Project Title

Distractions Away –To reduce % of Inappropriate distractions for Medication Nurses in Children's Emergency (CE)

Project Lead and Members

Project lead: Ms Andrea Hei Geok Mei

Project members: NC Huang Weili, SNM Lim Sok Lian, DDN Ding Na, A/Prof Sashikumar, Jeslyn Neo, Bernard Wong

Organisation(s) Involved

KK Women's and Children Hospital

Healthcare Family Group(s) Involved in this Project

Nursing, Healthcare Administration, Ancillary Care

Applicable Specialty or Discipline

Healthcare Administrators

Project Period

Start date: Feb 2023

Completed date: May 2023

Aims

To reduce % of Inappropriate# distractions for Medication Nurses at 15 minutes interval from 75% to 25% within 6 months at CE.

Background

The total number of medications administered in CE, KKH totalled to 390 (average). The nursing medication administration involves steps which should be performed without distractions. Due to physical erection of a wall to separate ARI and non-ARI

zone during COVID-19, Passage 11, which was the designated medication administration area experienced high human traffic.

Distraction is defined as unplanned intrusion of secondary task(s) or demands resulting in a temporary suspension of task performance at certain step to completion. Literature has shown that medication nurses are interrupted at work, causing high level of inefficiency in administration of medications. As passage 11 was then the designated medication administration area, the medication nurses were observed to be distracted by frequent interruptions by the caregivers and internal healthcare staff. Such distractions may lead them to making mistakes or medication errors.

Methods

See poster appended/below

Results

See poster appended/below

Conclusion

Distractions not only cause inefficiency in medication administration, it may lead to medication errors by nurses. By redesignating a separate room, redesigning the layout and upskilling the non-medical staff to handle queries, there is a significant reduction in the cognitive load by medication nurses due to inappropriate distractions, which will impact patient safety positively.

It is evident that results were sustainable because this is a 2nd order change whereby the team developed solution(s) that is fundamentally different from previous set-up. A longer time is needed to review the impact of the solutions on the distance between medication errors with root cause – distractions in CE.

Project Category

Care & Process Redesign

Build Environment, Space Planning

Keywords

Nursing Medication Administration, Children Emergency, Redesisgning, Upskilling

Name and Email of Project Contact Person(s)

Name: Ms Jeslyn Neo

Email: Jeslyn.neo.ht@kkh.com.sg

Distractions Away – To reduce % of Inappropriate distractions for Medication Nurses in Children's Emergency (CE)

SNC Andrea Hei[1], NC Huang Weili[1], SNM Lim Sok Lian[1], DDN Ding Na[1], A/Prof Sashikumar[2], Jeslyn Neo[3], Bernard Wong[3]
1: Division of Nursing, 2: Department of Emergency Medicine, 3: Quality, Safety and Risk Management

Background

The total number of medications administered in CE, KKH totalled to 390 (average). The nursing medication administration involves steps which should be performed without distractions. Due to physical erection of a wall to separate ARI and non-ARI zone during COVID-19, Passage 11, which was the designated medication administration area experienced high human traffic.

Distraction is defined as unplanned intrusion of secondary task(s) or demands resulting in a temporary suspension of task performance at certain step to completion. Literature has shown that medication nurses are interrupted at work, causing high level of inefficiency in administration of medications. As passage 11 was then the designated medication administration area, the medication nurses were observed to be distracted by frequent interruptions by the caregivers and internal healthcare staff. Such distractions may lead them to making mistakes or medication errors.

Aim

To reduce % of Inappropriate[#] distractions for Medication Nurses at 15 minutes interval from 75% to 25% within 6 months at CE.

Distractions were categorized as under the following definitions:

a. Internal (21%) – Doctors, nurses or auxiliary staff in white t-shirts
b. External (79%) – Caregivers and patients
c. Definition of [#]**Inappropriate** Distractions – distractions that were non-nursing, or related to medication nurse's responsibilities

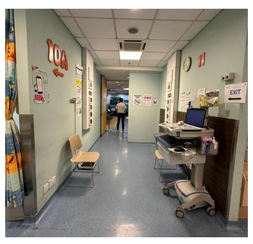
Categories	External	Internal	Total Count
Inappropriate	36	12	48
Waiting Time	9	8	17
Wayfinding	8	2	10
Measure vitals	7		7
Consultation at room 10A	3		3
Personal request	3		3
Miscellaneous	1	1	2
PA system unclear	2		2
Ask for consumable		1	1
Advice on Investigation	1		1
Status of consultation	1		1
Translation for YWB	1		1
Appropriate	22	3	25
Administration of MDI	6	2	8
Pass Samples	8		8
Advice on Medication	4		4
Change to patient's condition	2		2
Status of investigation	1		1
2nd review after medication	1		1
Assistance of investigation			
Grand Total	**58**	**15**	**73**

Methodology

1: Re-designate Room 12 for medication administration

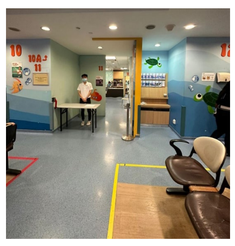
Room 12 re-designated as the medication administration area; this area is enclosed, as compared to Passage 11 which was open

2. Re-design the layout of existing passage 11



Besides the existing MDI station at Observation 1, the existing passage 11 (interior) is segregated to add another area for MDI administration

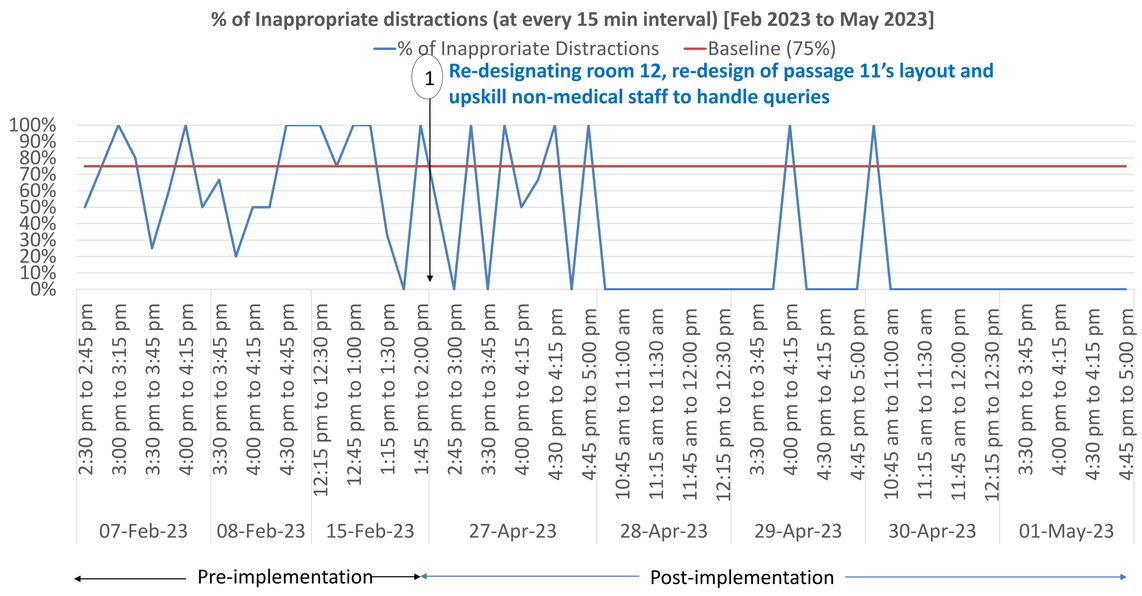
3. Upskill non-medical staff to attend to caregivers' queries



Rostered non medical staff are trained to handle queries ranging from wayfinding, waiting time to consultation and other requests

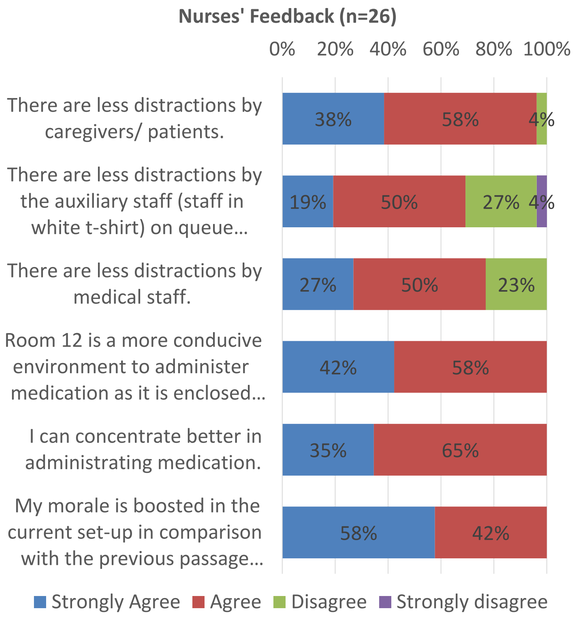
Results

The % of inappropriate distractions for medication nurses at 15 minutes interval was reduced from median of **75%** to **0%.** There was a reduction of the median number of distractions (appropriate and inappropriate) every 15 minutes, from **4** to **0**.



	Before	After
Paracetamol Suspension	13.38	13.50
Salbutamol 100mcg Inhaler	31.20	30.33
Oral Rehydration Salts Solution	17.14	17.03
Ipratropium Br 20mcg Inhaler	34.53	34.41
Ondansetron Ampoule	15.12	14.67
Ibuprofen Syrup	14.58	13.88
Magnesium Carbonate Aromatic Mixture	18.28	17.14
Prednisolone Syrup	18.15	17.29
Dexamethasone Tablet	15.80	15.58
Fleet Enema For Children	18.04	18.08

These solutions had shortened the time to first dose for time-sensitive medications i.e., Salbutamol and Ipratropium inhalers, from 31.20 and 34.53 minutes to **30.33** and **34.41 minutes** respectively. Note that time to first dose is dependent on uncontrollable factors e.g., fretful child or uncontactable caregivers.



More than 90% of nurses' morales were boosted as compared to previous set-up and felt that Room 12 is a conducive environment to serve medications.

Time savings

	Time Savings			
	Time spent per distraction (in minutes)	Median number of distractions (per 15 min interval)	Total number of 15 min interval daily	Time spent daily by medication nurse to handle distractions
Pre-Implementation	2	4	96	2 x 4 x 96 = **768 minutes**
Post-Implementation		0		2 x 0 x 96 = **0 minutes**
Yearly time savings (per SSN Nurse)	768 x 356 = 280,320 minutes or **4,672 hours**			

Because of the reduction in median number of distractions handled by medication nurses from 4 to 0, there is time savings of **768 minutes daily** per medication nurse, and this time saved can be channeled to nursing related activities to provide better care for patients. This translates to **4,672 hours saved per annum**!

Conclusion

Distractions not only cause inefficiency in medication administration, it may lead to medication errors by nurses. By redesignating a separate room, redesigning the layout and upskilling the non-medical staff to handle queries, there is a significant reduction in the cognitive load by medication nurses due to inappropriate distractions, which will impact patient safety positively.

It is evident that results were sustainable because this is a **2nd order change** whereby the team developed solution(s) that is fundamentally different from previous set-up. A longer time is needed to review the impact of the solutions on the distance between medication errors with root cause – distractions in CE.