Therapeutic Substitutions: A review of both current state and recommendations from Cerner

2/5/2019

Situation: Pharmacists cannot easily identify therapeutic substitutions (T-subs) that are not mapped exactly.

Background: Therapeutic substitution functionality in Cerner works well when the T-subs are matched in the build. When there is not an exact match, the system will suggest possible T-sub options and the wording indicates the provider should choose one of these suggestions. We have examples when the system suggested T-sub was not appropriate. The pharmacist cannot tell whether the T-sub was an exact match in our build or one of these system generated possible T-sub matches.

Assessment: T-sub functionality is essential for pharmacy efficiency but the inability to identify the non-exact matches creates a patient safety concern.

Recommendation:

Option 1: Use the function that allows T-sub to not be required, but only display the t-sub option window when there is no exact match. Currently the window presents every time when the t-sub is not required, even when there is an exact match built. This would allow the user to decline the substitutions and pass the complete original order to pharmacy for evaluation. This has less risk and is safer then the pharmacy to dose option.

Option 2: There should be an indicator to pharmacy when a T-sub is not an exact match and the wording on the system suggested possible match should be changed in Powerchart. Our suggestions would be to highlight the (No Exact Match) statement and provide the user more guidance on what to do.

Concerns with Current State – Examples

Below are examples of order issues that occurred at Concord Hospital within the last several months due to the current configuration of the therapeutic substitution functionality.

Original Order			What the provider ordered due to lack of clarity in window		
Patient A:					
Lisinopril-HCTZ 20-12.5	2 tabs	every morning	Lisinopril	20 mg	at bedtime daily
			HCTZ	12.5 mg	at bedtime daily
Patient B:					
Bupropion SR (12hr)	200 mg	1 tab every morning	Buproprion ER (24hr)	450 mg	1 tab daily
Patient C:					
Metoprolol-HCTZ 100-25	1 tab	at bedtime daily	Hydrochlorothiazide	25 mg	daily
			Metoprolol tartrate	100 mg	daily
Metoprolol succinate 100 mg	1 tab	daily	Metoprolol succinate	100 mg	daily

Concerns with Current State - Powerchart

In our current configuration, the provider is forced to pick a therapeutic substitution when no exact match is found, even if the other options are not appropriate. The font and language in the window also do not convey the gravity that the provider is ordering a dose that does not match the patient's home dose.

Concerns with Current State – Meds Manager

During order verification, it is not clear to the pharmacist that the provider ordered a dose that is not the home dose. The pharmacist must click into the therapeutic substitution icon, and even this is not particularly clear.

In this scenario, we do not know if this order was placed due to an error in the t-sub selection window, or if this was an intentional dose increase of the patient's home medication.

Pharmacy to dose option - Powerchart issue:

The user is **required** to choose a recommended dose from the list (even though none of them are appropriate) before the Pharmacy to Dose button can be clicked. We would be more amenable to this option if the user was not required to pick a non-matching substitution.

Pharmacy to dose option - Powerchart issue:

If the Pharmacy to Dose option could be utilized without the user having to select an order when there is not a match found in the T-sub tool, that would be ideal.

Pharmacy to dose option – Meds Manager issues:

When resolving a Pharmacy to Dose order, the pharmacist cannot see the original details of the documented home medication. When clicking on the t-sub icon, the pharmacist is only presented with the order that was placed in the prior screen, NOT the original home dose. The original order details in the bottom-most fields should contain the home medication details as they were documented in Powerchart.

Leveraging whether or not a T-sub is required:

When a therapeutic substitution is not flagged as being required, the provider is forced to click OK, even when there is an exact match built. We would be more amenable to leveraging this option if the provider only had a screen appear when there was NOT an exact match.

Leveraging whether or not a T-sub is required:

Our ordeal scenario would be to have a window that lets the provider decline the substitution ONLY when there is no exact match, as the decline workflow works smoothly and continues the order with the original, accurate order details.