Medication Safety in Primary Care

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Institute of Medicine Quality Chasm Series

To Err Is Human, 1999

- Hospital medical errors kill 44,000-98,000 people per year

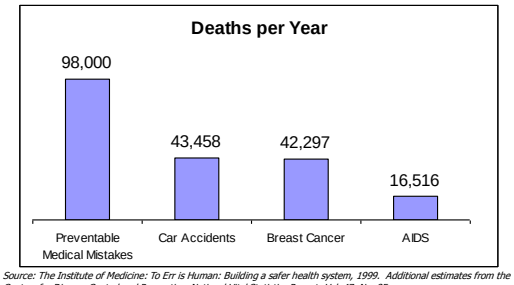
Crossing the Quality Chasm, 2001

- A vision for how the health care system must be radically transformed to close the chasm between current reality and good quality care

Preventing Medication Errors, 2006

- Medications harm too many – at least 1.5 million people per year

Preventable medical mistakes cause more deaths per year than car accidents, breast cancer or AIDS

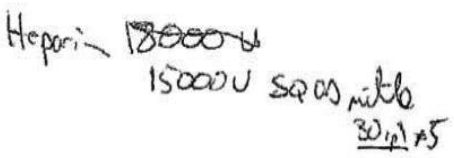


Source: The Institute of Medicine: To Err is Human: Building a safer health system, 1999. Additional estimates from the Centres for Disease Control and Prevention, National Vital Statistics Reports Vol. 47 No. 25

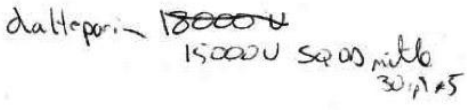
Barriers to Medication Safety in Primary Care

- Medications prescribed by others
  - OTC availability (50 Tylenol brand products)
- Herbals/supplements
- Illegal procurement
- Financial barriers (esp on hospital discharge)
- List of side effects
- E prescribing

Prescription for anticoagulant as *received* by fax at a community pharmacy



Prescription for anticoagulant as *sent* by the hospital

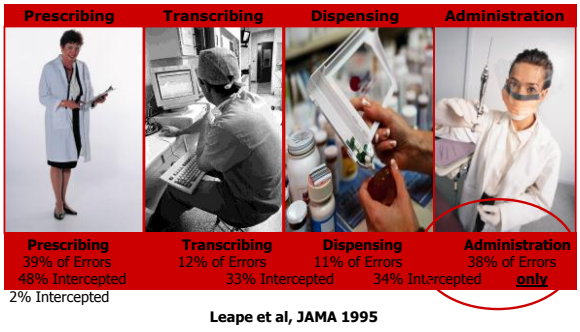


Eliminate Use of Dangerous Abbreviations, Symbols, and Dose Designations
ISMP Canada Safety Bulletin July 16, 2006 Volume 6, Issue 4
http://www.ismp-canada.org/download/safetyBulletins/ISMPCSB2006-04Abbr.pdf

9- Patient Education

- Interpreting medication orders
  - 42% could not understand 'take on empty stomach
  - 33% could not interpret correct amount of medication to take
  - 23% could not determine number of refills remaining
  - 13% could not understand directions to take medication 4 times a day

Where do Errors Occur?



Leape et al, JAMA 1995

Hierarchy of Effectiveness **(Summary)**

1. Forcing functions and constraints
2. Automation / computerization
3. Simplification / standardization
4. Reminders, checklists, double checks
5. Rules and policies
6. Education and information

The Person Approach

"The person approach focuses on the errors of individuals, blaming them for forgetfulness, inattention, or moral weakness." *J. Reason, March 18, 2000, BMJ*

- Historically focused on individual performance and not system issues
- Front line staff often not involved in the review of an adverse event
- Partial or incomplete "solutions" that do not fully resolve the underlying cause and leave the organization vulnerable to reoccurrence of the event
- Fear of reprisals drives important information underground

Systems-Approach

Focus on improving the processes, systems, and environment in which people work rather than attempting only to improve individual skills and performance

Recognizes that:

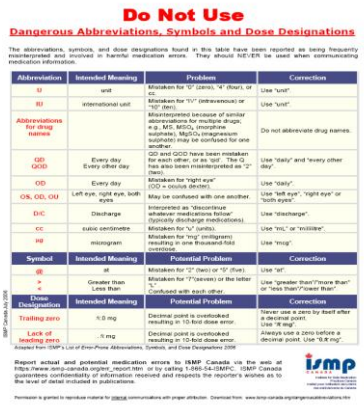
- Humans are incapable of perfect performance
- Accidents are caused by flaws in the working environment (system) and human errors that are an expected part of any working environment
- Accidents can be prevented by building a system that is resilient to expected human errors

Shared Accountability: "Just Culture"

"…while we as humans are fallible, we do generally have control of our behavioural choices."

"…good system design and good behavioural choices of staff together produce good results. ***It has to be both."***

Marx D, Comden SC, Sexhus Z (2005). Our inaugural issue – In recognition of a growing community. The Just Culture Community News and Views, 1(1).



Do Not Use

Dangerous Abbreviations, Symbols and Dose Designations

The abbreviations, symbols, and dose designations found in this table have been reported as being frequently misinterpreted and involved in harmful medication errors. They should NEVER be used when communicating medication information.

Abbreviation	Intended Meaning	Problem	Correction
U	unit	Mistaken for "0" (zero), "4" (four), or cc	Use "unit"
IU	international unit	Mistaken for "IV" (intravenous) or "10" (ten)	Use "unit"
Abbreviations for drug names		Misinterpreted because of similar abbreviations for multiple drugs, e.g., MS, MSO_4 (morphine sulphate), $MgSO_4$ (magnesium sulphate) may be confused for one another	Do not abbreviate drug names.
QD QOD	Every day Every other day	QD and QOD have been mistaken for each other, or as "qid". The Q has also been misinterpreted as "2" (two).	Use "daily" and "every other day".
OD	Every day	Mistaken for "right eye" (OD = oculus dexter).	Use "daily".
OS, OD, OU	Left eye, right eye, both eyes	May be confused with one another.	Use "left eye", "right eye" or "both eyes".
D/C	Discharge	Interpreted as "discontinue whatever medications follow" (typically discharge medications).	Use "discharge".
cc	cubic centimetre	Mistaken for "u" (units).	Use "mL" or "millilitre".
mg	microgram	Mistaken for "mg" (milligram) resulting in one thousand-fold overdose.	Use "mcg".

Symbol	Intended Meaning	Potential Problem	Correction
@	at	Mistaken for "2" (two) or "5" (five).	Use "at".
>	Greater than	Mistaken for "7" (seven) or the letter "L".	Use "greater than"/"more than" or "less than"/"lower than".
<	Less than	Confused with each other.	

Dose Designation	Intended Meaning	Potential Problem	Correction
Trailing zero	X.0 mg	Decimal point is overlooked resulting in 10-fold dose error.	Never use a zero by itself after a decimal point. Use "X mg".
Lack of leading zero	.X mg	Decimal point is overlooked resulting in 10-fold dose error.	Always use a zero before a decimal point. Use "0.X mg".

Adapted from ISMP's *List of Error-Prone Abbreviations, Symbols, and Dose Designations 2008*

Report actual and potential medication errors to ISMP Canada via the web at https://www.ismp-canada.org/err_report.htm or by calling 1-866-54-ISMP. ISMP Canada guarantees confidentiality of information received and respects the reporter's wishes as to the level of detail included in publications.

ISMP Canada

Case of S.C. – from Central CCAC project

Resuming home medications that were stopped (but someone forgot to tell!)

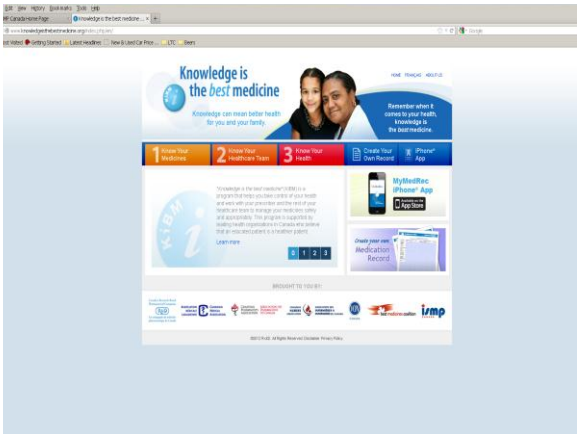
- Had been admitted for a fall
- Filled her new prescriptions and resumed her home medications (now taking 3 medications to lower B.P. and heart rate) – high risk of bradycardia
- MD contacted, orders to stop medication implemented

Case of D.N.-
Lack of medication monitoring

- Discharged home on warfarin
- Was unable to get out to lab due to physical exhaustion / weakness
- Was aware of risks of too much warfarin – so stopped taking after 6 days
- In home INR testing not set-up at discharge
- Family MD was advised, accepted responsibility for dosing/monitoring – in home lab arranged until patient was able to go to outside lab

To Err is Human. . .

"We cannot change the human condition, but we can change the conditions under which humans work." – *James Reason*




SafeMedicationUse.ca
SUPPORTED BY HEALTH CANADA
Help Prevent Harmful Medication Incidents
Contact Us | Français
A pilot project of the Canadian Medication Incident Reporting and Prevention System (CMIRPS)
Home
Report an Incident
Alerts
Newsletter
Safety Tools and Resources
About Us
Preventing harm from medication incidents is a responsibility of health professionals. Consumers like you can also play a vital role.
Reporting Medication Incidents benefits all Canadians.
REPORT NOW
About SafeMedicationUse.ca
About Medication Incidents
Why Report?
Resolving Concerns About the Safety of Your Care
Frequently Asked Questions (FAQs)
Your privacy
Sign up to receive the latest Alerts and Newsletters:
Your Email
SIGN UP
Tell Us How We're Doing:
TAKE THE SURVEY
Pilot funding provided by Health Canada
Found a safety concern?
Why Report?
LEARN MORE
Latest News and Resources
Are You Taking the Right Amount of Water With Your Medicine? 2012-08-27
Health Canada Endorsed Important Safety Information about potential device failure with Pulmicort Turbuhaler 2012-07-26
Take Care with Medicine Patches! 2013-07-04
Health Canada Endorsed Important Safety Information on the Dangers Associated with the Use of Counterfeit Drugs 2012-06-22
Preventing Harm from Drug Interactions: Consumers Can Play an Important Role 2012-06-14
Check Labels Carefully When Selecting Gravol Products! 2012-05-04
Consumer Catches Error Involving Similar Medicine Names 2012-05-01
Cough and Cold Preparations: Use with Care! 2012-03-26
Health Canada is advising Canadians that Sandoz Canada is recalling a partial lot of 2mg/mL (1 mL) Morphine Sulfate Injection 2012-03-22
Health Canada is informing Canadians of Vita Health Products' voluntary recall of the "combo pack" of Rexall Extra Strength Sinus Relief Daytime and Nighttime 2012-03-12
Know What to Do if You Are Allergic to a Medicine! 2012-03-08
Health Canada Endorsed Important Safety Information on Domperidone Maleate