

# MODES OF MEDICATION ERRORS

## Cumulative Cause Map

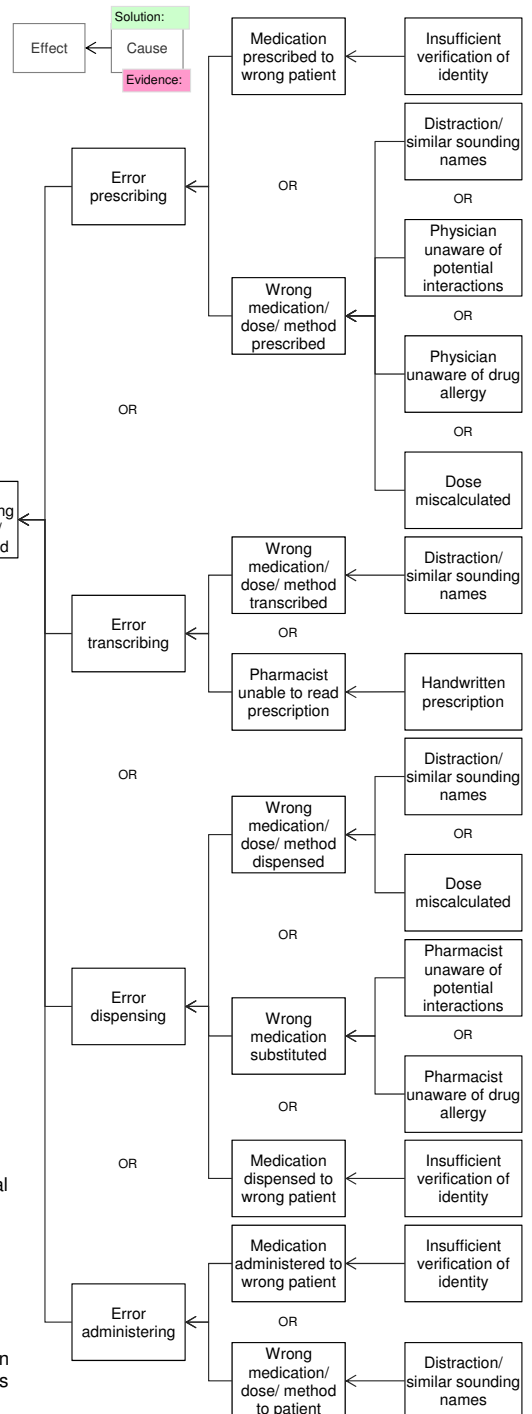
Despite continuing efforts to reduce patient safety impacts from medical errors, more work is needed to make patients safer. One of the areas which has been identified as a key safety issue is that of medication errors within healthcare facilities. A Cumulative Cause Map can be used to identify the causes of medication errors proactively (before incidents occur) based on industry experience, including past errors. In this case, the term "medication error" is used to refer collectively to errors that result in patients receiving the wrong medication, patients receiving medication prescribed for another patient, patients receiving the wrong dose of the correct medication or having the correct medication delivered by the wrong route, and patients receiving medication to which they have a known allergy or has a negative interaction with another medication the patient is known to be taking.

### 1 Problem

|                     |  |  |
|---------------------|--|--|
| What                | Problem(s)   | Medication Errors  |
|                     | When   | Proactive  |
| Where               | Facility, site   | Medical staff interrupted during process as often as once every 2 minutes (per ISMP); risk of error increases 12.7% with each interruption |
|                     | Unit, area, equipment  | Proactive  |
| Impact to the Goals | Task being performed   | Medical Facility   |
|                     |  | Delivery of medication   |
| Patient Safety      | Potential for patient death or serious harm  |  |
|                     | Potential for second victim/ legal action  |  |
|                     | "Never event"/ potential for legal action  |  |
|                     | Patient receipt of wrong medication  |  |
|                     | Additional hospital stay costs (2006 dollars)  | \$8,750  |
| Frequency           | On average, hospitalized patients are subject to at least one medication error per day (IOM) | This incident \$8,750<br>Annualized Cost >-\$1B  |

### 2 Analysis

Cumulative Cause Map - Captures potential failure modes.



### 3 Solutions

| No. | Action Item  | Cause  |
|-----|--|--|
| 1   | Reduce interruptions of workers delivering medication                    | Distraction  |
| 2   | Verify patient identity and match to medical record/ care instructions   | Insufficient verification of identity                          |
| 3   | Include brand name, generic name and use on prescription                 | Similar sounding names/ Pharmacist unable to read prescription |
| 4   | Ensure drug allergies/ current medications up to date in patient records | Unaware of drug allergies/ potential interactions              |

By looking at the causes that come up again and again in the proactive analysis, steps for improvement at each level of the process can be identified. According to the Institute for Safe Medication Practices, every interruption increases the risk of medication error 12.7%, and medical staff can be interrupted as often as every two minutes while working on the medication delivery process. For this reason many hospitals are trying to reduce interruptions of medical staff during this process by various means. Ensuring that the right patient is matched to the medical record/ care instructions at every step of the process can reduce medication being administered to the wrong patient. The use of non-handwritten prescriptions and including both the drug's brand name, generic name and purpose can also reduce the risk of the wrong drug being administered. Ensuring that drug allergies are clearly captured within a patient's records (and potentially on the patients themselves, in the form of a wristband) and that a current medication list is up to date can reduce the risk of drug reactions. An organization's experience with these different types of errors will allow it to determine what level of control over each cause is necessary to reduce the risk to

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