

Medication Safety and Error Prevention: A Critical Component of Safe Care for Life

Essential Drugs Programme (EDP)
Affordable Medicines Directorate (AMD)
National Department of Health (NDoH)

Olwethu Mambinja

World Patient Safety Day

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Background



“Every medicine we prescribe, dispense, administer or ask a patient to take is an opportunity to either prevent harm or unintentionally cause it.”

Globally, medication-related errors are responsible for 5% to 41.3% of all hospital admissions and 22% of readmissions after discharge. The incidence of medication errors is 30% higher in patients who are prescribed five or more drugs and 38% higher in those 75 years or older. Patients 65 years or above experience nearly double the medication-related admissions compared to their younger counterparts.



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Background



Medication-related harm is a global patient-safety challenge

WHO reports that:

- **1 in 10 patients** is harmed during healthcare globally.
- Around **half of this harm is considered preventable**.
- Harm due to medicines and therapeutic options accounts for **nearly 50% of preventable harm in medical care**.
- Medication errors can occur at multiple stages of the medication-use process.
- The estimated global economic cost associated with medication errors has been reported at approximately **US\$42 billion annually**.

Medication safety is not simply a pharmacy problem.

It is a health-system problem.



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Background



A medication error is defined as “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”

Often caused by a combination of medication, provider and patient, and systems factors; therefore, a range of sustainable strategies of proven efficacy should be developed and implemented in conjunction.

WHO's work on Medication Without Harm emphasises that errors can arise from both human factors and weaknesses in medication systems, including fatigue, poor working environments and staff shortages, as well as weaknesses in prescribing, dispensing, administration and monitoring.



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From “Medication Error to Medication Harm?”



Three concepts we need to separate



Medication error

A preventable mistake in the medication-use process.



Adverse drug reaction

An unintended harmful response to a medicine occurring at appropriate use/dosing.



Medication-related harm

Harm associated with medication use, including harm arising from errors and unsafe practices.

Medication Error ≠ Adverse Drug Reaction



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“Where does a medication error begin?”



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Causes / Contributing Factors



Communication

- Verbal
- Written – includes illegible handwriting, abbreviations, misread or missed communication, etc.
- Misinterpretation of the order

Name confusion

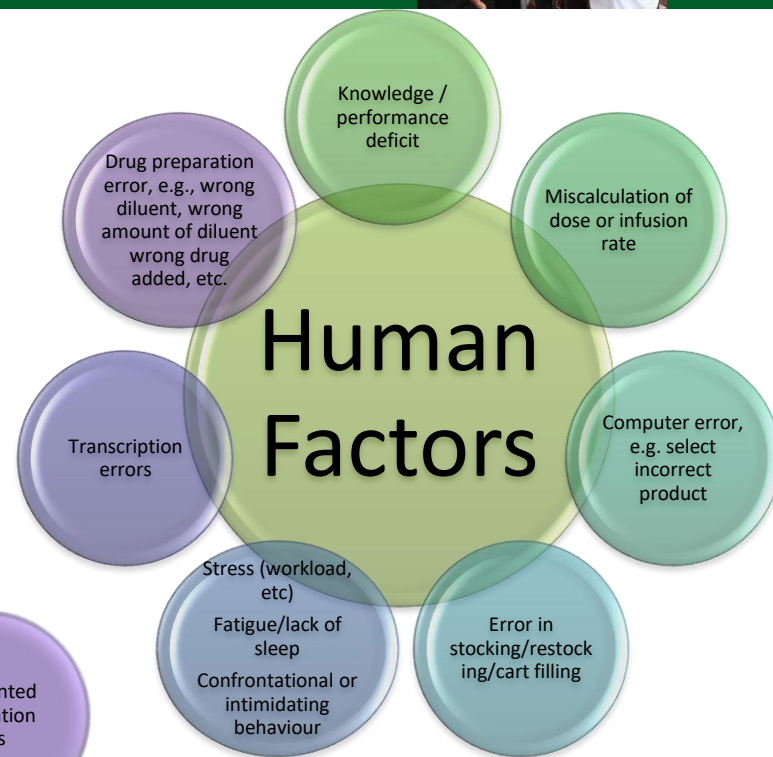
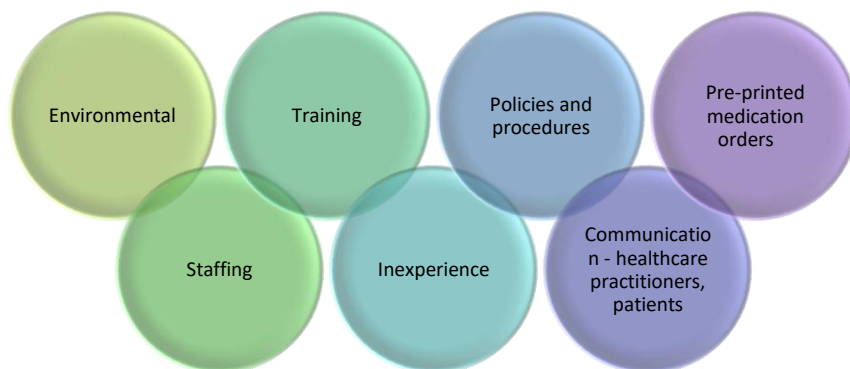
- Proprietary (trade) name
- Generic name

Labelling

- Immediate container labels of product
- Labels of dispensed product
- Carton labeling of product
- Package insert
- Reference material
- Advertising

Packaging/Design

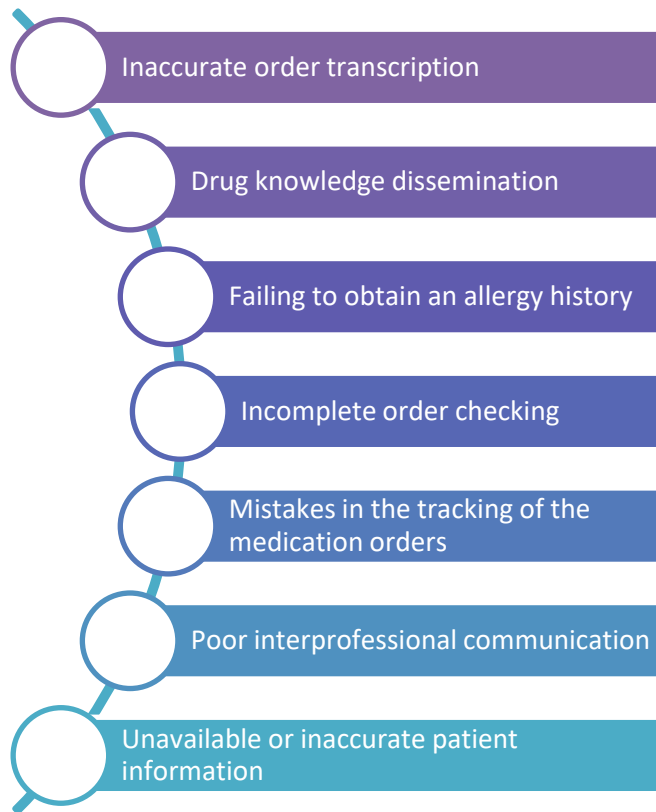
- Inappropriate packaging or design
- Dosage form – similarity in color, size, shape, etc.
- Devices – malfunction, wrong device, etc



Preventing medication errors requires an understanding of the causes and types of medication errors.



Causes / Contributing Factors summarised

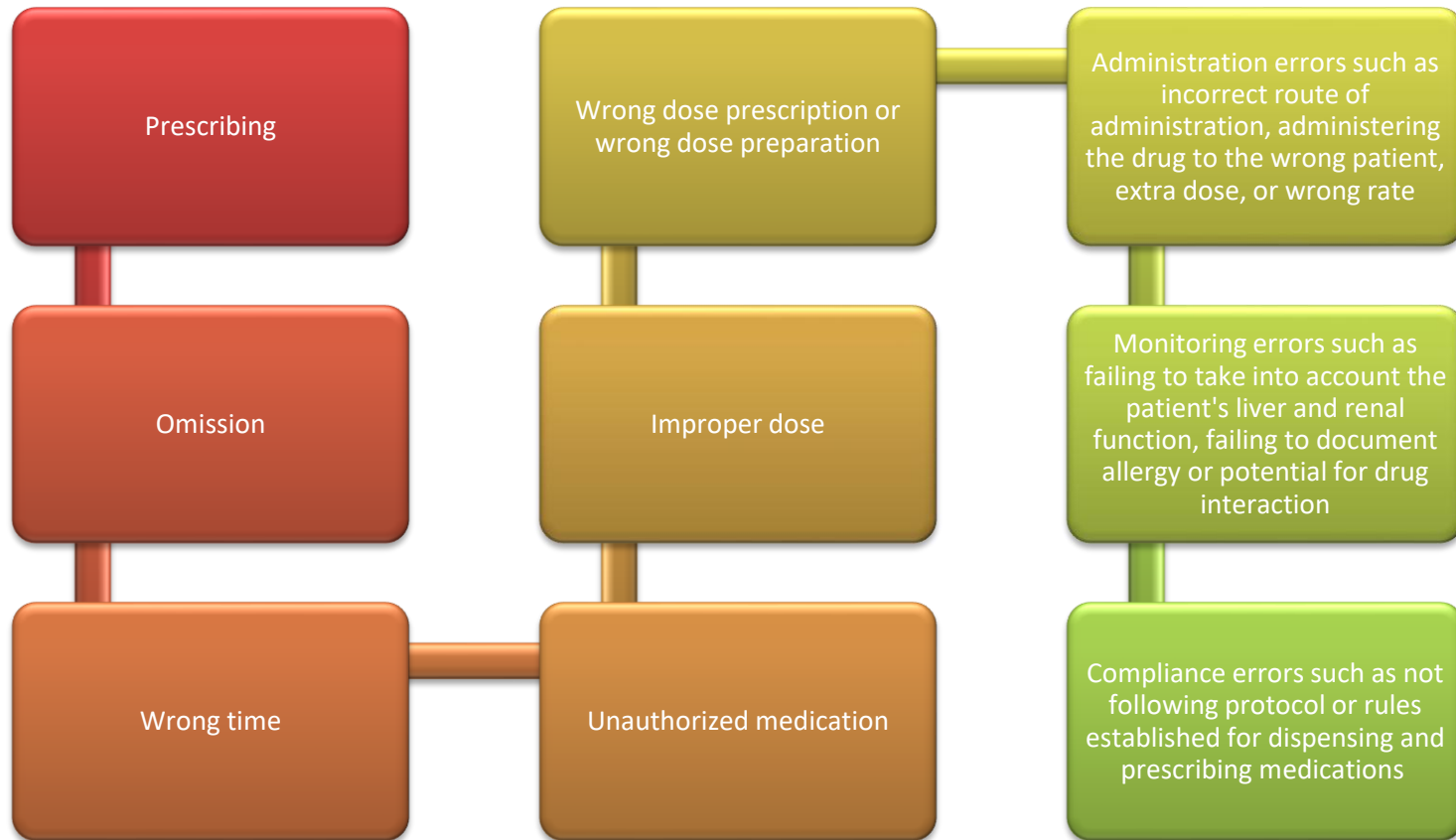


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Types of Medication Errors



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Medication safety – what do we mean?



Medication safety means preventing avoidable harm associated with medicines.

It requires:

- ✓ **The right medicine**
- ✓ **For the right patient**
- ✓ **At the right dose**
- ✓ **By the right route**
- ✓ **At the right time**
- ✓ **For the right indication**
- ✓ **With the right information**
- ✓ **With appropriate monitoring**

But importantly:

Safety is more than checking the “5 rights”.

It also requires **systems, communication, clinical judgement, monitoring and patient participation.**

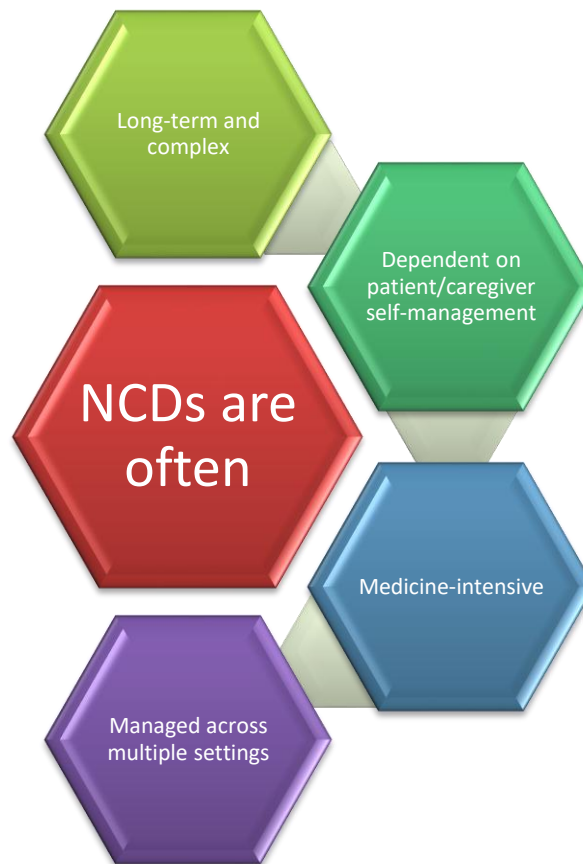


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"Why medication safety belongs in World Patient Safety Day 2026



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Medication safety is fundamental to "Safe care for life."



One patient, many medication encounters

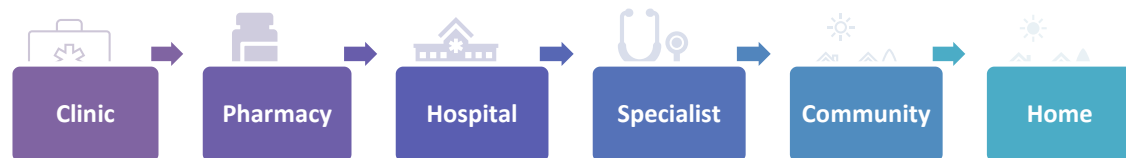


Safety risks to be addressed across the continuum of care and in daily life—not only within healthcare facilities.

Consider a patient living with:

- ✓ Hypertension
- ✓ Diabetes
- ✓ Dyslipidaemia
- ✓ Asthma/COPD
- ✓ HIV
- ✓ Epilepsy
- ✓ Cardiovascular disease

The patient may interact with:



At every transition:
Medication information can be lost, changed or misunderstood.



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Where can things go wrong?



Stage	Potential safety risk
Prescribing	Wrong medicine, dose, frequency or indication
Transcribing	Incorrect transfer of information
Dispensing	Selection, labelling or quantity error
Administration	Wrong patient/medicine/dose/route/time
Monitoring	Failure to identify toxicity or treatment failure
Refer / Transition / Discharge	Unclear or incomplete medication changes
Self-care	Patient misunderstanding, duplication or omission

Key question:

“What could go wrong at this point - and what barrier can stop it?”



Where can things go wrong?



When they come for a routine refill, the patient says:

"I'm taking the same tablets as before."

The healthcare worker:

1. Reviews the file.
2. Renews the prescription.
3. Patient leaves.

What could have been missed?

- Medicine stopped elsewhere
- New medicine from another facility
- Duplicate therapy
- Changed dose
- Adverse effect
- Non-adherence
- Interaction
- Patient misunderstanding
- Medicine obtained outside the facility



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High-risk Situations



High-risk situations, in the context of medication safety, relate to those circumstances which are associated with a significant risk of medication related harm.

High-risk situations are important because they are more often associated with significant harm due to unsafe medication practices or medication errors.

Three main factors contributing to high-risk situations

- ❖ Medication factors
- ❖ Provider and patient factors
- ❖ Systems factors (work environment)



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High-risk situations



- ✓ **High-alert medicines** where an error can cause significant harm.
- ✓ **Look-alike / sound-alike medicines** - similar names, packaging, appearance or strengths.
- ✓ **Paediatric dosing** - weight, age, formulation and dose calculations introduce additional risks.
- ✓ **Polypharmacy** - multiple medicines increase complexity and opportunities for error.
- ✓ **Transitions of care** - admission, transfer, referral and discharge.
- ✓ **Vulnerable patients** - patients with multiple conditions, cognitive/communication challenges or limited health literacy may require additional support.

Identified by WHO as priority areas for medication-safety action



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What the patient was taking

What should be taken

What has changed

Why has it changed?

**Has the patient understood
the change?**

Particularly important at:

- Admission
- Referral
- Transfer
- Discharge
- Chronic-care review



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SAs Safety Architecture



South Africa has mechanisms supporting medication safety through:

National Department of Health

- STGs and EML
- National patient-safety systems
- National quality and safety frameworks

SAHPRA

- Pharmacovigilance
- ADR reporting
- Medicine-safety communications
- Product-quality monitoring

Provincial and facility systems

- Pharmaceutical and Therapeutics Committees
- Medicines management systems
- Clinical governance
- Quality improvement
- Incident reporting and learning



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STGs and EML as a Safety Intervention



The South African EML is based on principles including comparative **efficacy, safety and affordability**, and is supported by STGs for different levels of care.

Evidence-based treatment

Standardisation

Rational Medicine Selection

Consistent prescribing

Safer patient care

A guideline only improves safety when it reaches the point of care and is used correctly.



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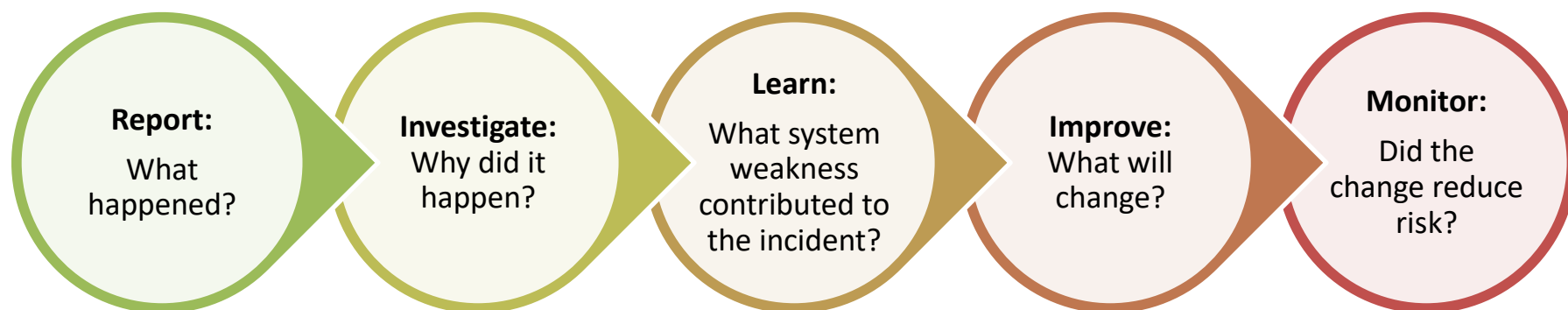
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The South African Patient-Safety System



The South African National Guideline for Patient Safety Incident Reporting and Learning establishes a standardised approach to reporting, investigating, responding to and learning from patient-safety incidents, with the aim of reducing recurrence and preventing patient harm.



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Error prevention



“Who made the medication error?”



“Why did our system allow the error to reach the patient?”

System Change

Was the process clear?

Was the medicine correctly labelled?

Was the prescription unambiguous?

Were staff adequately supported?

Were interruptions a factor?

Was there adequate supervision?

Was information available?

Could a second check have detected the error?

Did the patient understand the instructions?

Blame identifies a person.

Learning improves a system.



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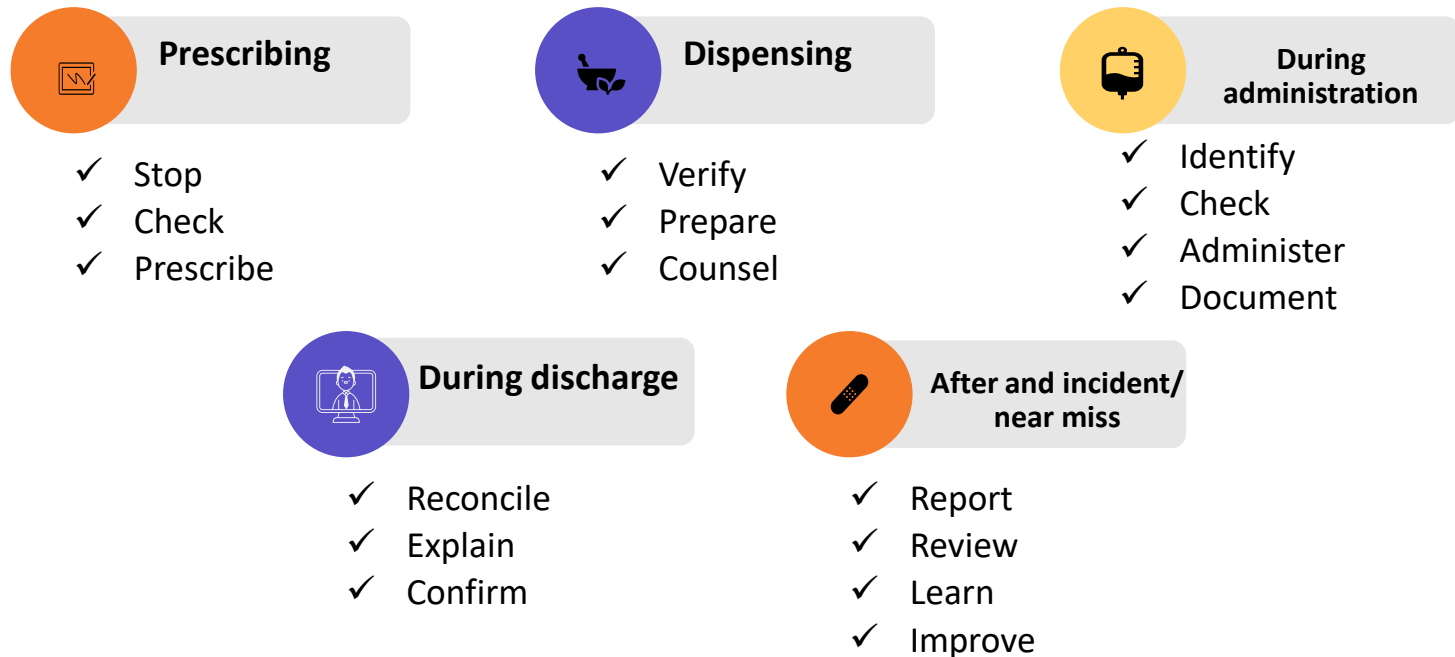
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Safety – a part of daily workflow



Don't create another programme - embed safety into existing work



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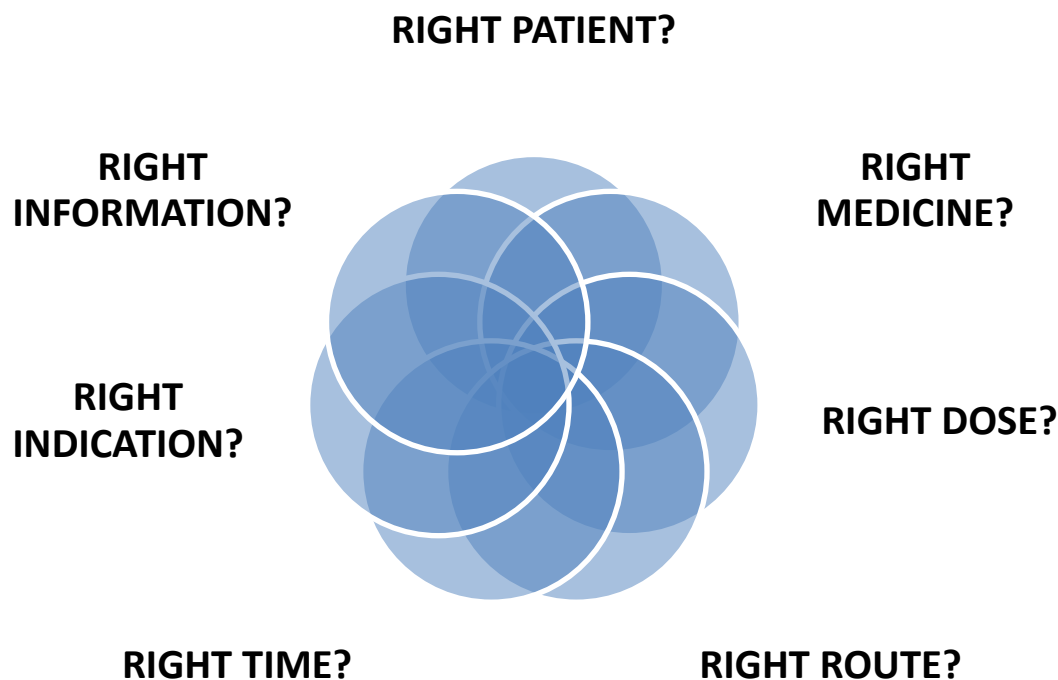
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The 30 Second Safety Pause



Before the medicine reaches the patient, ask:



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For high-risk situations:

Pause. Check. Ask for a second opinion if necessary.



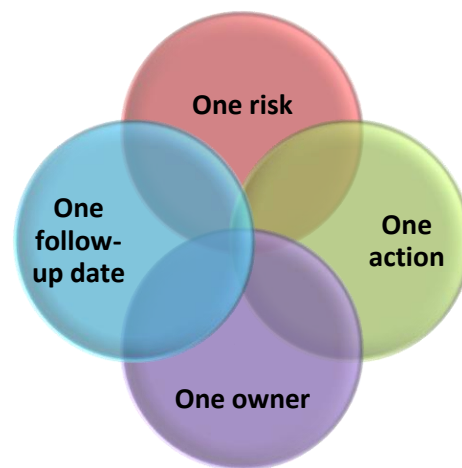
A 5-minute Medication Safety Huddle



At the start of the day/week:

Ask three questions:

1. What medication-safety risk are we seeing?
2. Did we have a medication incident or near miss?
3. What needs to change or be escalated?



This turns safety from a reporting exercise into an improvement cycle.



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The Patient



**Don't make patients responsible for
safety**

Instead:

Make them participants in safety.

“Let's identify and resolve any differences together.”



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The Five Questions



Encourage every patient/caregiver to ASK

1. What is this medicine for?
2. How and when should I take it?
3. What should I do if I miss a dose?
4. What side effects or warning signs should I know about?
5. What should I do if another healthcare worker changes my medicines?

NB: Teach-back tests our communication, not the patient's intelligence.

Use TEACH-BACK

Instead of:

“Do you understand?”

Ask:

“Just so I know I've explained it clearly, can you tell me how you will take this medicine at home?”

Teach-back can identify:

- Misunderstanding
- Incorrect dosing
- Language barriers
- Health-literacy challenges
- Caregiver uncertainty
- Practical barriers

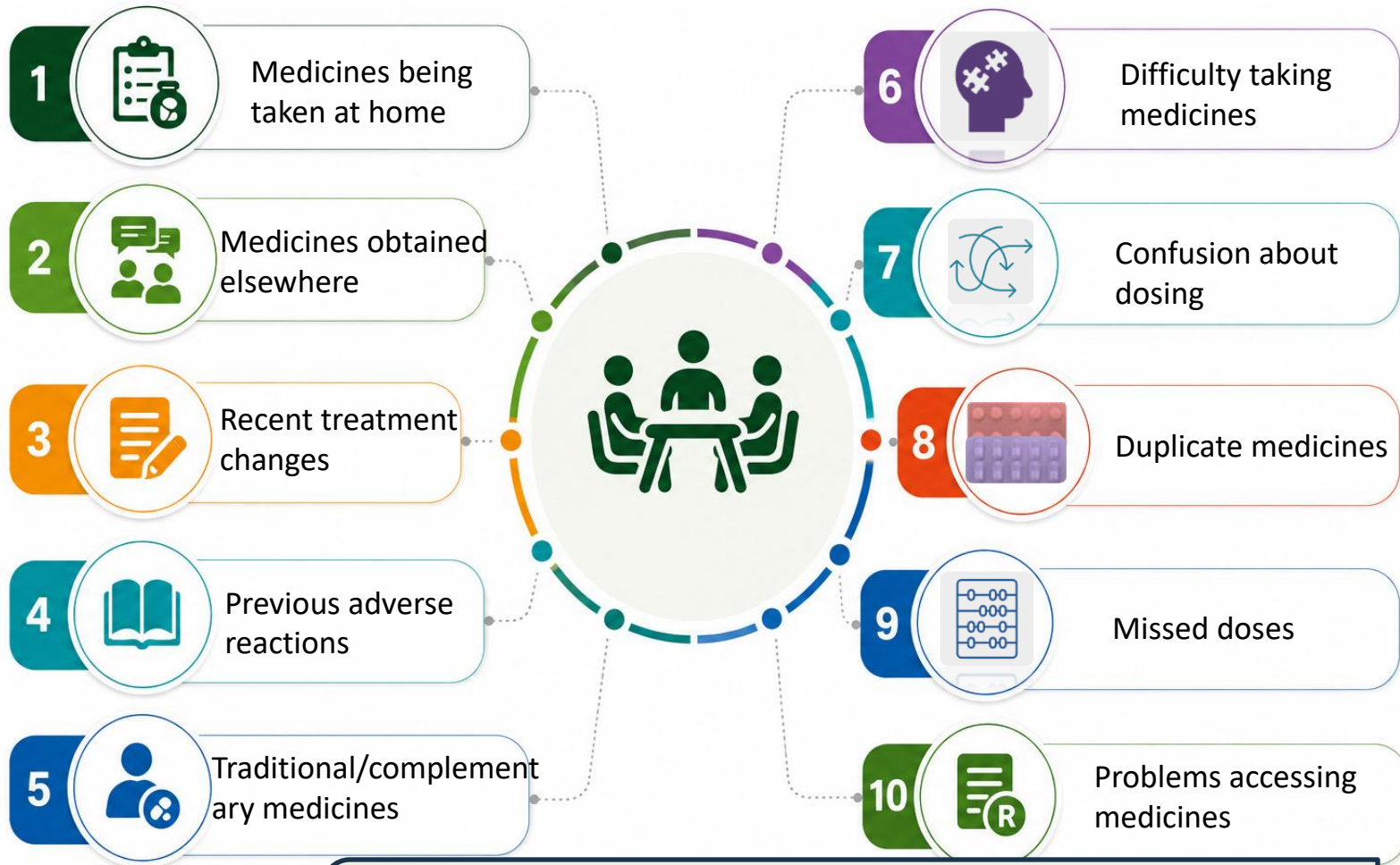


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Ask the Patient what the system cannot see



The patient often has the missing piece of the medication history.



Pharmacovigilance



“If we don't report, we may not learn.”

SAHPRA's pharmacovigilance system enables healthcare professionals and members of the public to report suspected adverse events.

SAHPRA states that **anyone can report an adverse event** and provides electronic and other reporting routes.

Encourage reporting of:

- **Suspected ADRs**
- **Medication-related harm**
- **Product-quality concerns**
- **Relevant safety signals**

Remember:

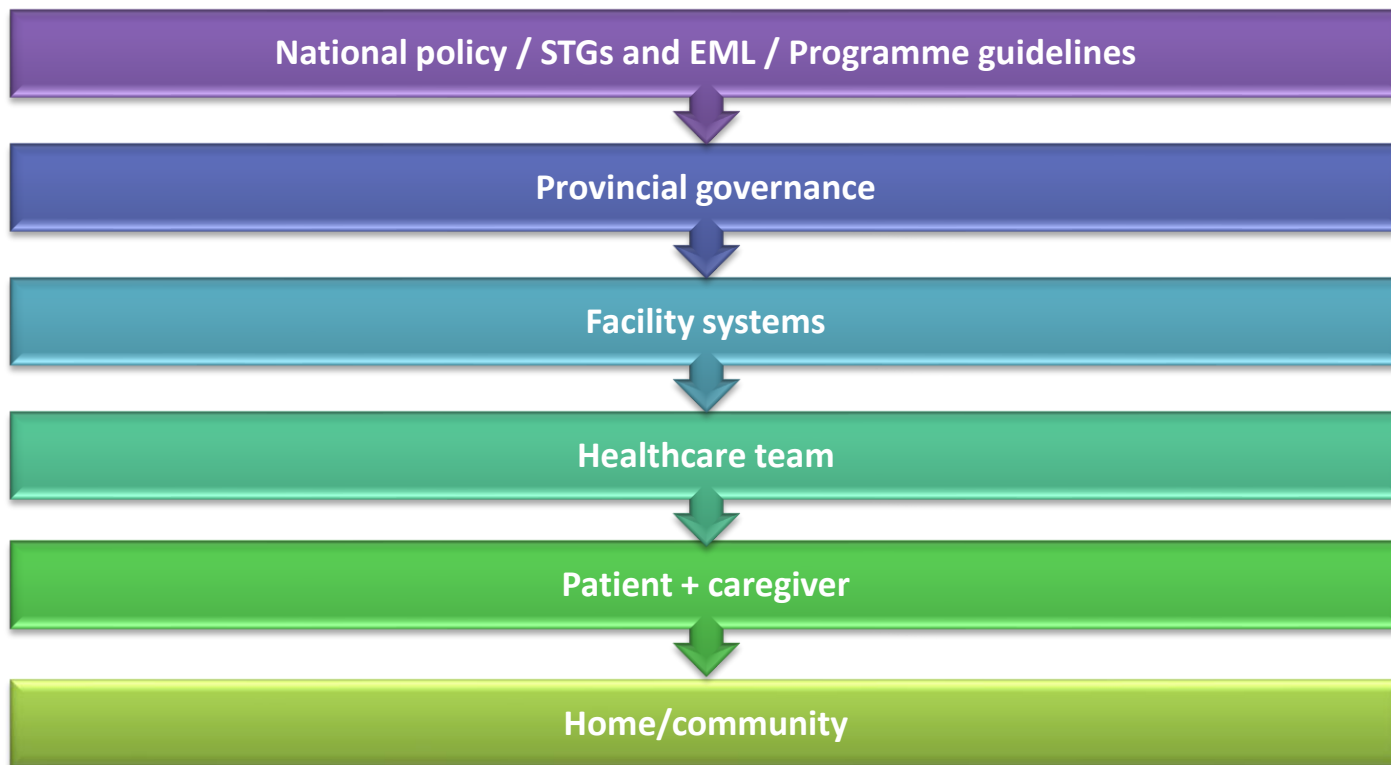
You do not need absolute certainty before reporting a suspected ADR.



The safety net



Imagine the patient journey



Every layer should provide a safety barrier.

When one barrier fails, another should catch the error.

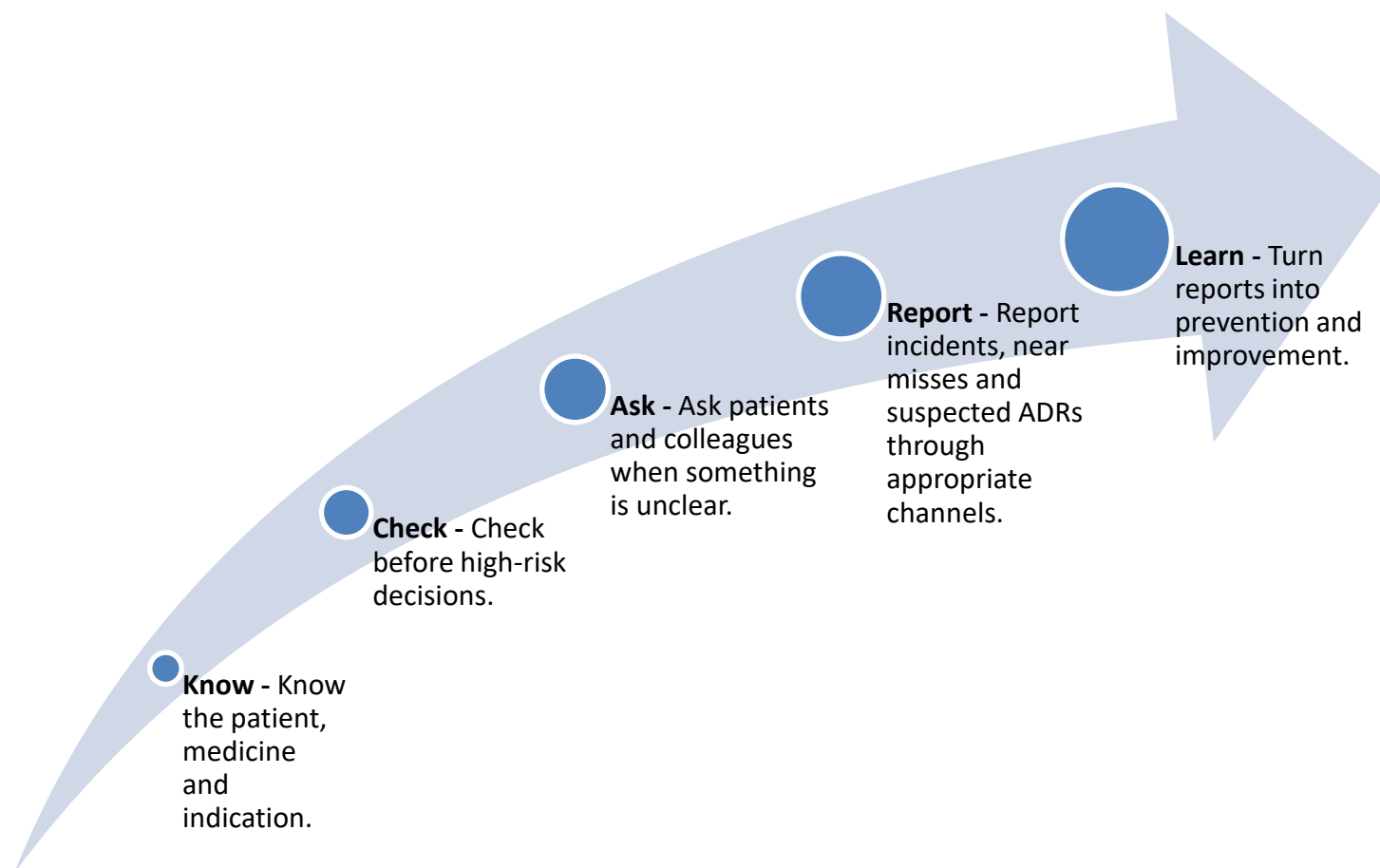


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Five Practical Commitments



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Role-based Action



Role	One practical action
Doctor / prescriber	Review indication, dose, interactions and allergies
Nurse	Use deliberate checks before administration
Pharmacist	Strengthen prescription screening and counselling
Pharmacy support staff	Escalate uncertainty rather than assume
Community Health Worker	Ask what medicines are actually being used at home
Facility manager	Include medication safety in routine team huddles
Quality Assurance Manager	Convert incidents into improvement actions
Patient/caregiver	Know the medicines and ask questions



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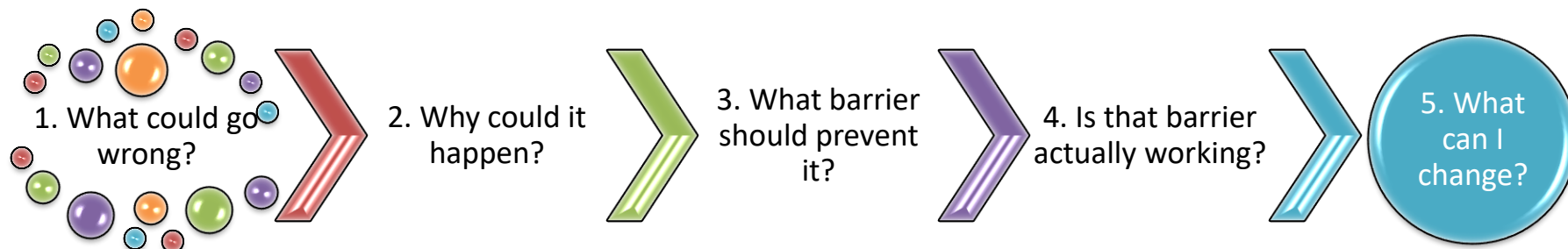


The 60-second Challenge



Think about your workplace

What is our biggest medication-safety risk?



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From Awareness To Action



Tomorrow morning, do one thing differently

- ☐ **At the start of the day:** Identify one medication-safety risk.
- ☐ **During patient care:** Perform one deliberate safety check.
- ☐ **During counselling:** Use teach-back.
- ☐ **During handover:** Communicate medication changes clearly.
- ☐ **When something goes wrong:** Report it and ask what can be learned.



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A Safety Culture



From	To
Blame	Learning
Silence	Reporting
Assumptions	Verification
“Patient compliance”	Patient partnership
Guideline on the shelf	Guideline at the point of care
Individual vigilance alone	Reliable systems
Incident closure	Organisational learning

Safety is not the absence of errors.

Safety is the presence of effective barriers and learning systems.



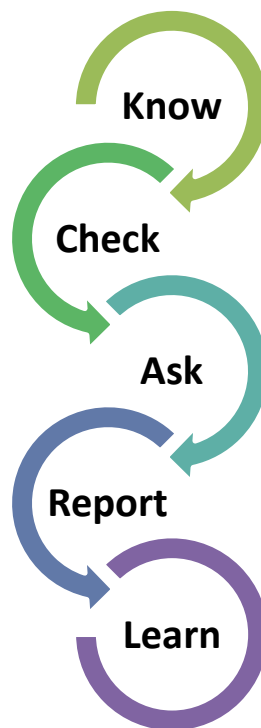
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Medication safety is everyone's responsibility.



“The safest system is not one that assumes people will never make mistakes; it is one designed to prevent, detect and learn from them.”



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“What will YOU change tomorrow?”



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Thank you



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