# PATIENT SAFETY

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COMM 421, MARCH 5, 2017

BASED ON

WHO PATIENT SAFETY CURRICULUM GUIDE: MULTI-PROFESSIONAL EDITION

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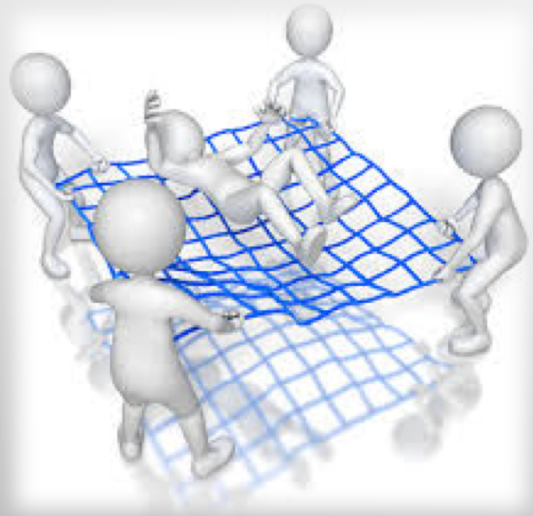


## Learning objective

- Understand the discipline of patient safety and its role in minimizing the incidence and impact of adverse events, and maximizing recovery from them

- Understand human factors and its relationship to patient safety

# What is patient safety?

Patient Safety Is

- Absence of preventable harm: avoidance of errors in clinical care resulting in injury to our patients

Patient safety is a discipline in the health care sector that applies safety science methods toward the goal of achieving a trustworthy system of health care delivery. Patient safety is also an attribute of health care systems; it minimizes the incidence and impact of, and maximizes recovery from, adverse events.

# What is an error?

- The failure of a planned action to achieve its intended outcome
- A deviation between what was actually done and what should have been done

- James Reason stated a definition that may be easier to remember is:

  “Doing the wrong thing when meaning to do the right thing”.

# Learning from errors to prevent harm

# Error

A simple definition is:
“Doing the wrong thing when meaning to do the right thing.”

A more formal definition is:
“Planned sequences of mental or physical activities that fail to achieve their intended outcomes, when these failures cannot be attributed to the intervention of some chance agency.”

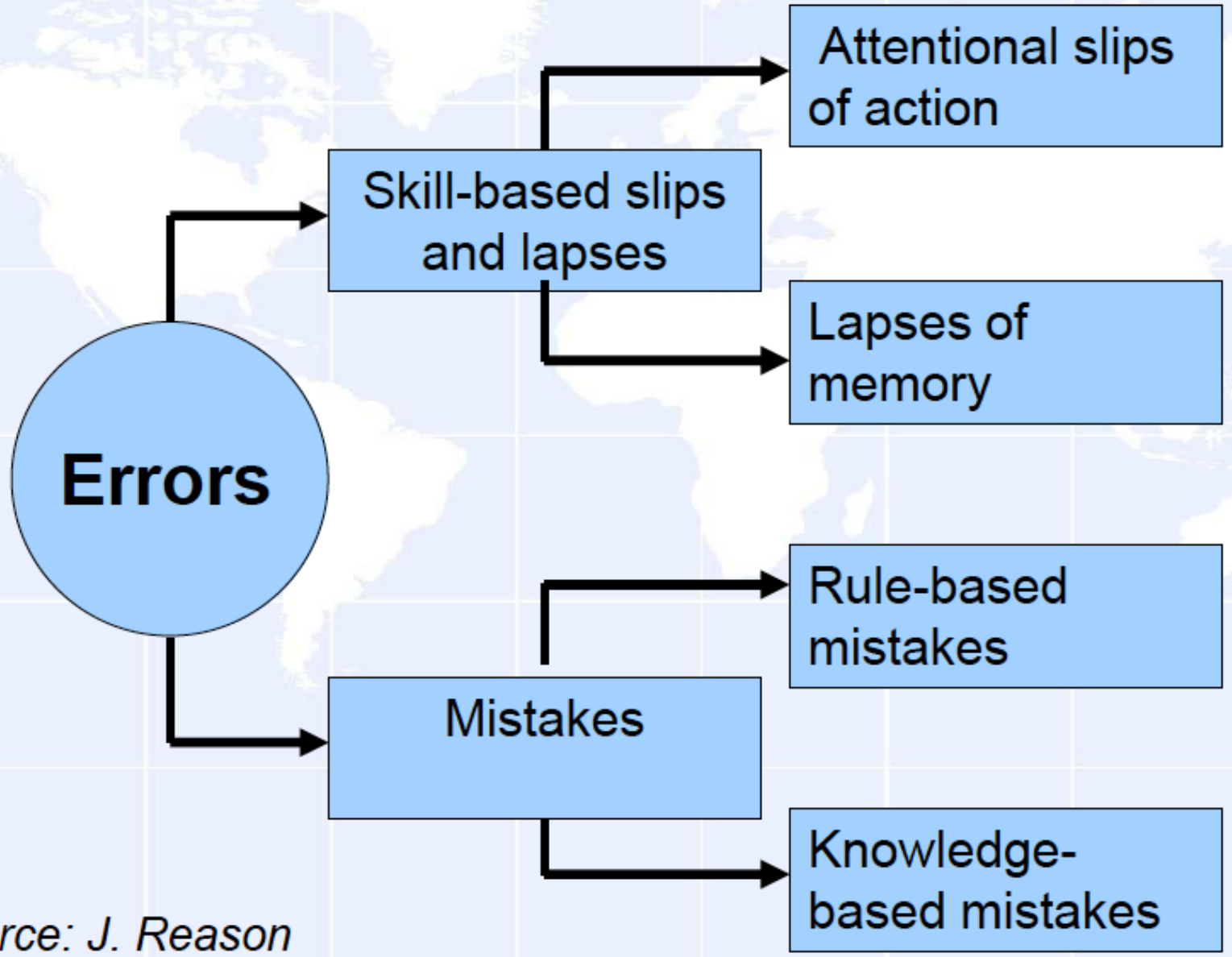
Note: violation
A deliberate deviation from an accepted protocol or standard of care

# Errors and outcomes

Errors and outcomes are not inextricably linked:

- Harm can befall a patient in the form of a complication of care without an error having occurred
- Many errors occur that have no consequence for the patient as they are recognized before harm occurs

# Summary of the principal error types




*Source: J. Reason*

# Person approach to errors

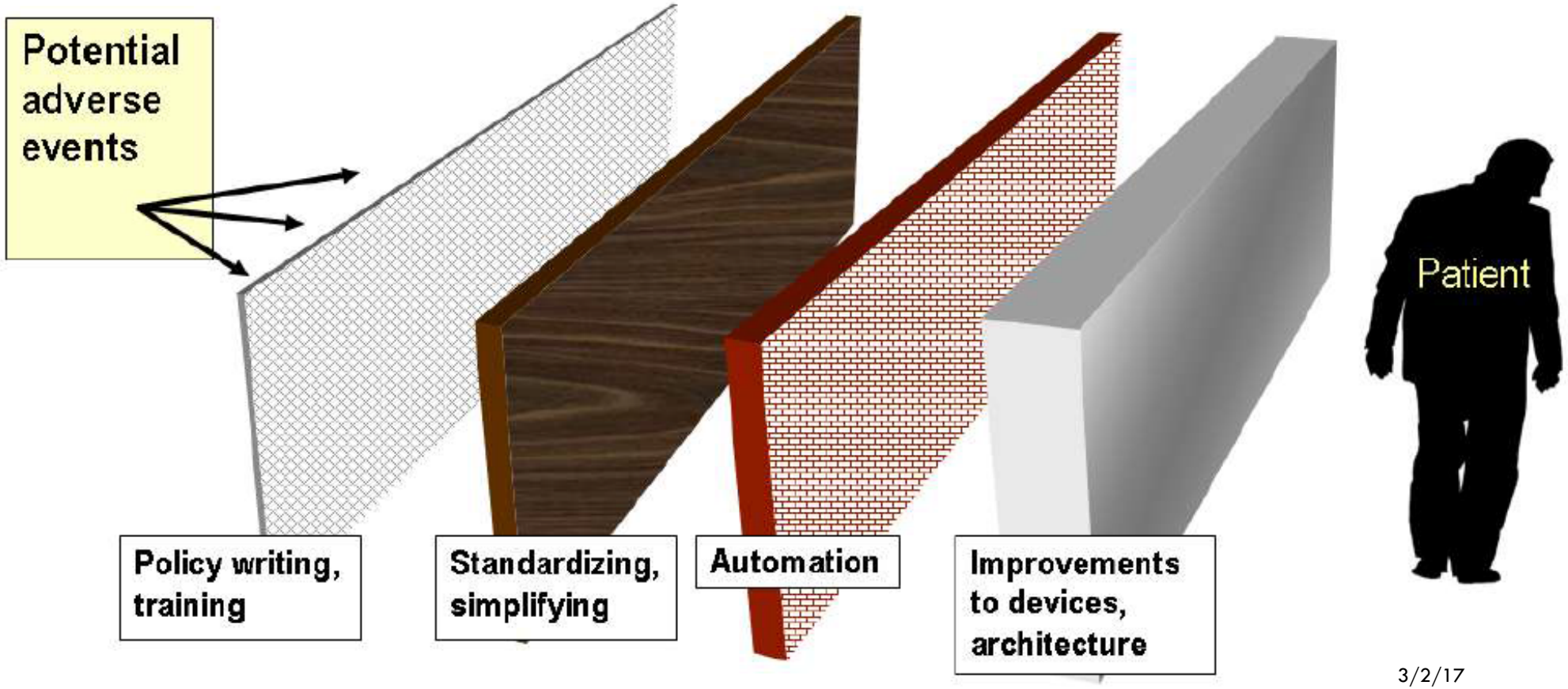
- See errors as the product of carelessness
- Remedial measures directed primarily at the error-maker
  - Naming
  - Blaming
  - Shaming
  - Retraining

# The new approach to errors

Multiple factors :

- Patient factors
- Provider factors
- Task factors
- Technology and tool factors
- Team factors
- Environmental factors
- Organizational factors

# Reason's - Defences




*Source: Veteran Affairs (US) National Center for Patient Safety*

# Why applying human factors is important for patient safety


## Human factors

Importance of human factors has been recognized for a long time in:

- Aviation
- Manufacturing
- Military

# Human factors: importance in health care

- Human factors only recently acknowledged as an essential part of patient safety
- A major contributor to adverse events in health care
- All health-care workers need to have a basic understanding of human factors principles

# Human factors

- Acknowledges:
  - The universal nature of human fallibility
  - The inevitability of error
- Assumes that errors will occur
- Designs things in the workplace to try to minimize th likelihood of error or its consequences

# Individual factors that predispose to error

1. Limited memory capacity
2. Further reduced by:

- Fatigue (24 hrs of sleep deprivation has performance effects ~ blood alcohol content of 0.1%

Source: D. Dawson, Nature, 1997

  - Stress
  - Hunger
  - Illness
  - Language or cultural factors
  - Hazardous attitudes

# Situations associated with an increased risk of error

- unfamiliarity with the task* (Especially if combined with lack of supervision)
- inexperience* (Especially if combined with lack of supervision)
- shortage of time
- inadequate checking
- poor procedures
- poor human equipment interface

# Human beings make “silly” mistakes

Activity

Think about any “silly” mistakes you have made recently when you were not in your place of work or study - and why you think they happened.

Regardless of their experience, intelligence, motivation or vigilance, people make mistakes

# Putting knowledge of human factors into practice

1. Apply human factors thinking to your work environment
2. Avoid reliance on memory
3. Make things visible
4. Review and simplify processes
5. Standardize common processes and procedures
6. Routinely use checklists
7. Decrease reliance on vigilance

# Examples adversely affect patient safety

- Prescribing and dispensing
- Hand-over/hand-off information
- Move patients
- Order medications electronically
- Prepare medication

If all of these tasks become easier for the health-care provider, then patient safety can improve


Medication
Safety

# Improving medication safety

Medications can greatly improve health when used wisely and correctly

- Yet, medication error is common and is causing preventable human suffering and financial cost
- Remember that using medications to help patients is not a risk-free activity
- Know your responsibilities and work hard to make medication use safe for your patients

# Rationale

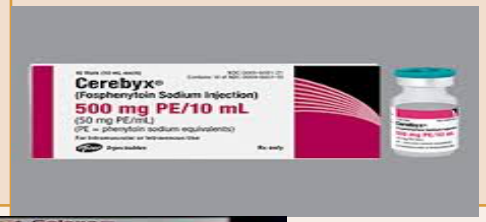
- Medication use has become increasingly complex in recent times
- Medication error is a major cause of preventable patient harm
- As future health-care workers, you will have an important role in making medication use safe

# Avoidable confusion is everywhere…

# How can prescribing go wrong?

- Inadequate knowledge about drug indications and contraindications
- Not considering individual patient factors, such as allergies, pregnancy, co-morbidities, other medications
- Wrong patient, wrong dose, wrong time, wrong drug, wrong route
- Inadequate communication (written, verbal)
- Documentation - illegible, incomplete, ambiguous
- Mathematical error when calculating dosage
- Incorrect data entry when using computerized prescribing e.g. duplication, omission, wrong number

# Look-a-like and sound-a-like medications

| | |
|---|---|
| Avanza (mirtazapine, antidepressant); | Avandia (rosiglitazone, diabetes medicine) |
|   |   |
| Celebrex (celecoxib, anti-inflammatory); | Cerebryx (fosphenytoin, anticonvulsant); |
|   |   |
| Celexa (Citalpram, antidepressant) |  |

# Ambiguous nomenclature

| Tegretol 100mg | Tegreto 1100 mg |
|---|---|
| S/C | S/L |
| 1.0 mg | 10 mg |
| .1 mg | 1 mg |

# Avoiding ambiguous nomenclature

- Avoid trailing zeros e.g. write 1 not 1.0
- Use leading zeros e.g. write 0.1 not .1
- Know accepted local terminology
- Write neatly, print if necessary

## Administration involves …

- Obtaining the medication in a ready-to-use form; may involve counting, calculating, mixing, labeling or preparing in some way
- Checking for allergies
- Giving the Right Medication to the Right Patient, in the Right Dose, via the Right Route, at the Right Time
- Documentation


Routes of Drug Delivery
Parenteral
Subcutaneous (SC)
Intramuscular (IM)
Tissue
Intraosseus
Blood
Intravenous (IV)
Intra-arterial (IA)
CSF
Intrathecal (IT)
Intracerebroventricular (ICV)
Topical
Transdermal
Enteral (PO)
Other
epideural
Intraperitoneal (IP)
Mucous membrane
intranasal
rectal (PR)
urinary
reproductive tract
pulmonary (inhalation)
intra-aural
intratracheal
intraocular
sublingual (SL)

# Ways to make medication use safer

What you can do to make medication use safer:

1. Use generic names
2. Tailor prescribing for individual patients
3. Learn and practice collecting complete medication histories
4. Know the high-risk medications and take precautions
5. Be very familiar with the medications you prescribe
6. Use memory aids
7. Remember the 5 Rs
8. Communicate clearly
9. Develop checking habits
10. Encourage patients to be actively involved
11. Report and learn from errors

# Encourage patients to be actively involved in the process

1. When prescribing a new medication provide patients with the following information:
   - Name, purpose and action of the medication
   - Dose, route and administration schedule
   - Special instructions, directions and precautions
   - Common side-effects and interactions
   - How the medication will be monitored
2. Encourage patients to keep a written record of their medications and allergies
3. Encourage patients to present this information whenever they consult a doctor

# How can drug administration go wrong?

1. Wrong patient
2. Wrong route
3. Wrong time
4. Wrong dose
5. Wrong drug
6. Omission, failure to administer
7. Inadequate documentation

# Which patients are most at risk of medication error?

1. Patients on multiple medications
2. Patients with another condition, e.g. renal impairment, pregnancy
3. Patients who cannot communicate well
4. Patients who have more than one doctor
5. Patients who do not take an active role in their own medication use
6. Children and babies (dose calculations required)

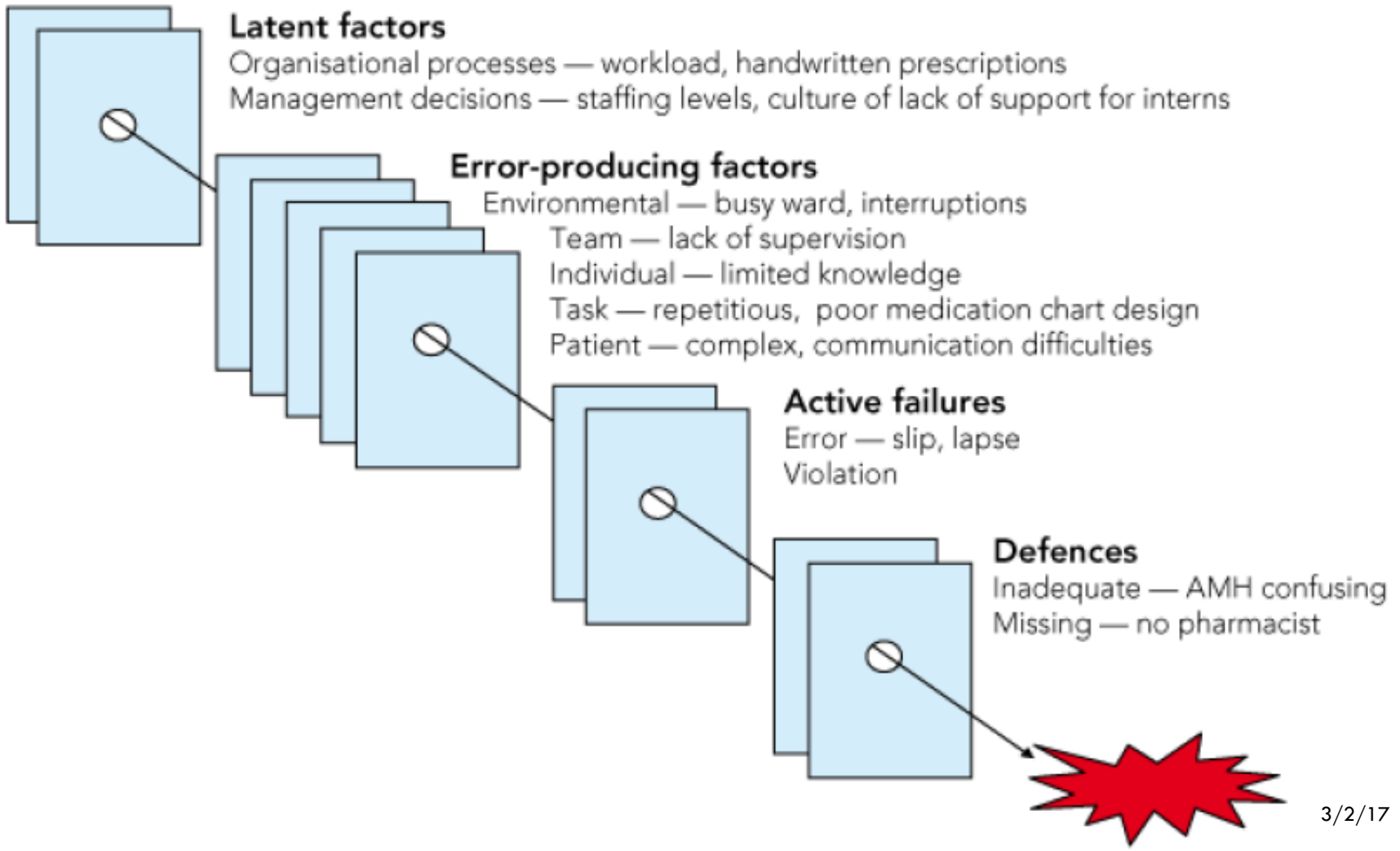
# In what situations are staff most likely to contribute to a medication error?

1. Inexperience
2. Rushing
3. Doing two things at once
4. Interruptions
5. Fatigue, boredom, being on “automatic pilot” leading to failure to check and double-check
6. Lack of checking and double checking habits
7. Poor teamwork and/or communication between colleagues
8. Reluctance to use memory aids

# Calculation errors

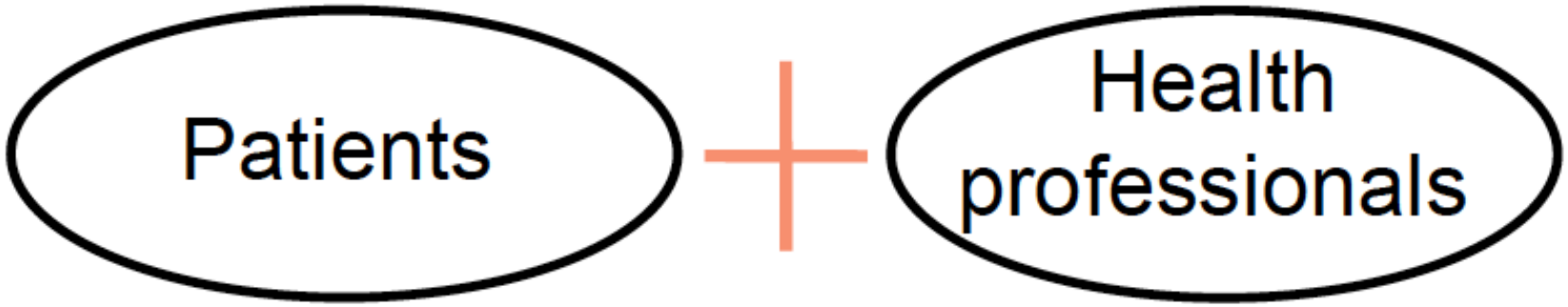
A 12 kg, 2-year-old boy requires 15 mg/kg of a medication that comes as a syrup with a concentration of 120 mg/5mls. How many mls do you prescribe?

# Swiss cheese model (1)




*Source: Why do interns make prescribing errors? A qualitative study MJA 2008; 188 (2): 89-94*
*Ian D Coombes, Danielle A Stowasser, Judith A Coombes and Charles Mitchell*
*Adapted from J. Reason's model of accident causation*

# Communicating with Patients: Applying Knowledge & Expertise




- experience of illness
- social circumstances
- attitude to risk
- values
- preferences

- diagnosis disease
- etiology
- prognosis
- treatment options
- outcome probabilities

*Source: A. Coulter, Picker Institute 2001*

# Understanding the multiple factors involved in failures

Students should:

- Avoid blaming
- Practise evidenced-based care
- Maintain continuity of care for patients
- Be aware of the importance of self-care
- Act ethically every day


...AND THAT IS WHY WE LIFT ON THREE...
COMMUNICATION

# How do teams improve patient care?

Teams represent a pragmatic way to improve patient care

Teams can improve care at the level of:

- The organization
- The patient – outcomes and safety
- The team as a whole
- The individual team member

# Incident reporting/monitoring

- Involves collecting and analyzing information about any event that could have harmed or did harm anyone in the organization
- A fundamental component of an organization's ability to learn from error

# Incident reporting and monitoring strategies

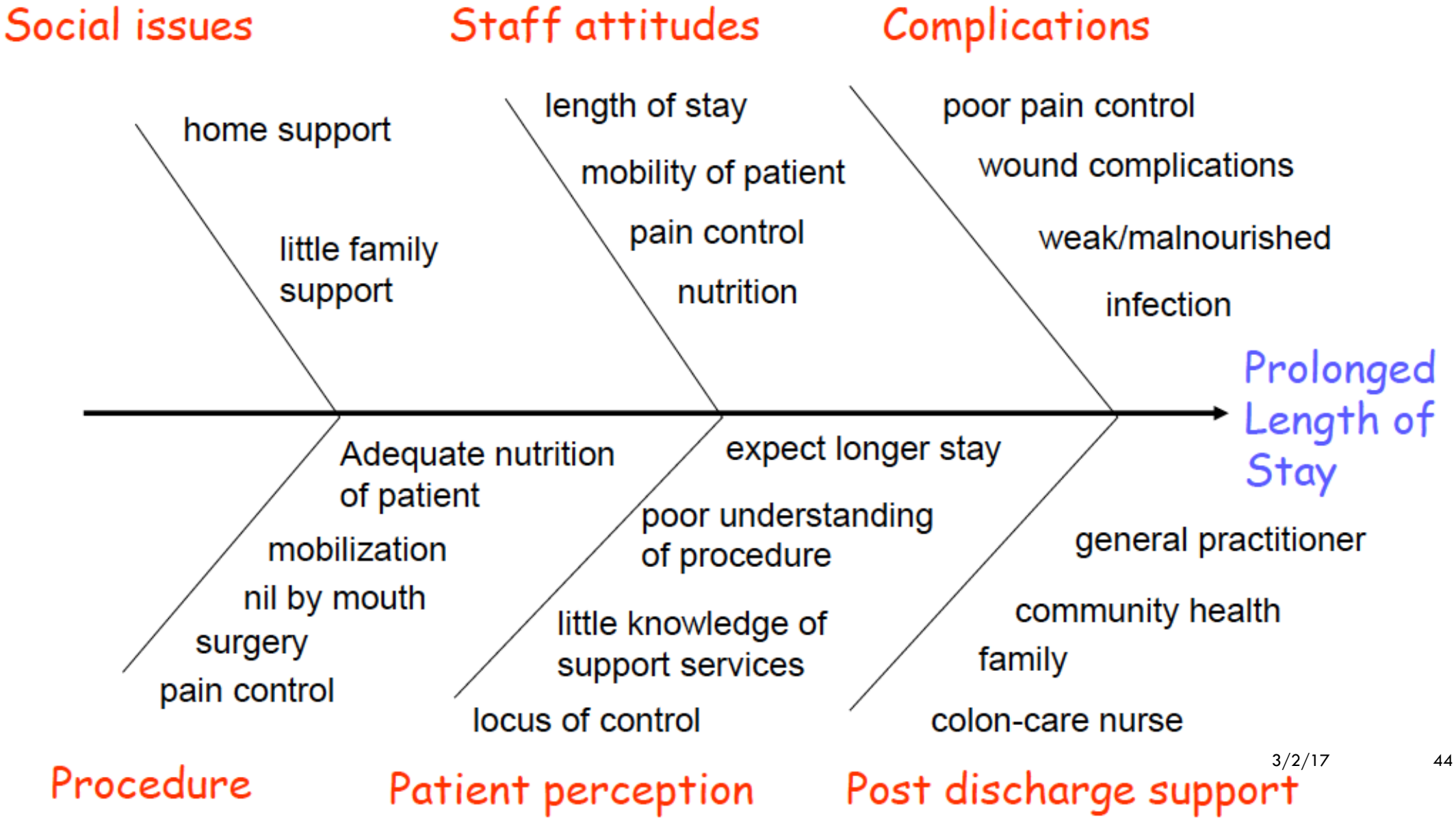
Successful strategies include:

- anonymous reporting
- timely feedback
- open acknowledgement of successes resulting from incident reporting
- reporting of near misses

-“free" lessons can be learned

- system improvements can be instituted as a result of the investigation but at no “cost” to a patient

# Cause and effect diagram




*Accelerated Recovery Colectomy Surgery (ARCS), North Coast Area Health Service, Australia*

# Engaging with patients and caregivers

## Learning objective

Understand the ways in which patients and caregivers can be involved as partners in health care, both in preventing harm and learning from an adverse event

# Gaining an informed consent

- The diagnosis
- The degree of uncertainty in the diagnosis
- Risks involved in the treatment
- The benefits of the treatment and the risks of not having the treatment
- Information on recovery time
- Name, position, qualifications and experience of health workers who are providing the care and treatment
- Availability and costs of any service required after discharge from hospital

# Cultural competence

- Understand cultural differences
- Know one's own cultural values
- Understand that people have different ways of interpreting the world
- Know that cultural beliefs impact on health
- Be willing to fit in with the patient's cultural or ethnic background

# Patient role in minimizing adverse events

Patients want to be involved in their health care (depending on which tasks)

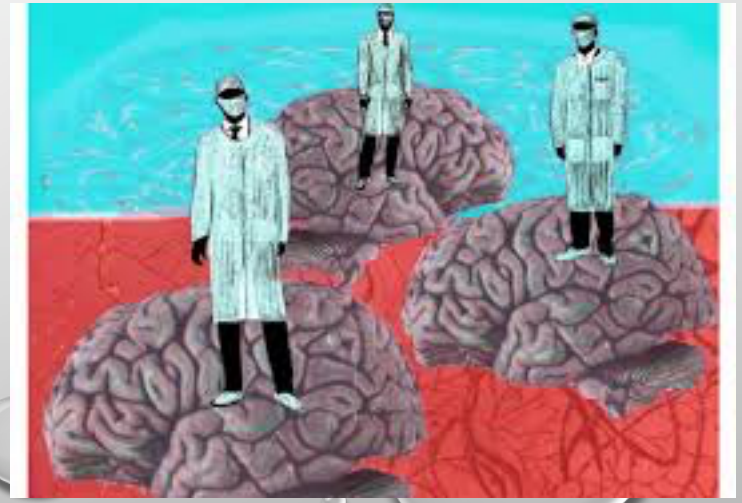
- 85% of patients were comfortable asking about a medication's purpose
- 46% were very uncomfortable about asking health-care workers whether they had washed their hands

# SPIKES (communication)

1. Sharpen your listening skills
2. Pay attention to patient perceptions
3. Invite the patient to discuss details
4. Know the facts
5. Explore emotions and deliver empathy
6. Strategize next steps with patient or family

# Summary

- Errors are inevitable - even for experienced health professionals!
- There are situations that can increase the likelihood of error
- Recognize them for your patient’s sake - and yours!
- Attention to human factors principles can lead to a reduction in error or its consequences




PATIENT
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