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Clinical-safety-focus Initiative using an Unconventional Approach to Improve the Designs of Item-layout and Item-labeling of Emergency Trolleys to Improve Nursing Efficiency during Emergency Care of Patients

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Introduction

There are 5 new emergency trolleys in 2 Units of Cheshire Home Shatin (SCH). SCH Department of Nursing has a self-reflective concern on the efficiency of current item-layout and item-labeling of emergency trolleys (E-trolleys) upon the comments from the Hospital Quality & Safety Round in Year 2016 (some unclear grouping of items in Drawer 3 & 6, some items were one on the top of others in Drawer 6). A clinical-safety-focus CQI programme is started to restructure the designs of item-layout and item-labeling to improve the nursing efficiency to collect the correct items with shorter time during emergency care of patients.

Objectives

1. To facilitate nurses to have shorter time to collect items from different drawers.
2. To use statistics to support the efficiency of the unconventional designs of item-layout and item-labeling of E-trolleys.

Methodology

1. Establish a CQI programme and select 22 nurses (RN & EN rank) for each convenient sample group (pre-reform control group, post-reform experimental group) from 9 wards of 2 Units (Infirmary Unit & Disabled Unit) for item-collection-time measurements. Every nurse was observed her item-collection-time for the collection of 4 specified items per drawer. The item-collection-time was measured in seconds.
2. Control factors that would affect the results: used same E-trolley, one investigator, same stopwatch and same environment.
3. Apply SPSS statistical software to analyze the data.

Result

Statistical analysis by Mann-Whitney U Test showed P values were smaller than 0.05 for item-collection-time of Drawer No. 2,3 and 6.

The P-values were smaller than 0.0001 for Drawer No. 4 and 5. The results were

statistically significant.

For Drawer No. 1 and PPE rack, the P values were greater than 0.05 and the results were statistically insignificant. The unconventional item-layout design aimed to have clear categorization of items in same drawer to facilitate item collection such as Circulation Support Drawer, Intubation Drawer. There were no item been one on top of others in drawers.

The unconventional item-labeling aimed to create clear, eye-catching word-fonts and be placed in the eye-catching-angles. The item-collection-time results were statistically significant for Drawer No. 2, 3, 4, 5 and 6. This demonstrated the unconventional designs of item-layout and item-labeling of E-trolleys were effective to facilitate nurses to view items clearly in drawers and to read the labels clearly when nurses were not familiar with certain items or items with different sizes. The results showed that the unconventional approach was effective to improve the designs of item-layout and item-labeling of E-trolleys in order to facilitate nurses to have shorter time to collect items during emergency care of patients.