019. The design of Vital Signs supported auto-charting of routine and spot-check input and facilitated mobile review by clinician and health care providers. Besides, data capturing by device interface improved efficiency and avoid transcription error. The design of Worklist aids fewer task stages and interpersonal interactions which is time saving to clinical staffs. With the combo effect of electronic Bed Panel as an 'always online' platform with comprehensive patient's record access, the system built a better communication channel for healthcare providers, smooth and more advanced clinical environment and healthcare with the power of data for early recognition of deteriorating patient.