REDUCING MEDICATION ERROR DUE TO LOOK ALIKE, SOUND ALIKE MEDICATION… PRESCRIBING RIGHT

Singapore Healthcare Management 2015

Polyclinics SingHealth

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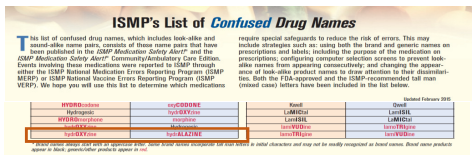
BACKGROUND



LASA (Look Alike Sound Alike) medications may predispose to inadvertent medication / prescription errors. Known interventions include the application of TALLman (mixed case) lettering to differentiate these medications. In the ISMP (Institute of Safe Medication Practices) list of LASA drugs, TALLman lettering has been applied to hydr**OXY**zine and **hydrALAZINE.** However it was brought to our attention that hydrochlorothiazide may be also a LASA and predispose to inadvertent prescribing error.

AIMS

1. To reduce Medication Error due to Look Alike / Sound Alike medications.
   For example: Hydralazine, Hydroxyzine & Hydrochlorothiazide
2. To ensure safer care for patients visiting SingHealth Polyclinics.

METHODOLOGY

Our team adopted tools from **Health Failure Mode Effect Analysis (HFMEA)** and **Human Factors Analysis & Classification System (HFACS) / Human Factor Intervention matriX (HFIX).**

STEP 1: Flowchart process from Prescribing to Dispensing of LASA Medication (Figure 1)

STEP 2: Identify °potential sub processes and failure points using the HFMEA approach
(°Figure 1, highlighted in Purple)

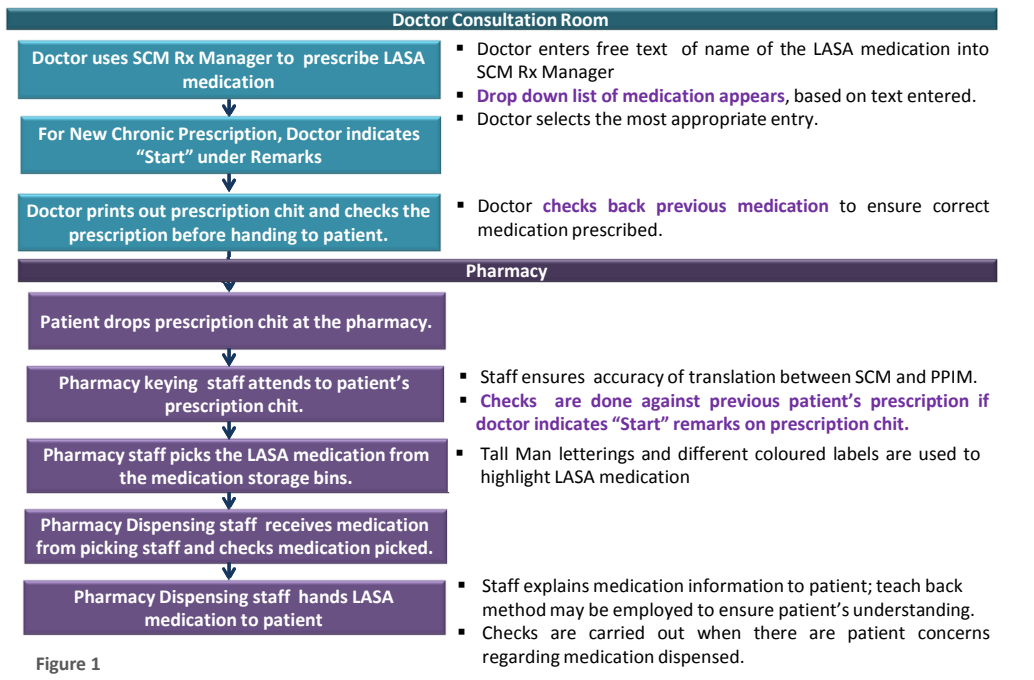


Figure 1

STEP 3: Leverage on HFACs to identify potential systemic causes contributory towards medication error.

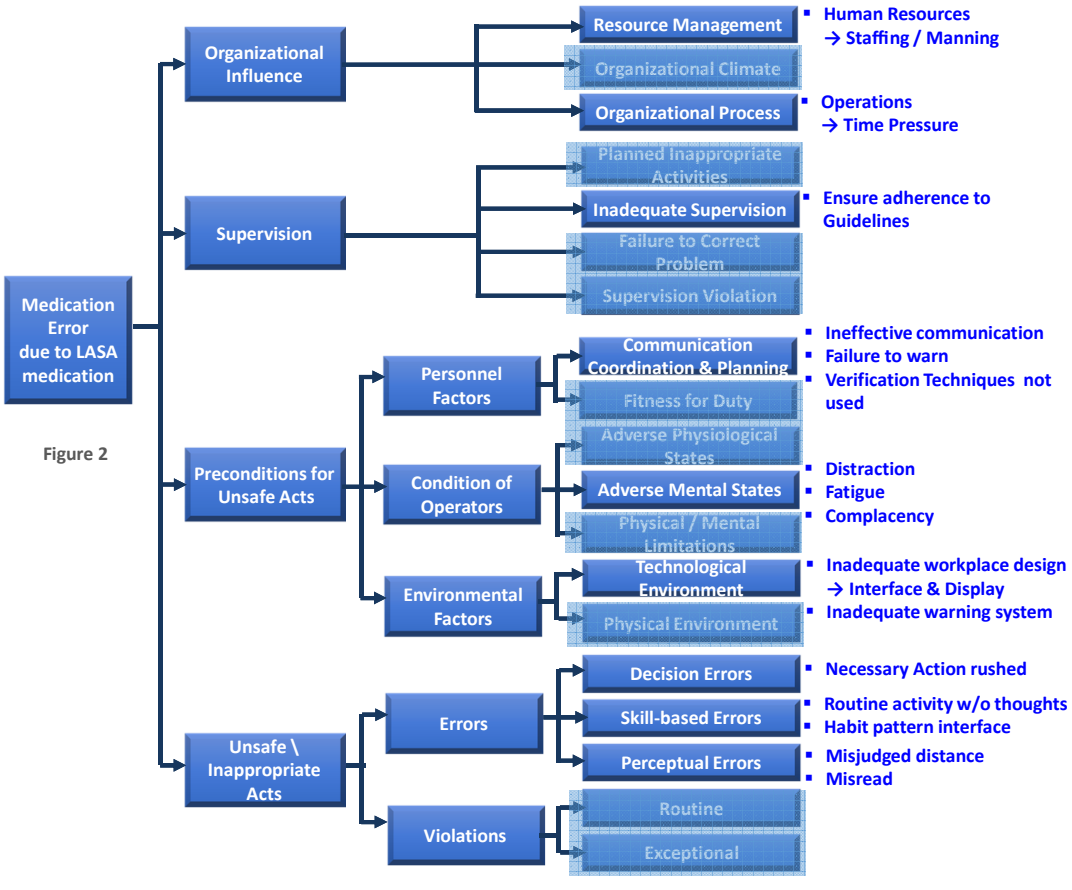
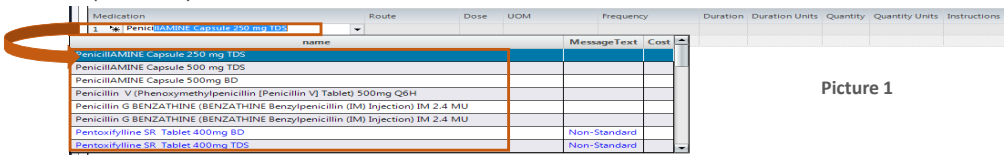


Figure 2

ANALYSIS

Using HFACS (Figure 2, Technological Environment), the team identified concerns at the SCM RxManager interface. The drug name search functionalities may potentially cause wrong drug selection error.

1. Rxmanager does not narrow down drug name dropdown list according to the characters typed in the name field, but displays the entire list based on the first 2 characters typed in. *E.g. When typing in "Penici" under Medication field, the dropdown list shows all drugs with drug name heading as "Pe" instead of narrowing the list to only those drugs containing "Penici" (Picture 1)*



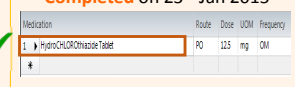
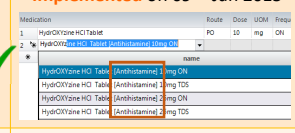
Picture 1

2. Upon entering the drug name, system automatically highlights the first order on the dropdown list in blue whilst the selected order is highlighted in yellow. It may be confusing to the prescriber on which is the intended order when 2 drug names are being highlighted

3. The system defaults the selection of the first order on the dropdown list (the order in blue highlight) when prescriber tabs out without making a selection.

RESULTS

The team leveraged on the use of HFIX to prioritize and develop the intervention plan. (Figure 3)

Categories	Proposed Interventions		*Intervention Prioritization F	A	C	E	S	Total	Outcomes
Task / Procedure	1. Checking of current day prescription (chronic meds) against previous prescription	1.1. Check by pharmacy staff	4	4	2	4	3	17 ✓	Manpower planning
		1.2. Leveraging on IT	#	4	3	4	#	TBC	For exploration with vendors
Technology / Engineering	2. Enhancement of user – IT interface	2.1. Adding Tallman lettering for Hydrochlorothiazide *i. HydrOXYzine [existing] ii. HydrALAzine [existing] iii.HydroCHLOROthiazide[new]*	4	4	5	4	5	22 ✓	**Completed** on 23rd Jan 2015 
		2.2. Adding the extension [Antihistamine] to the drug name to create a visual distinction in the drug name selection process	4	4	5	3	5	21 ✓	**Implemented** on 09th Jan 2015 
		2.3. Medication prescribing System (Rx manager) to be enhanced in terms of drug name search functionalities *i. Narrow drug name dropdown list according to the characters typed in the name field, instead of displaying the entire list based on the first 2 characters typed in.*	4	5	2	3	5	19 ✓	Narrow drug name dropdown list **accepted, proposed timeline being end FY15.**
		ii. No highlight of first drug name on the dropdown list in blue as a default iii.No auto-select of the first name on the list	#	5	#	3	5	TBC	Proposal not accepted.
Technical / Physical Environment	Nil		-	-	-	-	-	-	NA
Human / Crew	3. Doctors to adhere to Prescribing guidelines – by indicating remark for START of Chronic meds		3	3	5	4	3	18 ✓	**Reinforced during management meeting** on 27th Jan 15. Message to be cascaded to clinic doctors.
Organization / Supervisory	4. Manpower Planning to factor in resource for the checking of current day prescription (chronic meds) against previous prescription by pharmacy staff.		4	4	2	4	3	17 ✓	Manpower planning

*Intervention Prioritization – F: Feasibility; A: Acceptability; C: Cost; E: Effectiveness; S: Sustainability
Unable to determine – Need to explore platform for enhancement or check on system capability.

Figure 3

CONCLUSION

The HFACS provided a structured framework for consideration of potential contributory factors to prescription error of LASA medications, and the use of the HFIX tool assisted in the prioritization of implementation of recommendations as a result of the analysis.
It is important to leverage on IT, to enhance the user interface to assist the prescriber.
Recognizing that an error may pass through the layers of the Swiss cheese, there is also consideration of checks (by staff or leveraging on IT) in recommendations of mitigating controls.

There has been no reported medication error related to the prescribing of LASA medications since awareness was raised and the implementation of the above interventions.