THE ROLE OF CLINICAL PHARMACISTS IN INTERPROFESSIONAL CARE TO PREVENT MEDICATION ERROR

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DEFINITION

- **Medication error** is any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer [1]

"medication error adalah kejadian yang dapat dicegah yang dapat menyebabkan atau mengarah pada penggunaan obat yang tidak sesuai atau membahayakan pasien, sementara pengobatan berada di bawah pengawasan profesi kesehatan, pasien, atau konsumen"

[1] According to National Coordinating Council for Medication Error Reporting and Prevention (NCCMERP)

HOW COMMON IS MEDICAL ERROR?

Epidural drug drip 'killed' new mother

By Matthew Hill
BBC West Health Correspondent

"My wife just didn't die, she was killed. For me, intentionally or not, that's the bottom line."

Myra Cabrera worked as a nurse at the Great Western Hospital

Just hours after Arnel Cabrera's son Zak was born, his wife Mayra died. Instead of being placed on a saline drip, she was given a drug used in epidurals.

It was a fatal mistake compounded by the fact the two infusion bags looked almost identical and were both kept in the same unlocked drawers.

An inquest ruled her death at Swindon's Great Western Hospital in May 2004 was unlawful.

Drug overdose 'was manslaughter'

A jury has returned an inquest verdict of "manslaughter by gross neglect" on a woman killed by a chemotherapy dose four times too high.

Mrs McKenna died on 18 April 2006 after developing complications

Anna McKenna, 56, from Knowle West in Bristol, was being treated for multiple myeloma - a cancer of the marrow in the bone of the spine - in 2006.

Dr Jacqueline James, from Frenchay Hospital, prescribed quadruple the correct drug doses over four sessions.

Mrs McKenna was unable to fight infection, the inquest heard.

'Extremely angry'

She died four weeks later on 18 April 2006, some three weeks after her first chemotherapy session when she developed complications, including fever and renal failure.

After the verdict a family spokeswoman said: "The family of Mrs McKenna have been absolutely devastated by her sudden and unnecessary death.

"They feel extremely angry, not only that such a serious mistake was made in her prescription, but also that this was not found by the pharmacist who was supposed to act as a safety net for the patient."

The pharmacist who should have double-checked the dose was never identified.

The paperwork relating to Mrs McKenna's prescription had disappeared.

J Community Hosp Intern Med Perspect. 2016; 6(4): 10.3402/jchimp.v6.31758. PMCID: PMC5016741
Published online 2016 Sep 7. doi: 10.3402/jchimp.v6.31758

The alarming reality of medication error: a patient case and review of Pennsylvania and National data

Brianna A. da Silva, MD* and Mahesh Krishnamurthy, MD, FACP, SFHM

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Abstract

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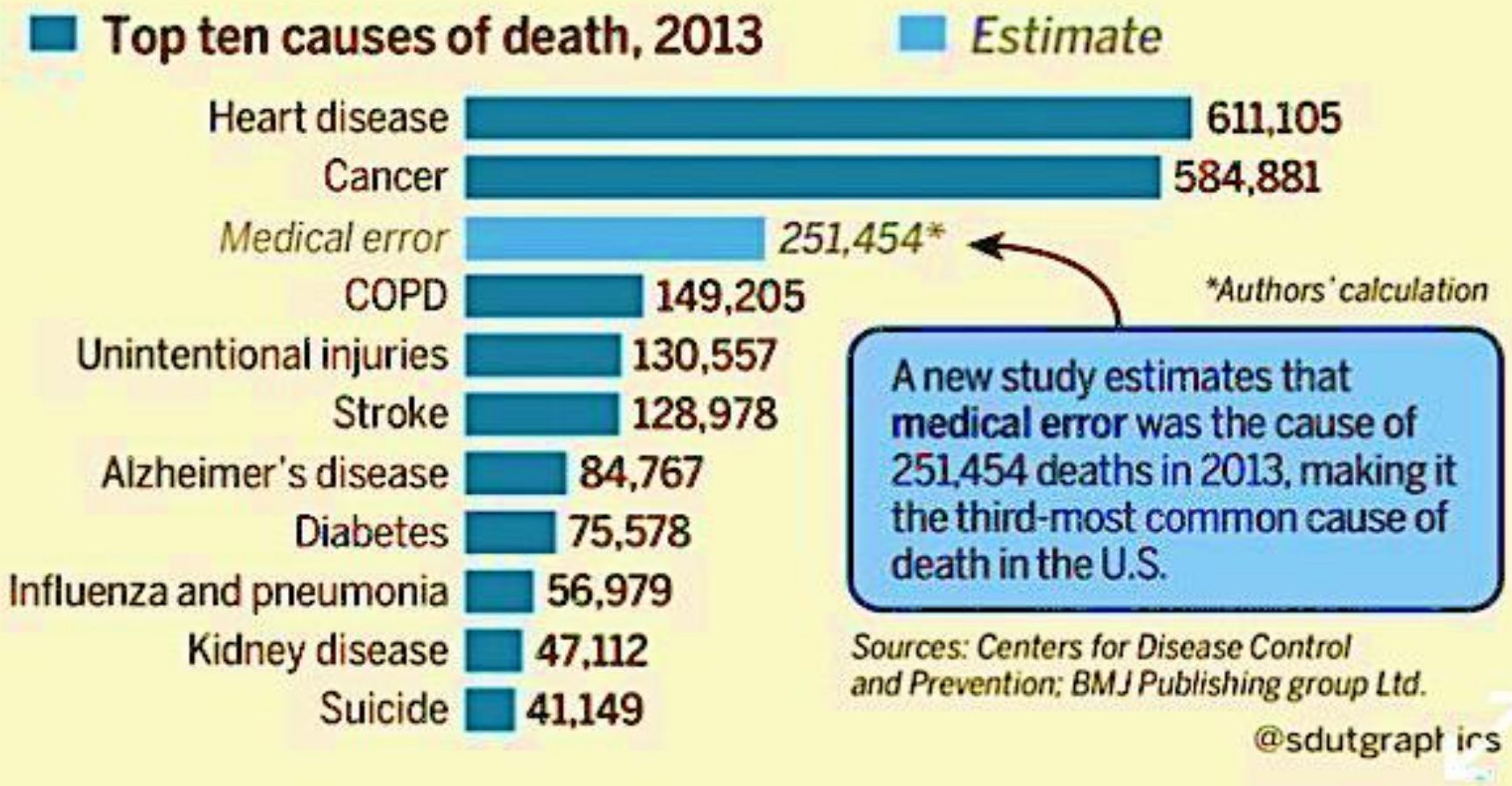
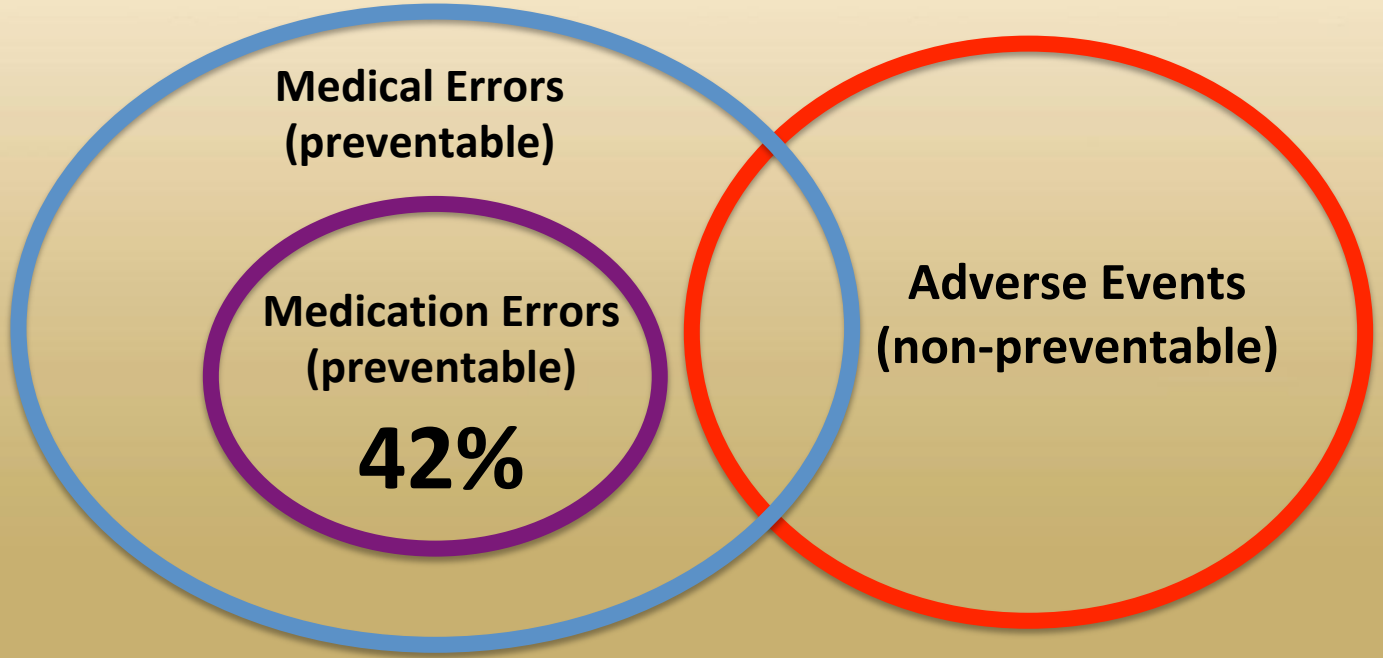
Case description

A 71-year-old female accidentally received thiothixene (*Navane*), an antipsychotic, instead of her anti-hypertensive medication amlodipine (*Norvasc*) for 3 months. She sustained physical and psychological harm including ambulatory dysfunction, tremors, mood swings, and personality changes. Despite the many opportunities for intervention, multiple health care providers overlooked her symptoms.


Top ten causes of death, 2013
Estimate
Heart disease 611,105
Cancer 584,881
Medical error 251,454*
COPD 149,205
Unintentional injuries 130,557
Stroke 128,978
Alzheimer's disease 84,767
Diabetes 75,578
Influenza and pneumonia 56,979
Kidney disease 47,112
Suicide 41,149
*Authors' calculation
A new study estimates that medical error was the cause of 251,454 deaths in 2013, making it the third-most common cause of death in the U.S.
Sources: Centers for Disease Control and Prevention; BMJ Publishing group Ltd.
@sdutgraphics

Medication error contribute to 42% of total medical errors



Source: Department of Health and Human Services, Office of the Inspector General. Adverse Events in Hospitals: National Incidence among medicare beneficiaries, 2010

INDONESIAN EXPERIENCE

Out of 7,662 prescriptions from geriatric ward, 1,563 (20.4%) medication errors detected

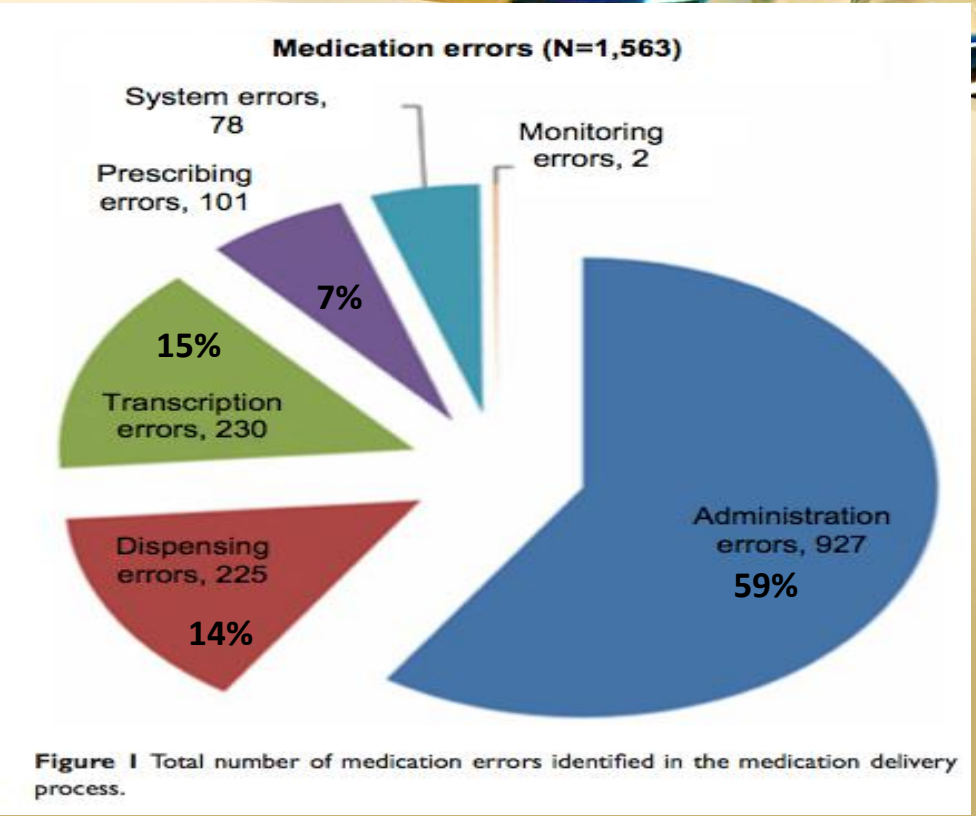


Figure 1 Total number of medication errors identified in the medication delivery process.

Source: Ernawati, DK in Therapeutics and Clinical Risk Management 2014:10 413–421

WHEN MEDICATION ERROR MAY TAKE PLACE?

DURING PRESCRIBING

Wrong drug, drug interaction, duplication, contraindication, wrong dose, etc

Misreading order or dose

DURING TRANSCRIPTION

Taking wrong meds or strength (LASA)
Errors in drug preparation

DURING DISPENSING

DURING ADMINISTRATION

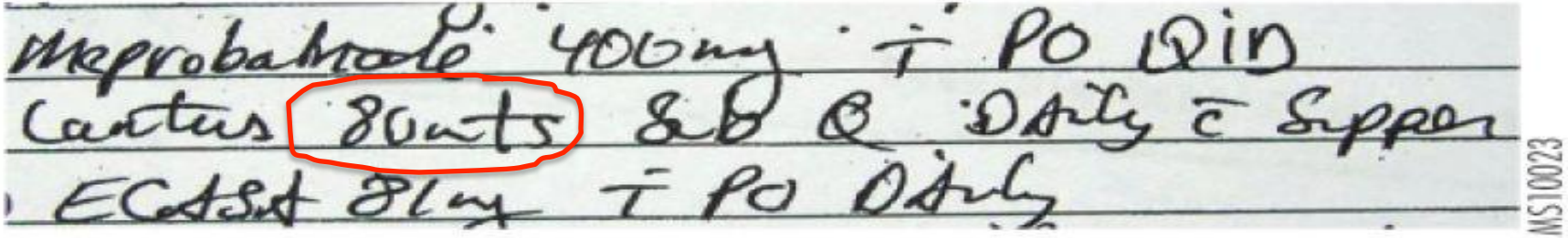
Wrong dose, time or administration route

FACTORS THAT MAY CONTRIBUTE TO MEDICAL ERRORS

- Professional health providers
  - Human error, poor communication, inadequate therapeutic training, lack of concentration due to interruption.
- Health care products (medicines)
  - Packaging and labeling → LASA
- Health care systems
  - Drug distribution, monitoring, counseling, education

Example of transcription error

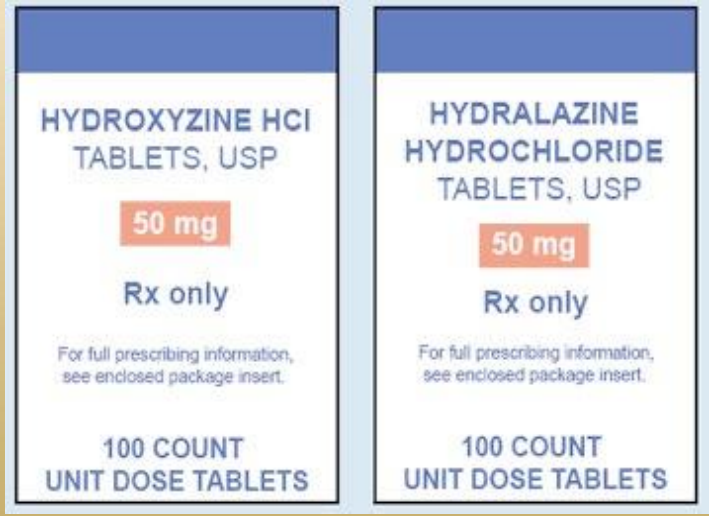
Order Written for 8 Units of Lantus Insulin Misread as 80 Units



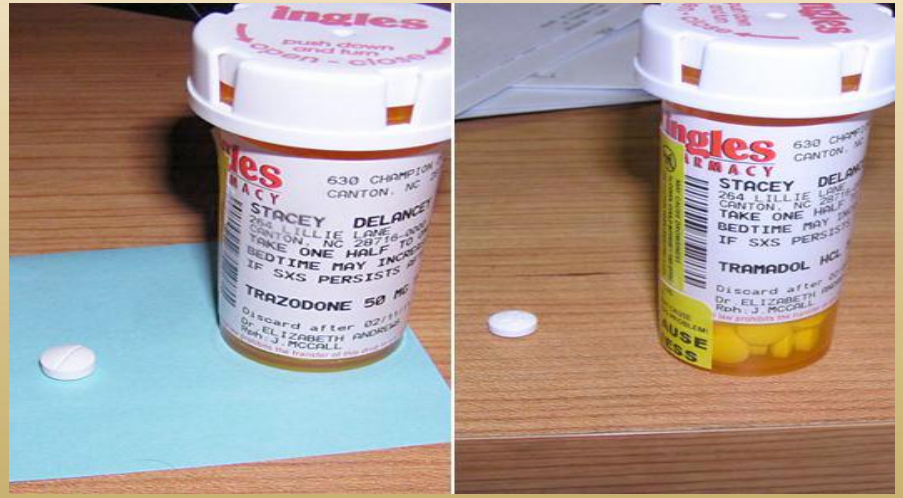
Reprinted with permission from the Institute for Safe Medication Practices, Horsham, Pennsylvania.

TRANSCRIPTION ERROR

Example of LASA (LOOK ALIKE SOUND ALIKE) MEDS



DISPENSING ERROR



ADMINISTRATION ERROR

IN WHAT WAYS PHARMACISTS CAN CONTRIBUTE TO REDUCE MEDICATION ERROR??

Clinical pharmacist has unique expertise in medication dosing, side effects and interaction, and efficacy

Roles of clinical pharmacist in interdisciplinary care

During admission

- Drug reconciliation
- Reviewing drug-allergy status

Prior to Discharge

- Drug reviewing and counseling to patients and relatives to improve drug adherence

During hospitalization

- Providing critical input on medication use and dosing
- Monitoring drug efficacies and side effects
- Consulting with primary care team member about drug-related problem
- Providing drug information to patients and their relatives

Roles of clinical pharmacist in interdisciplinary care

Pharmacists' Patient Care Process

Pharmacists' Patient Care Process

Pharmacists use a patient-centered approach in collaboration with other providers on the health care team to optimize patient health and medication outcomes.

Using principles of evidence-based practice, pharmacists:

Collect
The pharmacist assures the collection of the necessary subjective and objective information about the patient in order to understand the relevant medical/medication history and clinical status of the patient.

Assess
The pharmacist assesses the information collected and analyzes the clinical effects of the patient's therapy in the context of the patient's overall health goals in order to identify and prioritize problems and achieve optimal care.

Plan
The pharmacist develops an individualized patient-centered care plan, in collaboration with other health care professionals and the patient or caregiver that is evidence-based and cost-effective.

Implement
The pharmacist implements the care plan in collaboration with other health care professionals and the patient or caregiver.

Follow-up: Monitor and Evaluate
The pharmacist monitors and evaluates the effectiveness of the care plan and modifies the plan in collaboration with other health care professionals and the patient or caregiver as needed.

Roles of pharmacists in improving patients safety

Role of Pharmacist Counseling in Preventing Adverse Drug Events After Hospitalization

Jeffrey L. Schnipper,
Stephanie A. Wahlsti
Mark Horng, MD; Cl

A Comprehensive Pharmacist Intervention to Reduce Morbidity in Patients 80 Years or Older

A Randomized Controlled Trial

Ulrika Gillespie, MSc P
Hans Garmo, PhD; Mar
Åsa Kettis-Lindblad, Ph

Effect of pharmacists on medication errors in an emergency department

Jamie N. Brown, Connie L. Barnes, Beth Beasley, Robert Cisneros, Melanie Pound and Charles Herring

American Journal of Health-System Pharmacy February 2008, 65 (4) 330-333; DOI: https://doi.org/10.2146/ajhp070391

Clinical Investigations

Impact of Clinical Pharmacist on the Pediatric Intensive Care Practice: An 11-Year Tertiary Center Experience

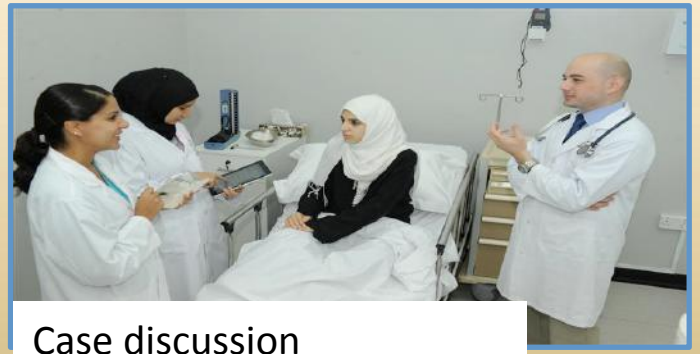
Sandeep Tripathi, MD[1], Heidi M. Crabtree, PharmD[2], Karen R. Fryer, RN[1], Kevin K. Graner, BsPharm[2], and Grace M. Arteaga, MD[1]
[1]Department of Pediatric Critical Care Medicine
[2]Pharmacy Services, Mayo Clinic, Rochester, Minnesota

Challenges on clinical pharmacist “new” roles in developing countries

- Traditional roles of pharmacists as drug dispenser service
- Most pharmacist has lack of confidence with their new roles
- Deficient or inaccurate knowledge of other disciplines
- Professional territorialism
- Limited evidence of the efficacy of clinical pharmacists
- Lack of guidelines and policy supporting the new roles

WHAT NEEDS TO CHANGE???

IMPROVING INTERPROFESSIONAL COLLABORATION



Case discussion

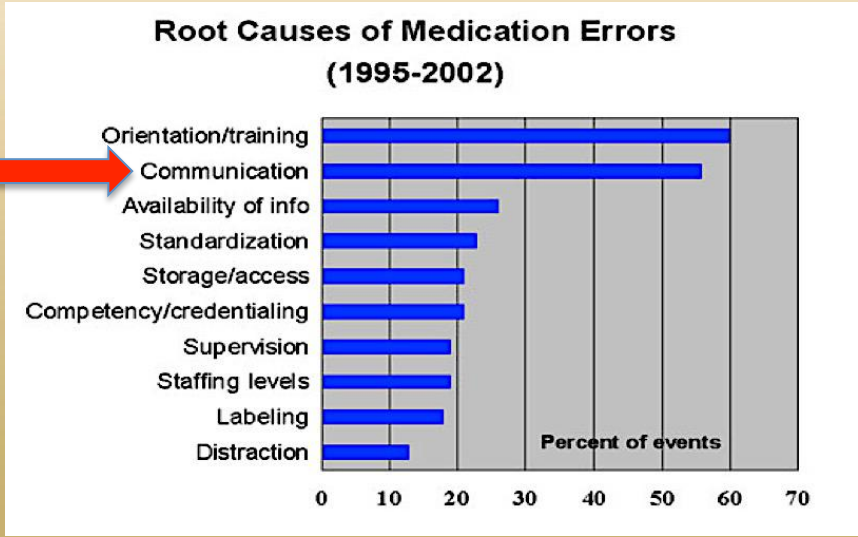
Sharing information

Medication confirmation

Double checking order and medication dose

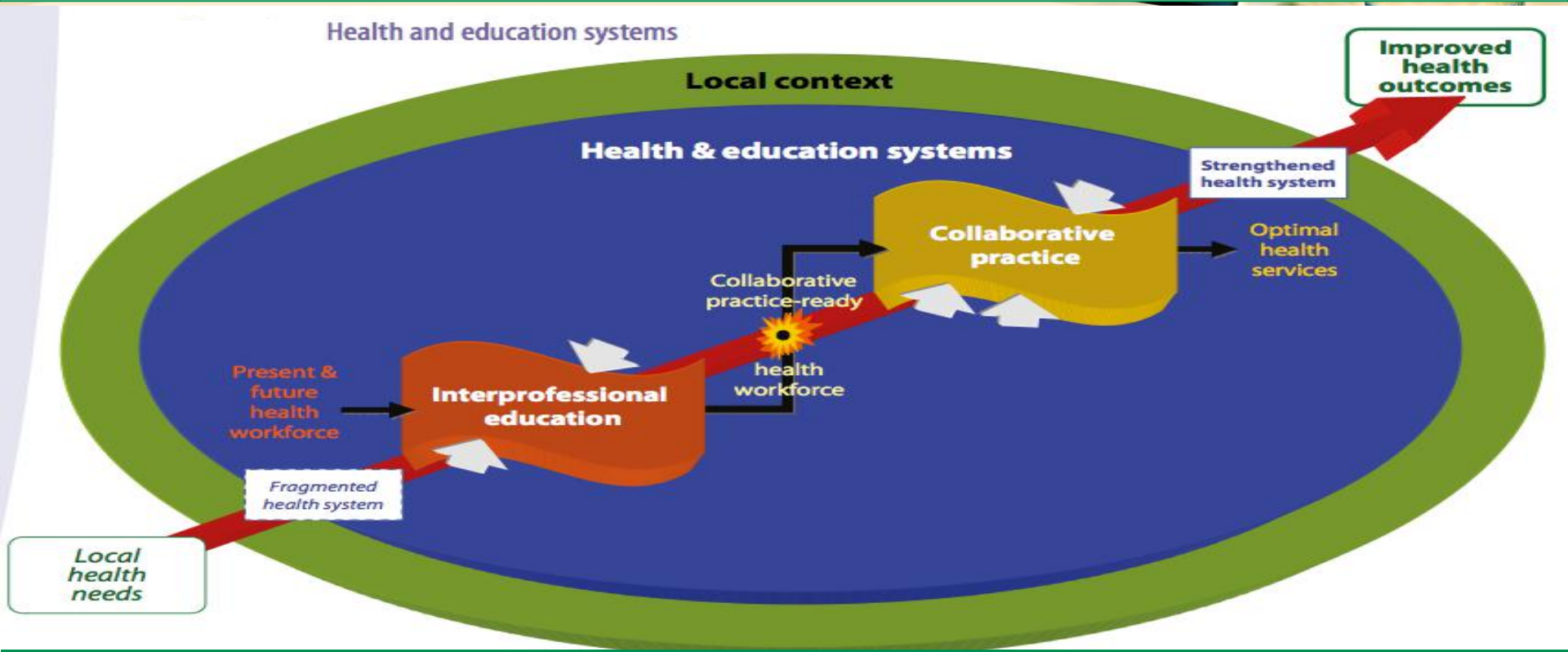
Collaborative practice improves patient safety

- Effective team communication and collaboration has significantly increased patient safety (Leonard et al, 2004)



Leonard M, Graham S, Bonacum D. The human factor: the critical importance of effective teamwork and communication in providing safe care. Qual Saf Health Care 2004;13(Suppl 1): i85–90.

Why not start earlier?



Interprofessional education is a necessary step in preparing a “collaborative practice-ready” health workforce (WHO 2010)

DEVELOPING COLLABORATIVE PRACTICE TROUGH INTERPROFESSIONAL EDUCATION

- “Interprofessional education occurs when two or more professions learn with, from and about each other to improve collaboration and the quality of care” (CAIPE 2002).

AIMS AND BENEFITS

- Improved quality and safety of patient care
- Greater understanding and respect for other disciplines
- Commonality of skills and knowledge between different health disciplines

Patient safety is our responsibility

Keselamatan pasien adalah tanggung jawab kita bersama

THANK YOU