Promoting Excellence in Medication Safety Across HealthCare System

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Patient Safety Conference
UAE – Dubai
24 – 26 October 2019


بسم الله الرحمن الرحيم
ولله ما في السموات وما في الأرض

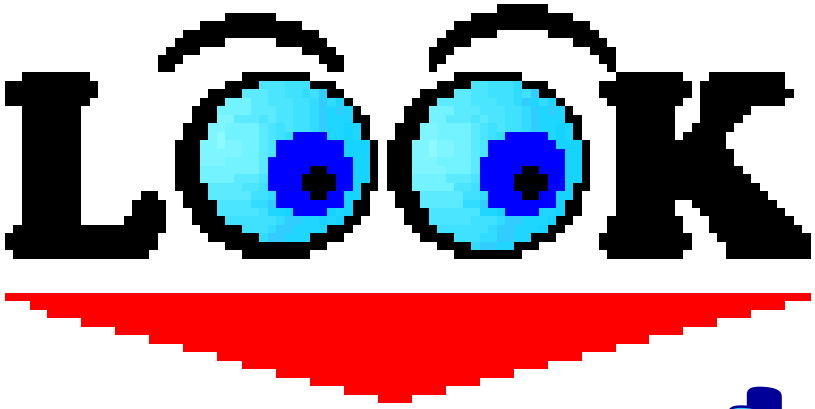
قال تعالى:

وَمَنْ أَحْيَاهَا فَكَأَنَّمَا أَحْيَا النَّاسَ جَمِيعًا

من الآية 32- سورة المائدة

and if any one saved a life, it would be as if he saved the life of the whole people.

“Holy Qur’an”



"First do no harm"

Is an often quoted term from Hippocrates. "Every one working in Health care is familiar with the term"

TO REALIZE THIS VISION, ***health care organizations should embrace a patient safety framework that supports :***

Medication Safety**,**

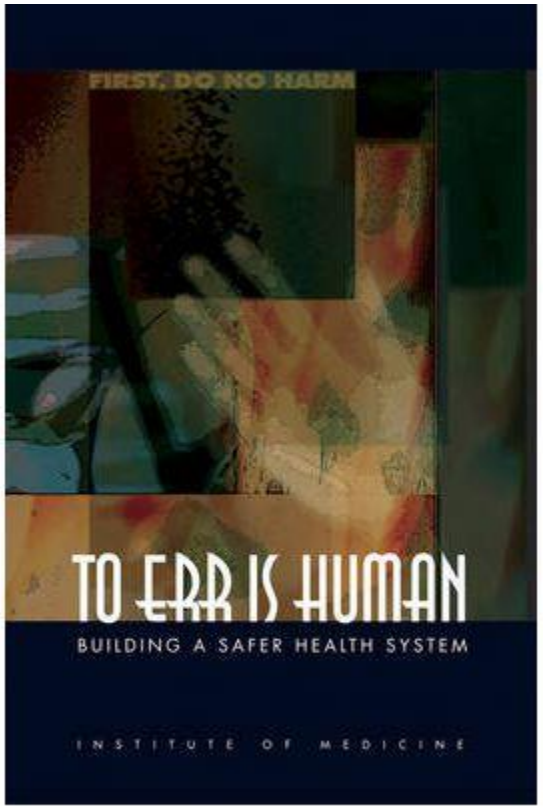
Communications Safety

Treatment Safety**,**

Information Safety

Diagnostic Safety

Environmental Safety



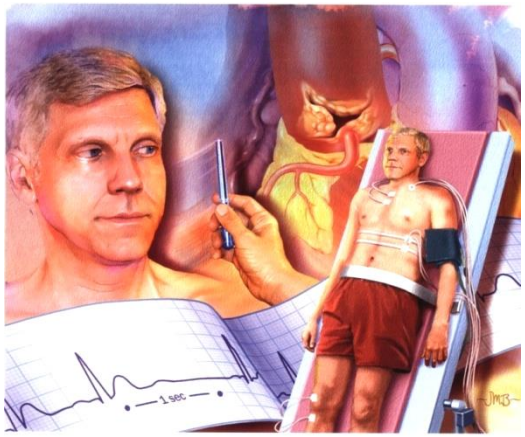
48,000-98,000 lives lost every year

Patient Safety

Patient safety defined by as **"the prevention of harm to patients."**

Emphasis is placed on the system of care delivery that:

(1) prevents errors;
(2) learns from the errors that do occur; and
(3) is built on a culture of safety that involves health care professionals, organizations, and patients.



Safety is a fundamental principle of patient care and a critical component of quality management

Its improvement demands a complex system-wide effort, involving a wide range of actions

Why focus on medications safety?

My Personal Story (1984) CCU……

My Research (1996)

Quality of prescribing at primary care centers in Saudi Arabia

The Journal of pharmacy technology 12(6):284-288 · November 1996

My Brother – In Law Study 2006

Medication errors in primary care in Riyadh city, Saudi Arabia

Research article

T. Khoja,[1] Y. Neyaz,[2] N.A. Qureshi,[3] M.A. Magzoub,[4] A. Haycox [5] and T. Walley[6]

.emro.whoj - eastern-Mediterranean health journal

Volume 17, 2011 | Volume 17, issue 2

Why focus on medications safety?

There is a dramatic increase in the use of medication.

Unfortunately, this increase in use has brought with it an increase in hazards, errors and adverse events associated with medication use.

The use of medication has become increasingly complex.

There has been a massive increase in the number and variety of medications available.

These medications have different routes of delivery and variable actions (long-acting, short-acting).

Sometimes the same formulation of a particular drug is sold under more than one trade name, and this can cause confusion.

Adverse drug reactions considered between the Fourth and Sixth leading cause of death.

Taking multiple medications and there are more patients with multiple co-morbidities.

This increases the likelihood of drug interactions, side-effects and mistakes in administration.

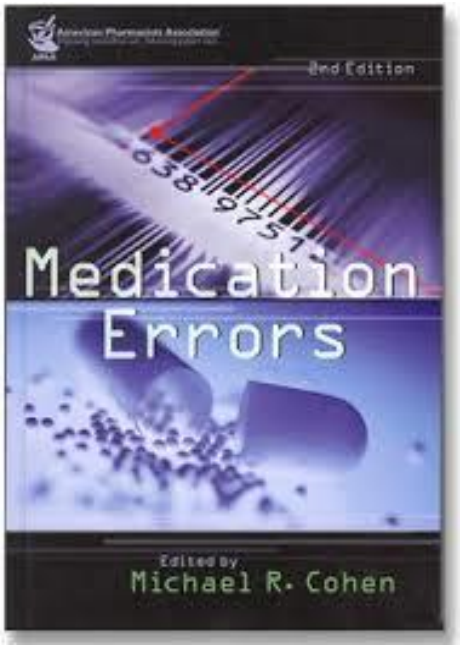
The process of delivering medications to patients often involves a range of health-care professionals.

Communication failures can lead to gaps in the continuity of the process.

Health professionals are prescribing a larger range of medications, so there are more medicines they need to be familiar with.

There is just too much information for a health professional to be able to remember in a reliable way without the help of reference materials.

Health professionals play potentially fulfilling leadership roles in the workplace, in relation to medication use and improving pharmaceutical patient care.



Contributory factors for medication errors :

Adverse medication events are frequently multifactorial in nature Often there is a combination of events that together result in patient harm

In trying to understand why an error occurred, it is important to look for all the contributing factors, rather than the most obvious reason or the final step in the process.

Strategies to improve medication safety also need to target multiple points in the process.

Patient factors

Staff factors

Workplace design factors

Medication design factors

Other technical factors

For example, identical connectors for IV lines and intrathecal lines allow for drugs to be given by the wrong route.

Medication error

A medication error may result in:

- **an adverse event, in which a patient is harmed;**
- **a near miss, in which a patient is nearly harmed;**
- **Neither harm nor potential for harm.**

Medication error is a common cause of preventable patient harm.

In USA there is one medication error per hospitalized patient per day, 1.5 million preventable adverse drug events per year, and 7000 deaths per year from medication errors in hospitals in that country.

The epidemiology of medication errors: how many, how serious?

Br J Clin Pharmacol. 2009 June; 67(6): 621–623.
Michael Schachter, British Journal of Clinical Pharmacology

1- Errors will always occur in any system, but it is essential to identify causes and attempt to minimize risks.

2- Medication errors, they are clearly frequent and often avoidable, representing a major threat to patient safety.

3- **Many of the consequences of these errors can be prevented by the intervention of pharmacists.**

4- **Some errors are due to the conditions under which prescribers work; where possible these should be improved (for example, low staffing levels).**

5- **Computerized prescribing can help but can also generate its own inherent errors.**

6- **Improved training of prescribers at the undergraduate and postgraduate levels is vital, a fact that is now being belatedly recognized.**

The scale of the problem

Since 2001 the UK has had a National Patients Safety Agency ,which examines all types of adverse events that affect patients.

In the year up to June 2008, >800 000 incidents were reported in England, the overwhelming majority in secondary care.

Of these, about 71 000, i.e. just under 9%, were related to medication.

The fact that there were so few reports of incidents from primary care (<2000) must suggest that the problem is underestimated, since most prescribing takes place there rather than in hospitals.

These are alarming figures, but it is worth bearing in mind that 1.5 million prescriptions are written every day in general practice in the UK and 0.5 million in hospitals.

Nevertheless, 1–2% of patients in UK and US hospitals are thought to be harmed by medication errors, mostly arising from prescribing rather than the later phases of the process.

A retrospective study from the University of Washington in an internal medicine clinic.

An estimated 28% of the prescriptions contained at least one error, but only one-fifth of these were classified as clinical, including unrecognized drug–drug interactions, allergies not taken into account, and therapeutic duplication.

In a systematic review of 24 studies (Aberdeen) , estimates of error rates were 2–54 per 100 items prescribed and 4.2–84% of prescription charts, this makes useful conclusions difficult, except to reinforce the view that there are methodological problems as well as those associated with prescribing.

Nonhospital prescribing

There are fewer data on prescribing faults in primary care than in hospitals.

However, the pattern is similar.

A survey of prescriptions submitted to 40 randomly selected community pharmacies in Denmark showed a prescribing correction rate of 23 per 1000 prescriptions, although less than half of these could strictly be described as clinical errors.

Another Danish group attempted a systematic review of 14 studies to assess the frequency and nature of preventable adverse events in ambulatory care.

They estimated that the adverse event rate was 15 per 1000 person-months and the rate of preventable adverse events 5.6 per 1000 person-months.

However, they noted that the most frequent problems were prescribing an inappropriate drug or failure to monitor treatment adequately.

https://www.google.com/search?q=medication+error&source=lnms&tbm=isch&sa=X&ved=0ahUKEwi88pTx87blAhUox4UKHbTOAXYQ_AUIEigB&biw=1043&bih=532#

Cost of drug-related problems

Estimated cost to NHS per year UK	730 million pound
Estimated cost in USA	170-200 billion dollar
Estimated cost in Canada	401 billion

What are the Solutions ??

March of Medication Safety GCC Regionally and Internationally

Declaration of Kuwait for Patient Safety

- The purpose is to ensure that our health care system takes major strides and is able to respond at all times to changing needs of both the community and the individual and to anticipate safety health needs and be proactive, rather than simply reacting to events.

First Gulf States Medication Errors Symposium

(Kingdom of Bahrain, 19-20/11/2005)

Background

Medication errors are known to be an important cause of patient morbidity and mortality. Research in healthcare and other settings has demonstrated that the best ways of reducing error rates are to introduce a low-blame culture and to use systems-based approaches to understanding both the causes of error and strategies for preventing errors.

Based on research from around the world, expert opinion and the knowledge and experience of professionals working in the Gulf States it is recommended that Ministries of Health take action in the following areas:

- Reporting, detection, evaluation and monitoring of medication errors and adverse drug events.
- Education and training for health professionals.
- Role of clinical pharmacists.
- Education and counselling for patients.
- Computerization.
- Research.

Pharmacist: Yasir A. Alowayyidh
Pharmaceutical Care Administration, Medina Region
yalowayyidh@moh.gov.sa

Declaration of Riyadh for Counterfeit Medication at the GCC Drug Quality Symposium

held in Riyadh February 2007

The strategy to overcome this problem requires actions at national, regional and global levels.

Resolution #5-A
(healthcare quality and patient safety)
(64th conference, Riyadh 27-28/1/1429H – 5-6/2/2008)

Decided:

- **Implantation of the general platform of the National / Gulf program for registration and reporting of medication errors and risks related to patient safety.**

The Arab and Gulf Healthcare Quality and Patient Safety conference

held under the theme

(Deep in the challenge of patient safety)

Jeddah, KSA, 8-10th Dhul Qaeda 1430 H – 27-29 October 2009

- Requests the countries to initiate their national programs on Patient Safety
- Requests the countries to promote the concept of Patient Safety at all authorities and to Patient Safety to the highest leadership level and to national policy and strategy makers to increase awareness and to give effect to the programs
- Emphasizes the importance of activating the National Patient Safety Plans programs and strategies and giving such programs a high priority.

- Calls upon the countries to work towards reducing the adverse events by 50% within 10 years.(2010-2019)

Resolution # (2)
(68th Conference, Abu Dhabi, 12-19/2/1431H – 2-3/2/2010)

- **Work towards adoption and giving effect to the WHO/EMRO initiative "Patient Safety Friendly Hospitals" in the Council States.**

Political Commitment Summit

قمة الالتزام السياسي

Resolution of the Supreme Council of the Cooperation Council for the Arab Gulf Countries

Session (32), Riyadh, 24 – 25 Muharram 1432 H/ 19 – 20 December, 2011

The Gulf Project for Accreditation of Health Facilities

قرار المجلس الأعلى لمجلس التعاون لدول الخليج العربية

الدورة (32) الرياض 24-25 محرم 1433هـ
الموافق 19-20 ديسمبر 2011م

المشروع الخليجي لاعتماد المنشآت الصحية

The Supreme Council…

Having been informed with the Ministerial Council's recommendation in its 121st Preparatory Session concerning what has been raised by their excellencies the Ministers of Health in the Council States about accreditation of health facilities to raise quality level of health facilities, and improvement of the concept of quality and patient safety & safe health practice as well as improvement of the standard of health services provided to the citizens of the Council States to match their counterpart international standards.

The executive Board of Health Ministers
Council for GCC states.

Sultan Qaboos University

Ministry of Health
Sultanate of Oman

The Second GCC International Conference on Patient Safety

20 - 23 January 2013

Promoting Excellence in Patient Safety:
Mutual Accountability
'Winning Ways'

Promoting Excellence In Patient Safety : Mutual Accountability "Winning Ways"

8-11 Rabi'I 1434H, **Muscat, Oman**

Workshops

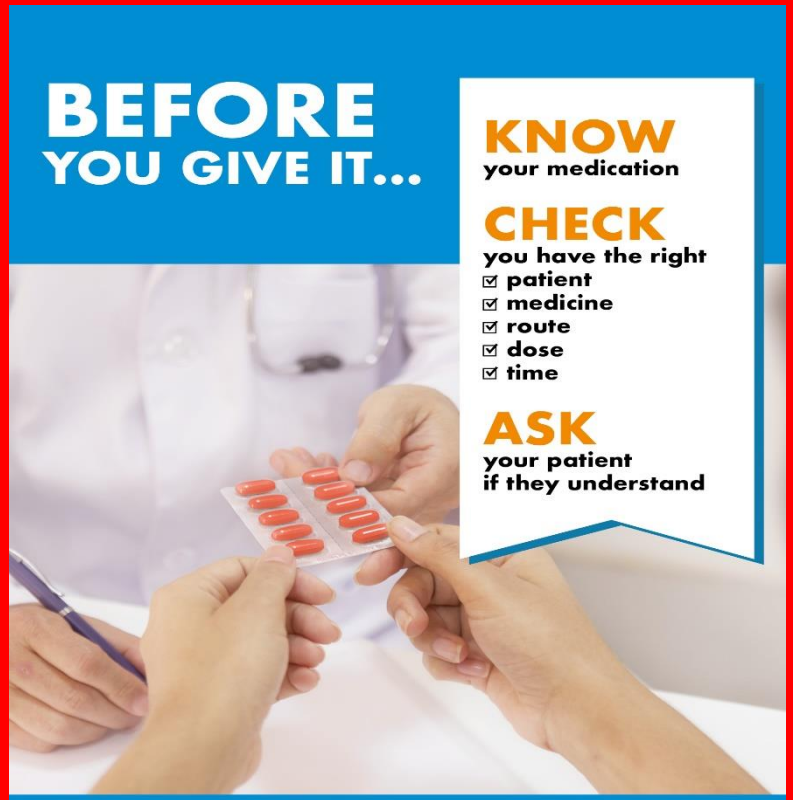
- Health risks management
- Innovation in patient safety
- Performance improvement
- Human factors and medical errors

MEDICATION WITHOUT HARM

Global Patient Safety Challenge

World Patient Safety Day 17 September 2019

Speak up for patient safety!



MEDICATION WITHOUT HARM
Global Patient Safety Challenge

World Health Organization

The third WHO Global Patient Safety Challenge: *Medication Without Harm*

Unsafe medication practices and medication errors are a leading cause of injury and avoidable harm in health care systems across the world.

Globally, the cost associated with medication errors has been estimated at $42 billion USD annually.

Medication errors occur when weak medication systems and / or human factors such as fatigue, poor environmental conditions or staff shortages affect prescribing, transcribing, dispensing, administration and monitoring practices, which can then result in severe harm, disability and even death.

In response to this, WHO has identified *MEDICATION WITHOUT HARM* as the theme for the third Global Patient Safety Challenge.

The third WHO Global Patient Safety Challenge:

Medication Without Harm

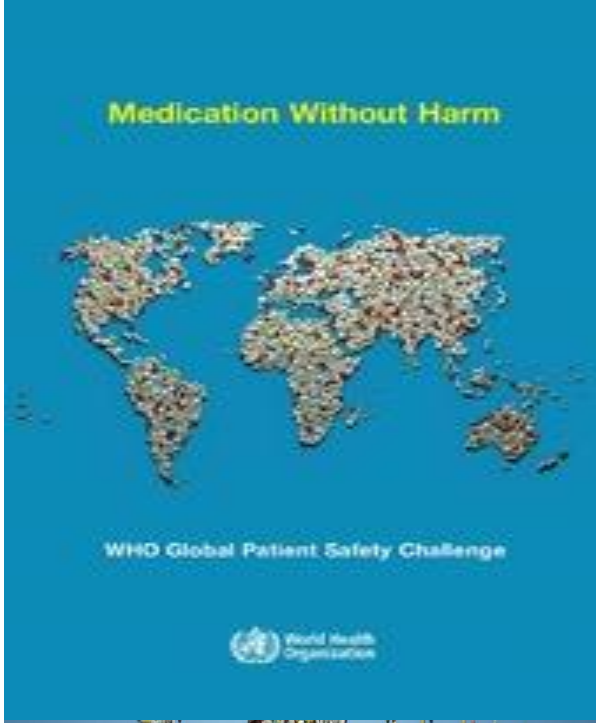
propose solutions to address many of the obstacles the world faces today to ensure the safety of medication practices.

WHO's goal is to achieve widespread engagement and commitment of WHO Member States and professional bodies around the world to reducing the harm associated with medication.

Medication Without Harm aims

to reduce severe avoidable medication-related harm by 50%, globally in the next 5 years.

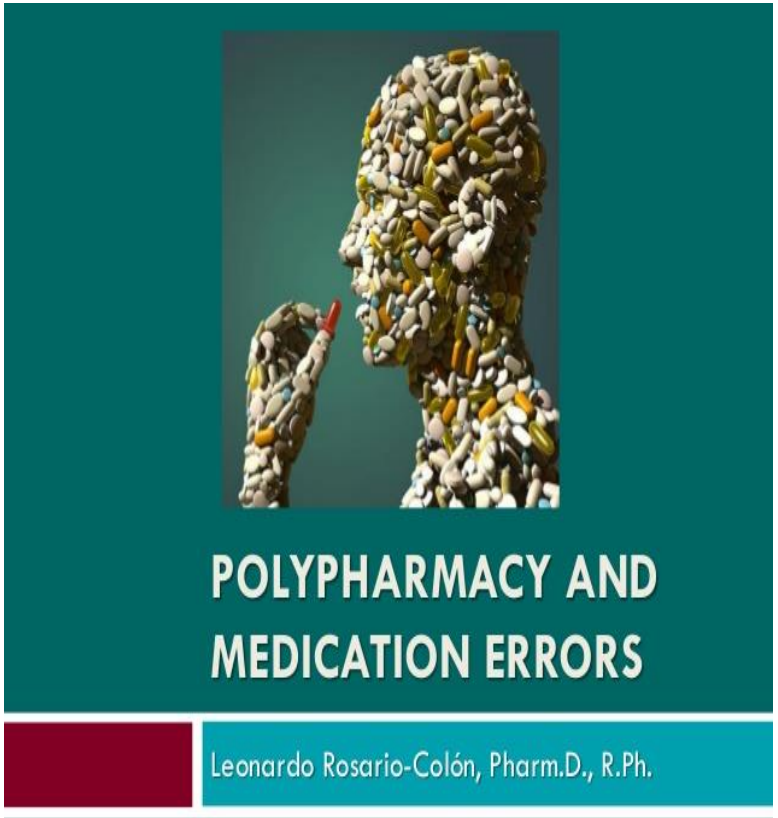
It was formally launched at the Second Global Ministerial Patient Safety Summit in Bonn, Germany on 29 March 2017.



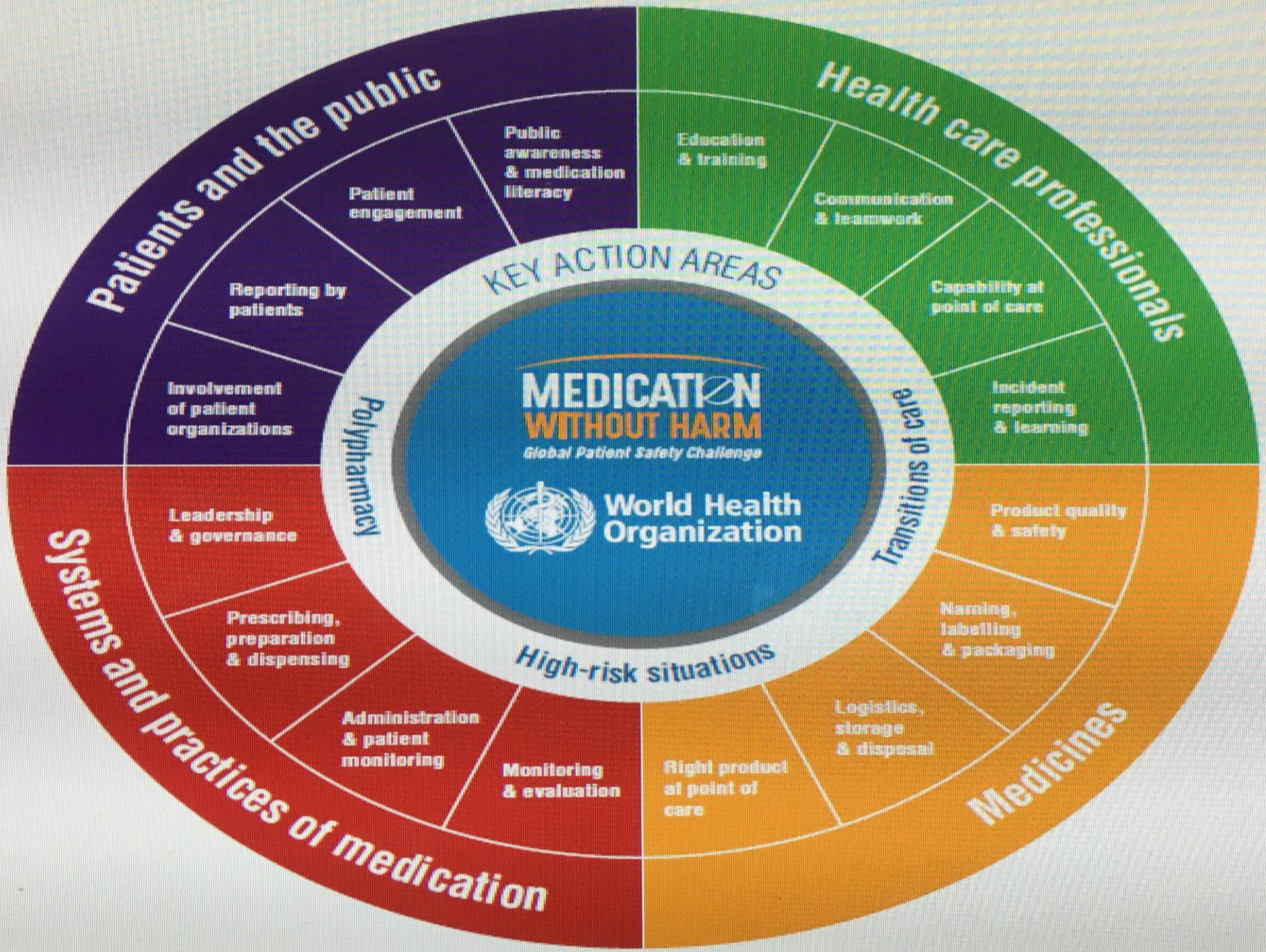
The Strategic Framework of the Global Patient Safety Challenge depicts the **four domains of the Challenge**:

1) patients and the public,
2) health care professionals,
3) medicines and systems
4) and practices of medication.

The framework describes each domain through four subdomains.



The three key action areas –namely polypharmacy, high-risk situations and transitions of care – are relevant in each domain and thus form an inner circle.


Patients and the public
Public awareness & medication literacy
Patient engagement
Reporting by patients
Involvement of patient organizations
Health care professionals
Education & training
Communication & teamwork
Capability at point of care
Incident reporting & learning
KEY ACTION AREAS
MEDICATION WITHOUT HARM
Global Patient Safety Challenge
World Health Organization
Polypharmacy
Transitions of care
High-risk situations
Systems and practices of medication
Leadership & governance
Prescribing, preparation & dispensing
Administration & patient monitoring
Monitoring & evaluation
Medicines
Product quality & safety
Naming, labelling & packaging
Logistics, storage & disposal
Right product at point of care

The Challenge is coordinated by the WHO Patient Safety and Risk Management unit, of the Service Delivery and Safety department, in collaboration with WHO department of Essential Medicines and Health Products.

For more information, download the *Medication Without Harm* brochure:

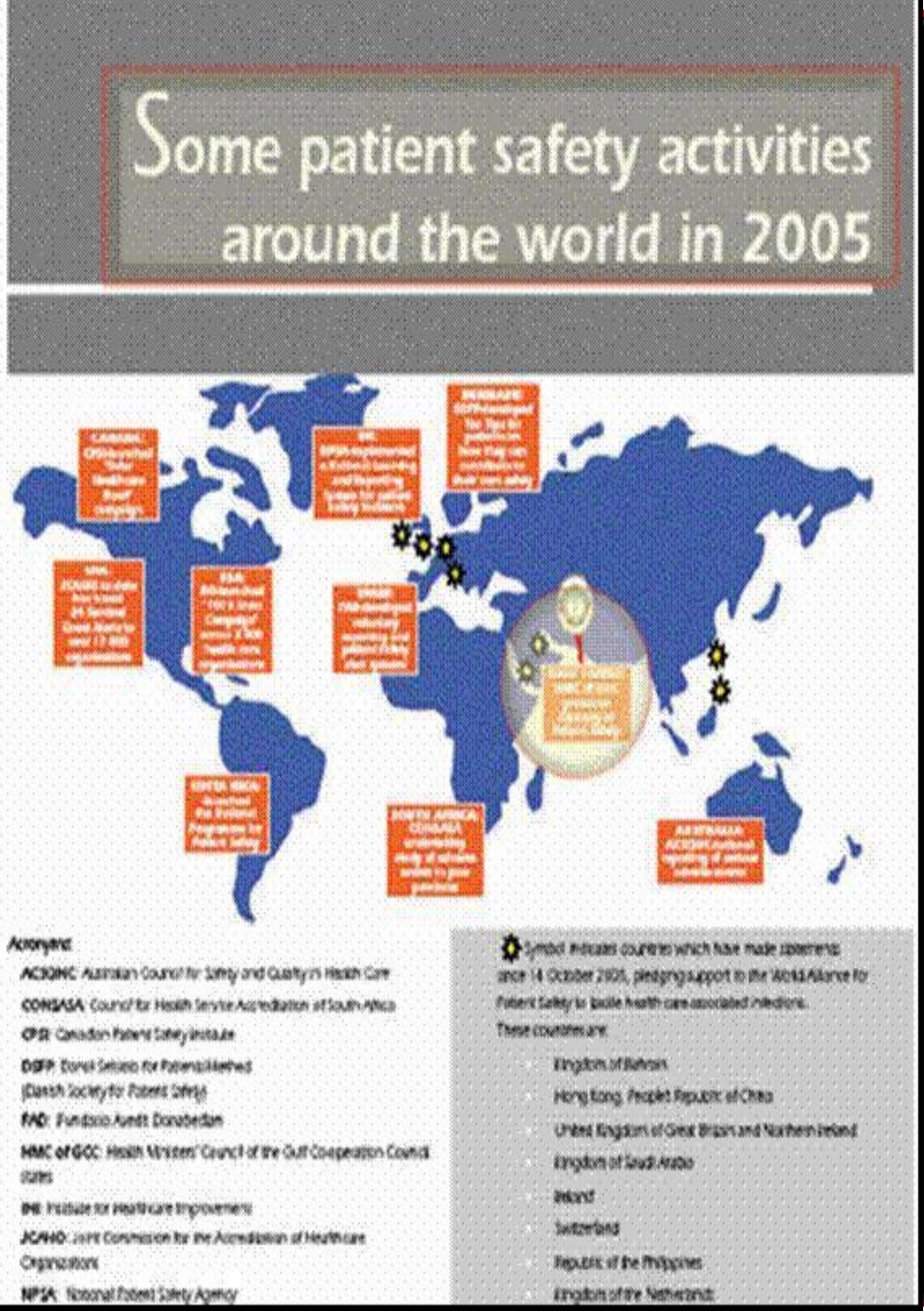
- Brochure - *WHO Global Patient Safety Challenge: Medication Without Harm*

Join us in achieving...

Medication Without Harm

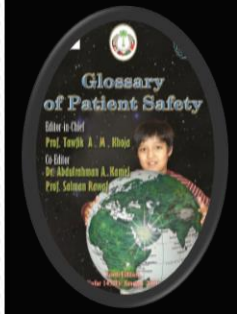
MEDICATION WITHOUT HARM
Global Patient Safety Challenge

World Health Organization



Issuance of the

"Glossary of Patient Safety"



as one of outstanding efforts on international map in 2005


FRESH STRATEGIES FOR
A NEW ERA

Institute for Safe Medication Practice or agency on organization:

Independent.

Nationally.

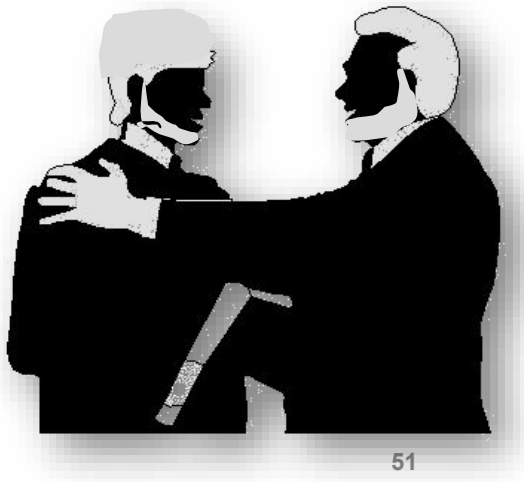
Collaborate with M.O.H. other health service, regulatory authority public.

Mission:

- Collect and analyzed medication-related problems.
- Disseminate medication safety information, risk, etc.
- Education, health professional public etc.
- Collaborate with any authorities.
- Put standards, protocol, etc.
- Research to provide evidence-based safe medication

Standards of pharmaceutical care

- Designing a monitoring plan.
- Developing a pharmacotherapeutic regimen and corresponding monitoring plan in collaboration with the patient and other health professionals,
- Initiating the pharmacotherapeutic regimen.
- Monitoring the effects of the pharmacotherapeutic regimen.
- Redesigning the pharmacotherapeutic regimen and monitoring plan.



Functions of Pharmaceutical Care

1. Identifying potential and actual drug related problems.

2. Resolving actual drug-related problems.

1. Preventing potential related problems.

Improving medication safety

Steps in using medication:

The use of medication carries risks

The use of medication involves certain risks.

Different risks and opportunities for error are associated with different steps in the medication process.

Prescribing

Inadequate knowledge about drug indications, contraindications and drug interactions can lead to prescribing errors.

Errors may involve prescribing for the wrong patient, prescribing the wrong dose, prescribing the wrong drug, prescribing the wrong route or the wrong time for drug administration.

These errors can sometimes occur due to lack of knowledge, but more commonly are a result of a "silly mistake" or "simple mistake", referred to as a slip or a lapse.

Inadequate communication

Communication that is ambiguous can be misinterpreted (e.g. certain abbreviations). Errors may result from illegible writing or a simple misunderstanding in verbal communication.

Mathematical errors

made in calculating doses can cause medication errors.

Calculation errors

involving medications with narrow therapeutic windows can cause major adverse events. Not uncommonly, a calculation error can occur (e.g. from micrograms to milligrams).

Administering:

Classic administration errors are the wrong dose of a drug being given to the wrong patient, by the wrong route, at the wrong time, or the wrong drug being used.

Not administering a prescribed drug is another form of administration error.

Inadequate documentation can also lead to administration errors. For example, if a medication is administered, but has not been recorded as being given, another staff member may also give the patient the medication thinking that it had not yet been administered.

Monitoring:

Errors in this area include inadequate monitoring for side-effects, not ceasing medication once the prescribed course has been completed or is clearly not helping the patient and not completing a prescribed course of medication.

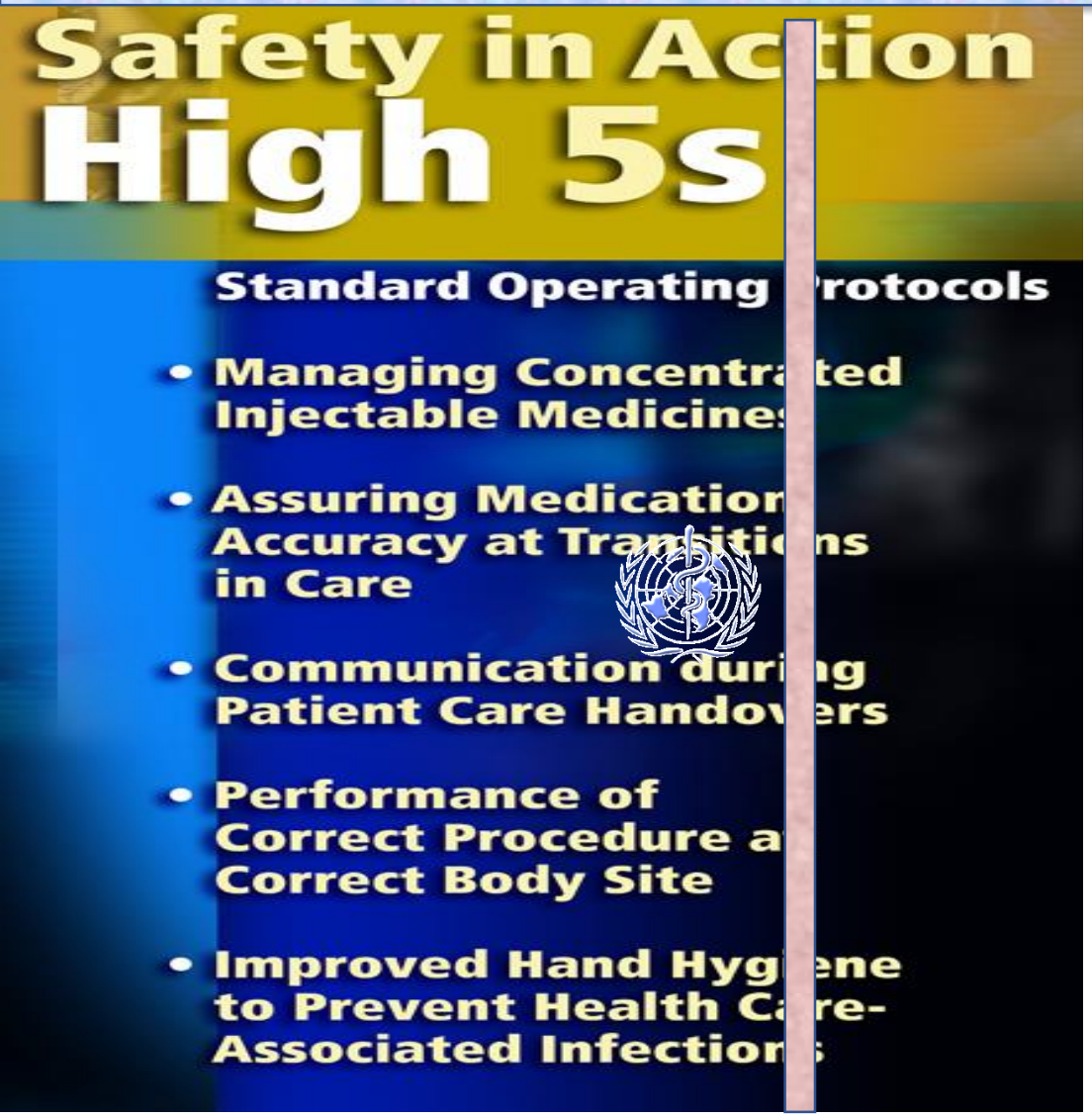
Monitoring errors

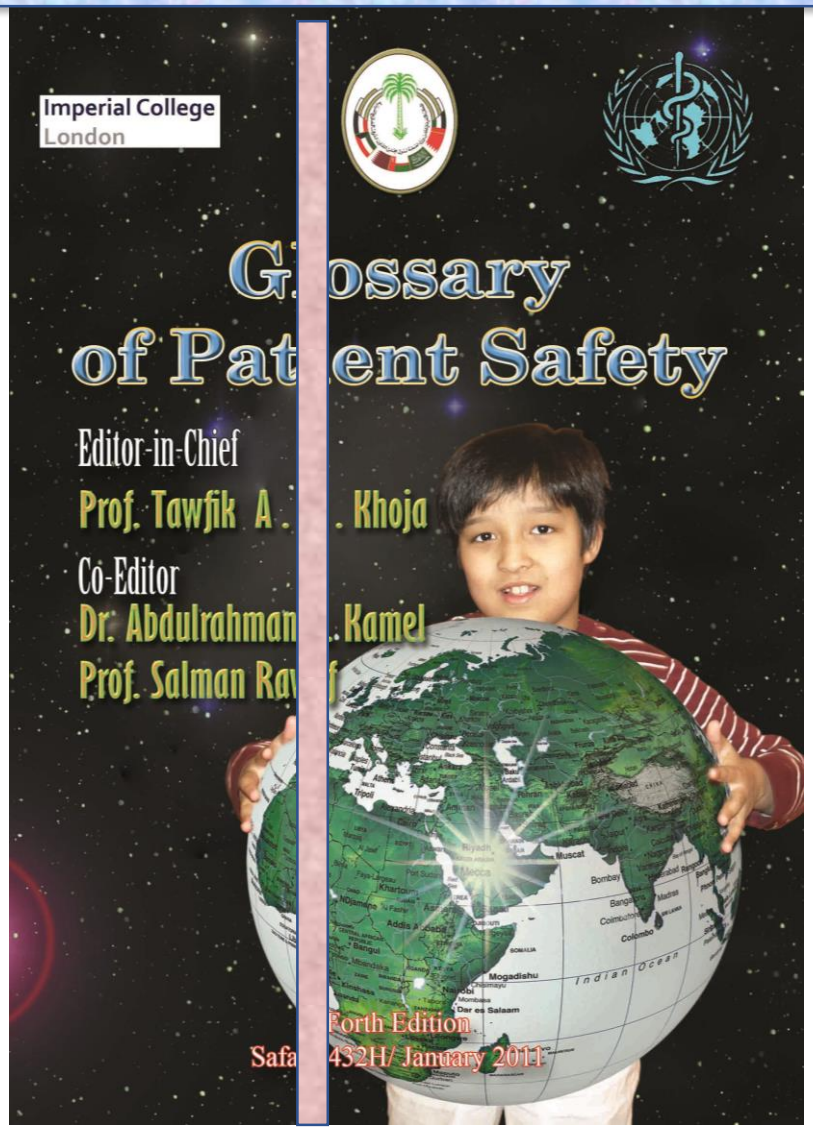
occur when drug levels not measured or measured but not checked or acted upon.

These errors often involve communication failures or when the care provider changes, for example, when a patient moves from a hospital to a community setting or vice versa.

Evidence-Based Practices for Patient Safety

WHO





Some ways to make medication use safer

(a)Use generic names:

Medications have both trade names (brand names) and generic names (active ingredient). The same drug formulation can be produced by different companies and given several different trade names.

Usually the trade name appears in large letters on the box/bottle and the generic name appears in small print.

(b)Tailor your prescribing for individual patients:

Learn and practise collecting complete medication histories.

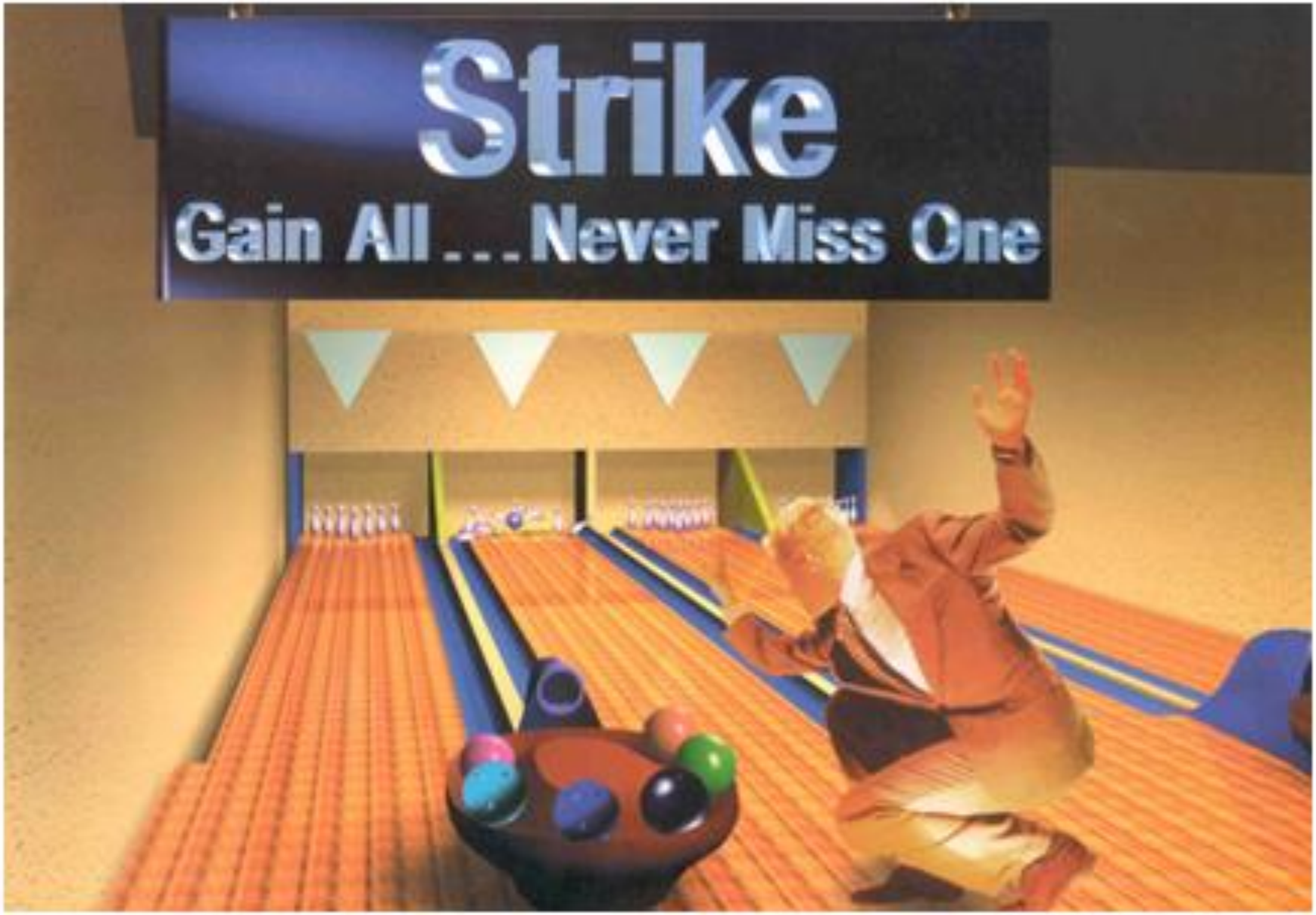
(c) Know which medications used in your area are associated with high risks of adverse events.

This may be due to a narrow therapeutic window,, or the complexity of dosing and monitoring. Examples of these medications include insulin, oral anticoagulants, neuromuscular blocking agents, digoxin, chemotherapeutic agents, IV potassium and aminoglycoside antibiotics.

(d)Be very familiar with the medications you prescribe:

Never prescribe a medication you do not know much about. You should be familiar with the pharmacology, indications, contraindications, side-effects, special precautions, dosages and recommended regimens for theses medications.

If you need to prescribe a medication you are not familiar with, read up on the medication before prescribing it.


Strike
Gain All . . . Never Miss One

(e)Use memory aids:

You should become familiar with selecting independent, evidence based memory aids and using them.

(f)Develop checking habits

If checking becomes a habit, then it is more likely to occur even if the clinician is not actively thinking about being vigilant.

(h) Remember the 5 Rs when prescribing and administering medication:

The 5 Rs are:

- right drug,
- right route,
- right time,
- right dose and
- right patient.

Two additions to these 5 Rs are right documentation and the right of a staff member, patient or career to question a medication order.

Communicate clearly:

It is important to remember that the safe use of medication is a team activity and that the patient is also a member of the team.

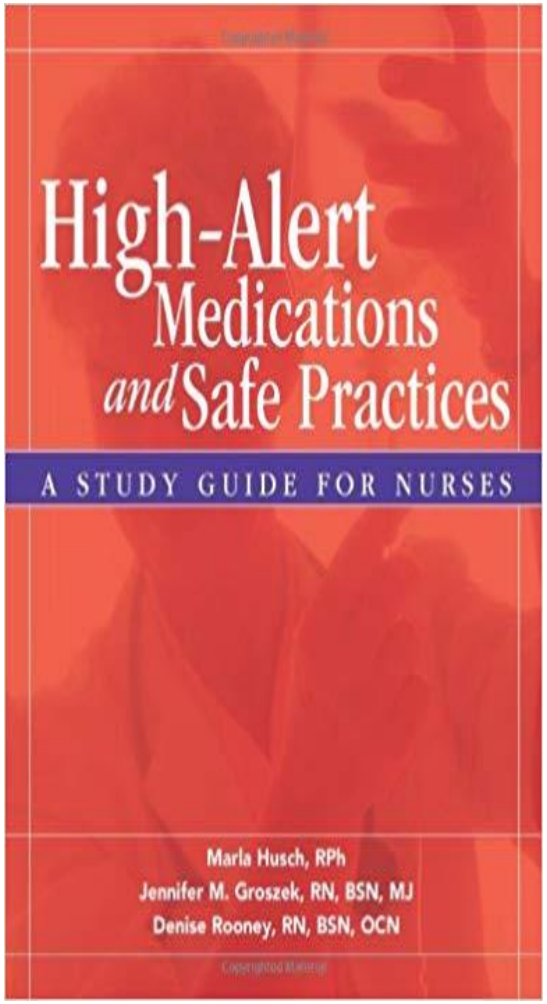
Bad handwriting can lead to dispensing errors.

Pharmacists who cannot read the writing should contact the person who signed the prescription to check the details.

You are responsible for every prescription you write and every drug you dispense or administer.

Check the 5 Rs and for allergies.

High-risk medications and situations require extra vigilance with checking and double-checking, for example, when very potent emergency drugs are being used to treat a critically ill patient.



Communicate plans clearly with patients:

- Remember that patients and their families are highly motivated to avoid problems. If they are made aware of the important role they play in the medication process, they can contribute significantly to improving the safety of medication use.
- Encourage patients to be actively involved in their own care and the medication process. Educate your patients about their medication(s) and any associated hazards.

Encourage patients to keep a written record of the medications that they take and details of any allergies or problems they have had with medications in the past.

This list should be presented whenever they interact with the health-care system.

Report and learn from medication errors:

- ❖ **Discovering more about how and why medication errors occur is fundamental to improving medication safety.**
- ❖ **Whenever an adverse drug event or near miss occurs, there is an opportunity for learning and improving care.**

The reporting of errors is facilitated

- ➢ **when trust and respect have been established between health-care professionals. For example, pharmacists are more likely to report and explain near-miss errors when prescribers are open to listening to their explanations.**

Monitoring patients for side-effects:

- **Be familiar with the side-effects of the medications you prescribe / dispense / administer and be proactive in looking for them.**
- **Educate patients about potential side-effects: how to recognize them and appropriate actions should they occur.**
- **Always consider medication side-effects as part of the differential diagnosis when assessing patients with undifferentiated clinical problems.**

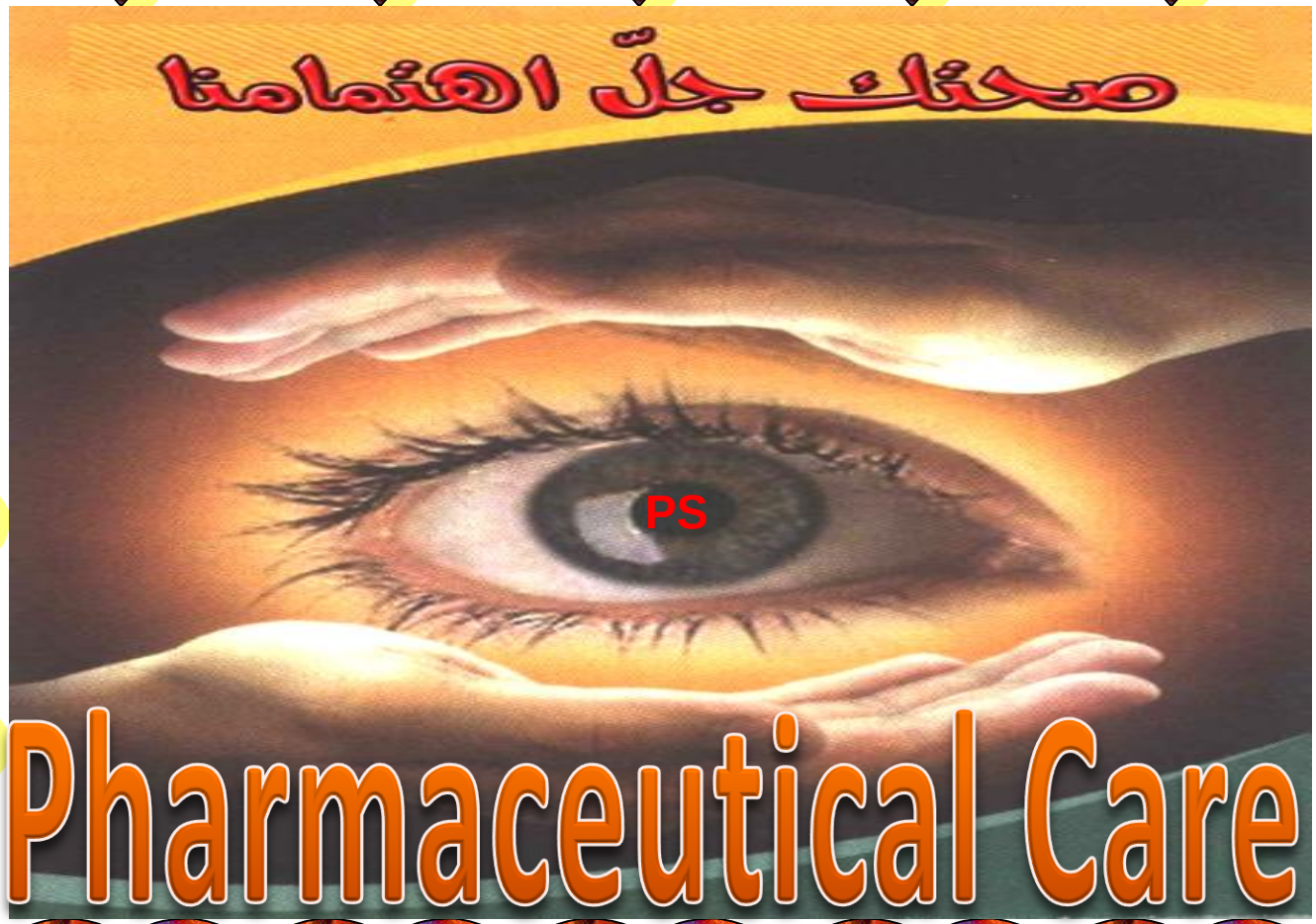
Learning from medication errors and near misses:

- **Learn from errors through investigation and problem-solving.**
- **If an error can occur once, it can occur again.**
- **Consider strategies to prevent the recurrence of errors at both an individual practitioner level and an organizational level.**
- **Be familiar with how to report errors, adverse reactions and adverse events involving medication.**

Pharmacists might consider running multidisciplinary meetings to discuss common mistakes and identify methods/procedures for avoiding these mistakes (e.g. excluding sound-alike drugs from the hospital formulary).

LOOKING AHEAD- PRIORITY CHOICES

Adverse Events → *Patient Safety*


صحتك جلّ اهتمامنا
PS
Pharmaceutical Care

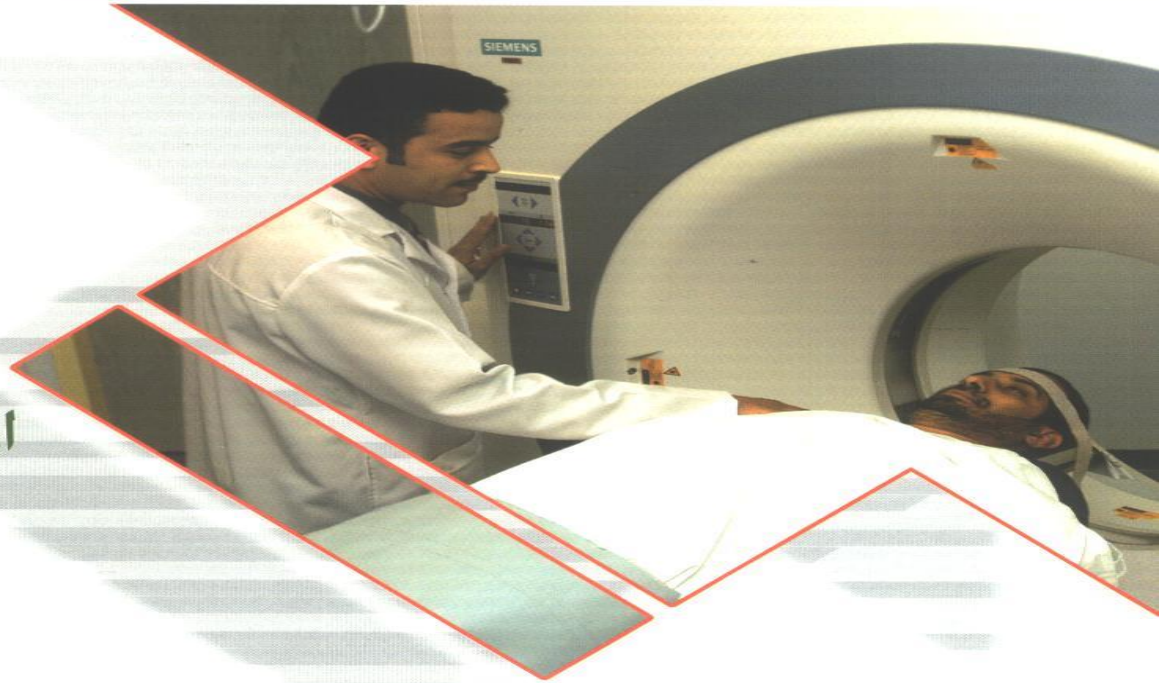
صحة الخليج

SEHAT ALKHALEG

المجلد الرابع عشر ـ العدد ٨٣ ـ شعبان ١٤٢٧هـ ـ سبتمبر ٢٠٠٦م

تحت رعاية صاحب السمو الملكي الأمير نايف بن عبد العزيز

الملتقى العالمي لسلامة المرضى بالرياض الشهر الجاري



سلامة المرضى في الخليج . .

الطريق إلى بناء نظام صحي أكثر مأمونية

أقرأ بالداخل

كن الأفضل ما استطعت

سلطنة عمان تستضيف المؤتمر الدولي الثاني والخليجي الأول للأمراض المعدية والمدارية

Conclusion

Errors will always occur in any system, but it is essential to identify causes and attempt to minimize risk.

Although it is difficult to quantify precisely the extent of prescribing errors, they are clearly frequent and often avoidable, representing a major threat to patient safety.

Many of the consequences of these errors are prevented by the intervention of pharmacists.

Some errors are due to the conditions under which prescribers work; where possible, these should be improved (e.g. low staffing levels). Computerized prescribing can help, but can also generate its own inherent errors.

Improved training of prescribers at the undergraduate and postgraduate levels is vital, a fact that is now being belatedly recognized.

Incorporate evidence-based healthcare concepts in assessing and evaluating healthcare setting performance in providing safe, high quality care.

UF College of Pharmacy
UNIVERSITY of FLORIDA

Improving Patient Safety and Preventing Medication Errors

Target Audience: Pharmacists

Course Summary Text: Medication errors and preventable adverse events remain a leading cause of death in the United States. It is estimated that up to approximately 100,000 patients or more die each year in the US due to medical errors. Pharmacists and pharmacy technicians are on the front lines for improving patient safety and preventing medication errors.

Goal and Learning Objectives:

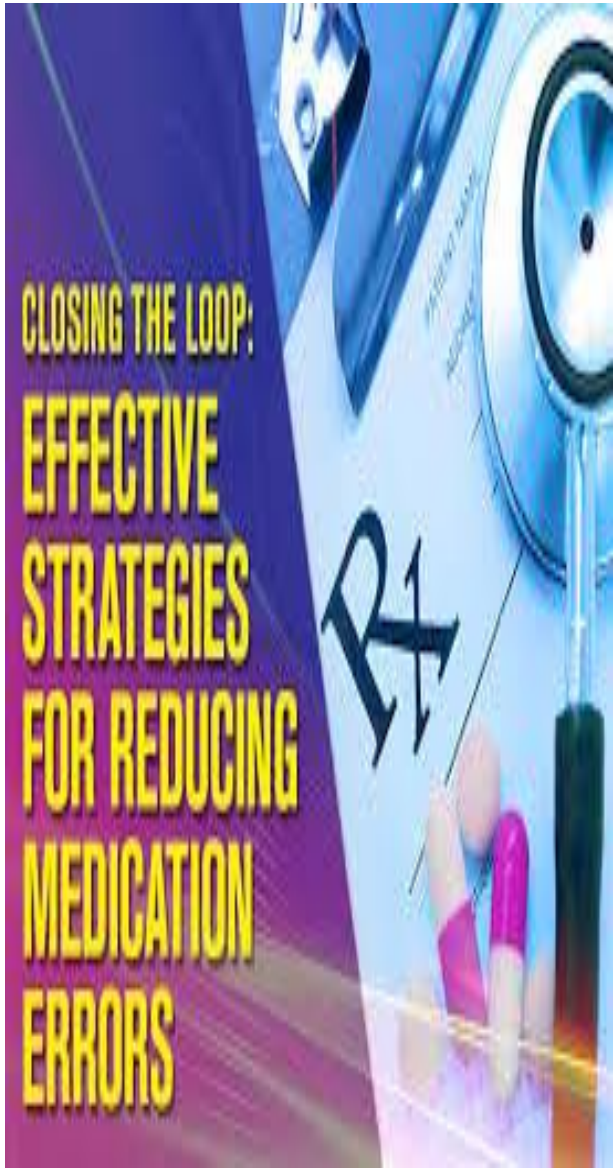
Pharmacists: The goal of this activity is to help pharmacists develop a better knowledge of causes of medication errors and strategies to prevent errors and improve patient safety. After participating in the continuing education offering, pharmacists will be able to:

1. List factors contributing to medication errors.
2. Describe strategies to help prevent medication errors and improve patient safety in different practice settings.
3. When given a patient case, identify factors that may contribute to the development of a medication error.
4. Summarize the role of failure mode effects analysis and root cause analysis in improving patient safety.
5. Identify procedures for external medication error reporting.

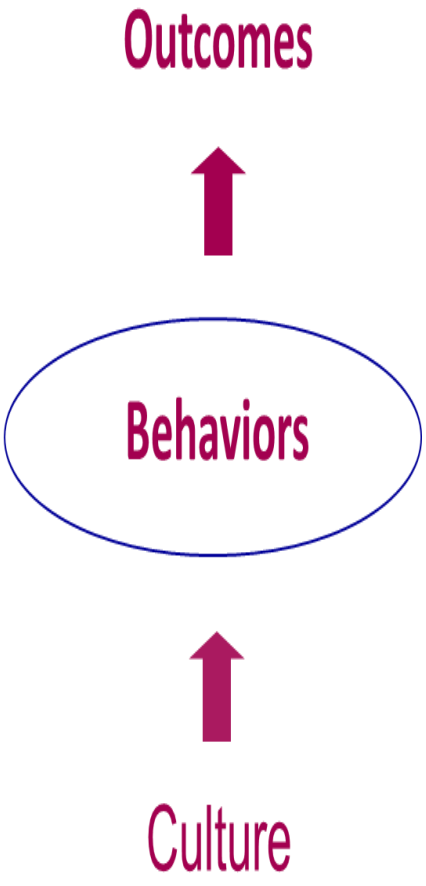
The University of Florida College of Pharmacy is accreted by the accreditation council for pharmacy education as a provider of continuing pharmacy education.

In summary **to improve medication safety (patient safety and the quality of care) provided to our patients, we need to decrease clinical practice that varies from good scientific evidence, provide clinicians & pharmacists with ready access to the best possible clinical knowledge to aid in their medical & Pharmaceutical decision-making, and arm them with the tools needed to assess and improve the quality , safety systems and interventions.**

Assisting the physicians & health care staff in implementing reliable knowledge *is an* important first step in building an evidence-based culture that ultimately leads to better and safer medical care for all the patients treated in healthcare facilities.



It is important that senior leadership and those leading **PS** improvements are aware of change as a process and continue to encourage and teach peers about the change in practice.



The new practice must be continually reinforced and sustained or the practice change will be intermittent and soon fade, allowing more traditional methods of care to return.


VITAL MESSAGE AHEAD
PATIENT SAFETY
It embraces all health care disciplines and actors, requires a comprehensive multifaceted approach to identifying and managing actual and potential risks to patient safety in individual services, and finding broad long-term solutions for the system as a whole.

CONCLUSIONS

PROMOTING THE HEALTH OF THE NATION ON P.S.

داعياً الله سبحانه لي ولكم
بدوام الصحة والعافية والرضوان

Thank you for your kind attention

Wishing you all the best