

# **EVALUATION ON THE FIRST UNIT DOSE DISTRIBUTION MODEL WITH AUTOMATION IN HA: IMPACT ON MEDICATION SAFETY & EFFICIENCY AND THE WAY FORWARD**

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# WHAT IS NEW IN OUR DRUG DISTRIBUTION MODEL?

Medication packaged as Unit Dose:  
Ready for point-of-care  
administration



Daily Cassette Exchange



1-day vs 3-days supply

Automation vs Manual  
dispensing



# HOW WE EVALUATE?



## Satisfaction Survey

- In 2010 (one pilot ward) & 2012 (all pilot wards)



## Monitor Medication Incidents

- 12 months pre- & post- implementation



## Benchmarking with Other Models

- 1 local private hospital and 2 US hospitals



# ENHANCED QUALITY & SAFETY, STREAMLINED MEDICATION-RELATED RESPONSIBILITY

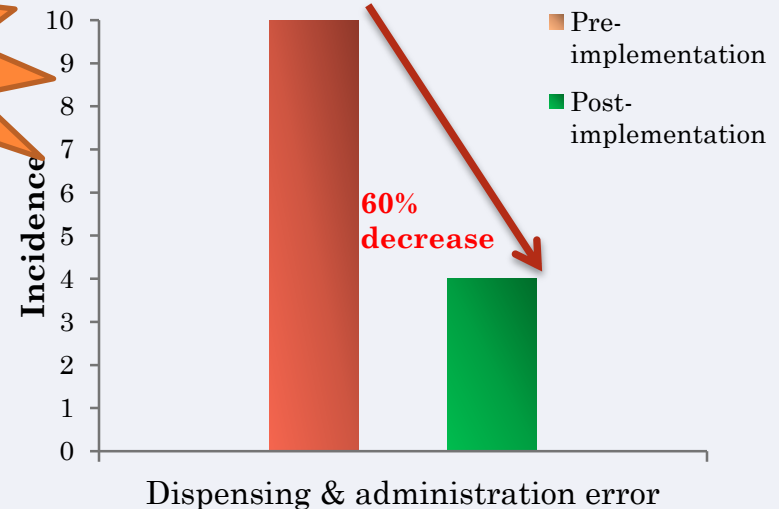
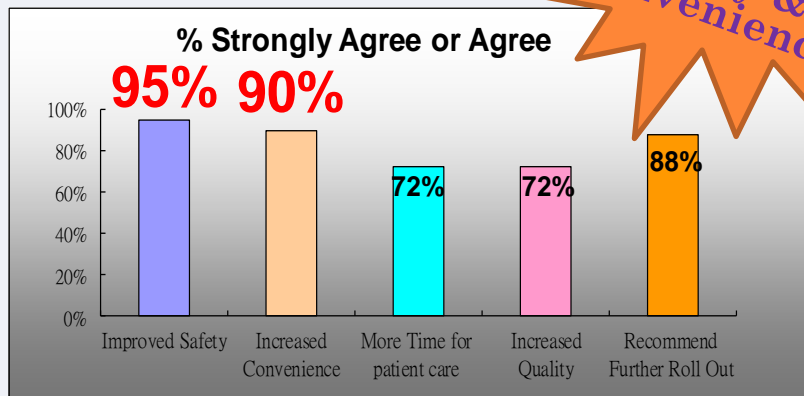
When first implemented (2010)



**75% decrease in nursing time**

spent on medication related duties

In 2012



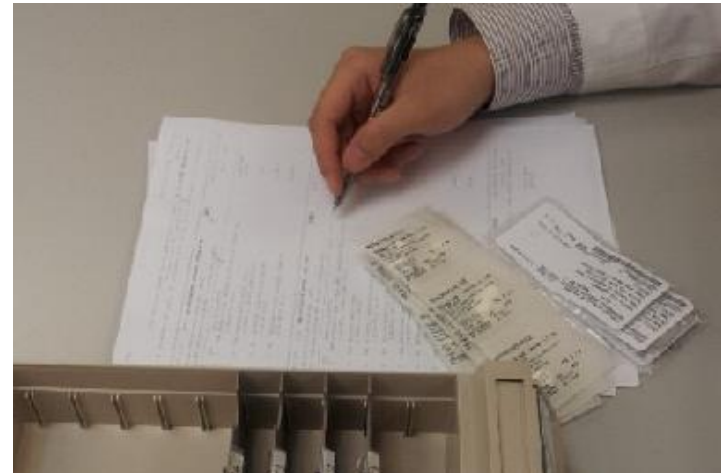
# BENCHMARKING WITH OTHER MODELS

		Tung Wah Hospital (Hong Kong)	Hospital A (Hong Kong)	Hospital B (United States)	Hospital C (United States)
Hospital size		Sub-acute hospital with 560 beds	Community hospital with 120 beds	Acute hospital with 896 beds	Tertiary community hospital with 250 beds
Mode of repackaging and dispensing	Preparation of oral unit-dose medications by automation	Yes	No- manually prepared via Medi-Dose system for all oral solid	Yes	Yes
	Utility of automated packaging machine (capacity)	55% (150, 82 in use)	NA	100% (500)	86% (490, 420 in use)
	Deblistering	No	No	No	-
	Mode of dispensing	Automated dispensing machine + manual pick	Manual pick only	Automated dispensing machine + manual pick	Automated dispensing machine + manual pick
	Manual pick medications	Slow moving and blister packaged	All medications	Medications not included in robot, eg: half tablet	Except the top 360 medications that are not in the dispensing machine
	Patient-specific medication packages	Yes	Yes	No (drug specific, medication picked by robot are tied in a ring with patient information)	No
	Bar-code assisted function	No	Yes	Yes	Yes
	Frequency of cart exchange	Daily with 24hr supply (Monday-Friday)	Daily with 24hr supply	Daily with 24hr supply	Daily with 24hr supply
Mode of distribution	Filling and checking of medication carts	Filled and checked by pharmacists or senior dispensers	Filled and checked by dispensers	By dispensers	Filled by dispensers and random checked by pharmacists (10%) All manual picks are checked by pharmacists
	Availability of ward-stock system	Yes, 8 medications only	Yes	Yes, automated dispensing cabinets	Yes, automated dispensing cabinets

# THE WAY FORWARD



Maximize utility of automation  
(54.7% vs 86-100% in US model)



Train dispensers for checking  
& cart-filling



Bar-code assisted function

