Medication Area Redesign Using Human Factors Principles

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Problem being Addressed

Used as a thoroughfare

Very cluttered and challenging to clean

Prone to distraction during medication preparation

→ risk of human error
Objectives

• To use human factors methodology to redesign a medication preparation and storage area
• To apply these learnings and incorporate human factors principles into a guide for medication area design for our hospital
Methodology

1. Consultation with stakeholders
2. Consultation with experts
3. Data collection
4. Task analysis
5. Design new medication area
6. User trial
7. Refine medication area design & provide technical specifications for build
8. (Develop ‘Medication Room Design Guide’)
Task Analysis

- Task duration and variability
- Task frequency
- Task sequence
- Task allocation
- Task complexity
- Environmental conditions
- Tools required for the task
- User skills, education, and training
Video
Analysis of the Task Analyses

**Nursing Staff**
- Well-lit bench
- Clean environment
- Pull out drawers just like current
- Uncluttered bench with room to lay out required materials
- Out of the way of people flow
- Keep bench at same height
- More storage space
- Clear, structured labelling of medicines
- Quiet area clear from interruptions, but able to hear patient alarms and the phone if necessary

**Pharmacy Technician**
- Trolley gets in the way
- Dividers to separate medicines is important

**Clinical Assistant**
- Uninterrupted access
- More storage space
- Able to restock without interfering with nursing work flow
User Trial

1. Move medication area
2. Move linen trolley
3. Move computer
User Trial

OLD linen trolley area

NEW medication area
User Trial

Linen stored in desk area

Linen trolley placed in hallway
User Trial Feedback

• Overall
  – General acceptance
  – Liked the new space
  – Felt it would provide better patient care

• Suggestions
  – Store some small-volume fluids (100mL) in medication area
  – Need a shelf for a frequently used medication resource
  – Leave the controlled drug safe next to the nursing station
  – Need alcohol gel nearby
  – Move computer to existing medication area (stand up desk)
Final Plan

1. Move medication area
2. Move linen trolley
3. Move computer (stand up desk)
Final Plan

- Install lights in ceiling
- Remove existing overhead cabinets
- Panel(s) of wire baskets
- Sharps caddy
- Bench for medication preparation (no clutter)
- Lock
- Locked medication drawers
- General waste bin

First in Care, Research and Learning

MELBOURNE HEALTH
Using human factors methodology allowed us to:

- Engage all user groups
- Make informed decisions
- Achieve a user-centered design
- Draft a Medication Room Design Guide