
NABP
National Association of Boards of Pharmacy
NCC MERP:
Pharmacist Tools to Support Patient Safety
Wednesday, December 14, 2022

1


NABP
National Association of Boards of Pharmacy
The handout for today's presentation can be found at:
www.nabp.pharmacy/webinar

2

NABP
National Association of Boards of Pharmacy

Financial Disclosures

Our speaker Nakia Eldridge declares that she does not have a current affiliation or financial arrangement with any ineligible companies that may have a direct interest in the subject matter of this continuing pharmacy education (CPE) activity within the past 24 months.

Additionally, NABP staff involved in the planning of this activity do not have a current affiliation or financial arrangement with any ineligible companies that may have a direct interest in the subject matter of NABP's CPE Program within the past 24 months.

All relevant financial relationships have been mitigated.

3

NABP
National Association of Boards of Pharmacy

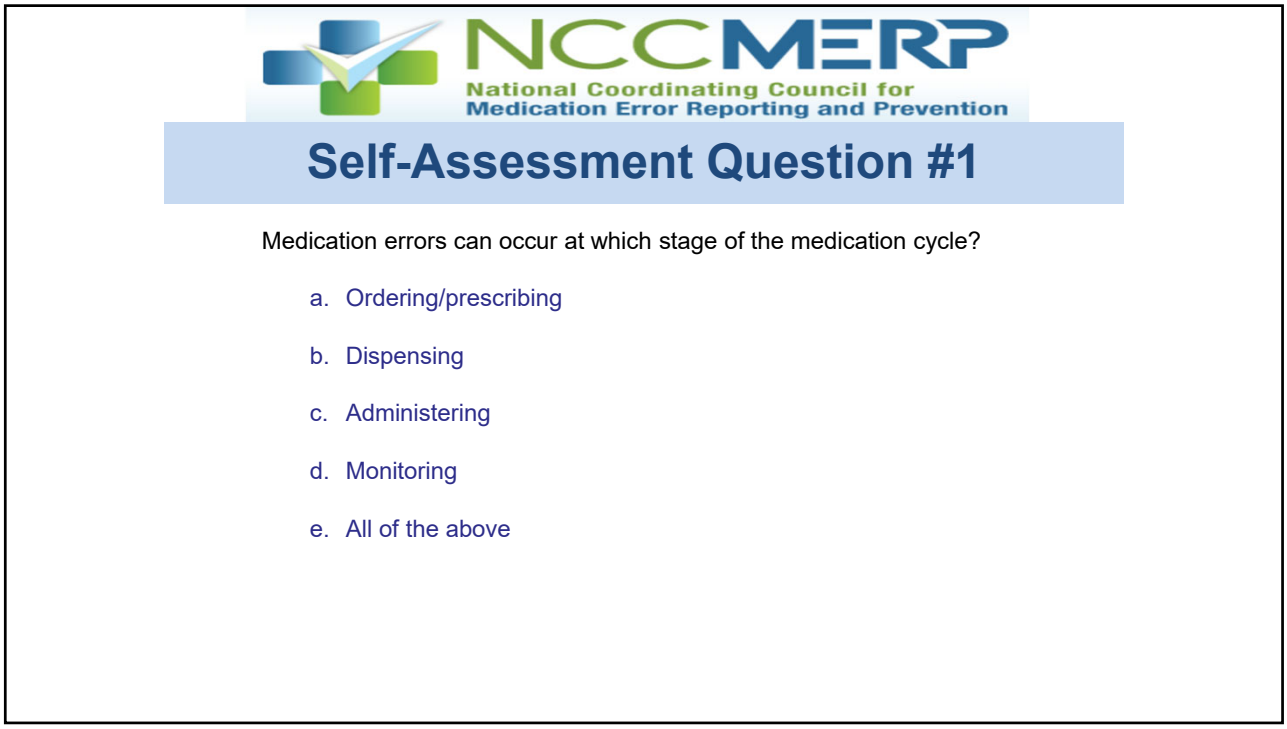
NCC MERP:
Pharmacist Tools to Support Patient Safety

Nakia Eldridge, MBA, PharmD
Director, Healthcare Patient Safety Information
United States Pharmacopeia
Secretariat, NCC MERP

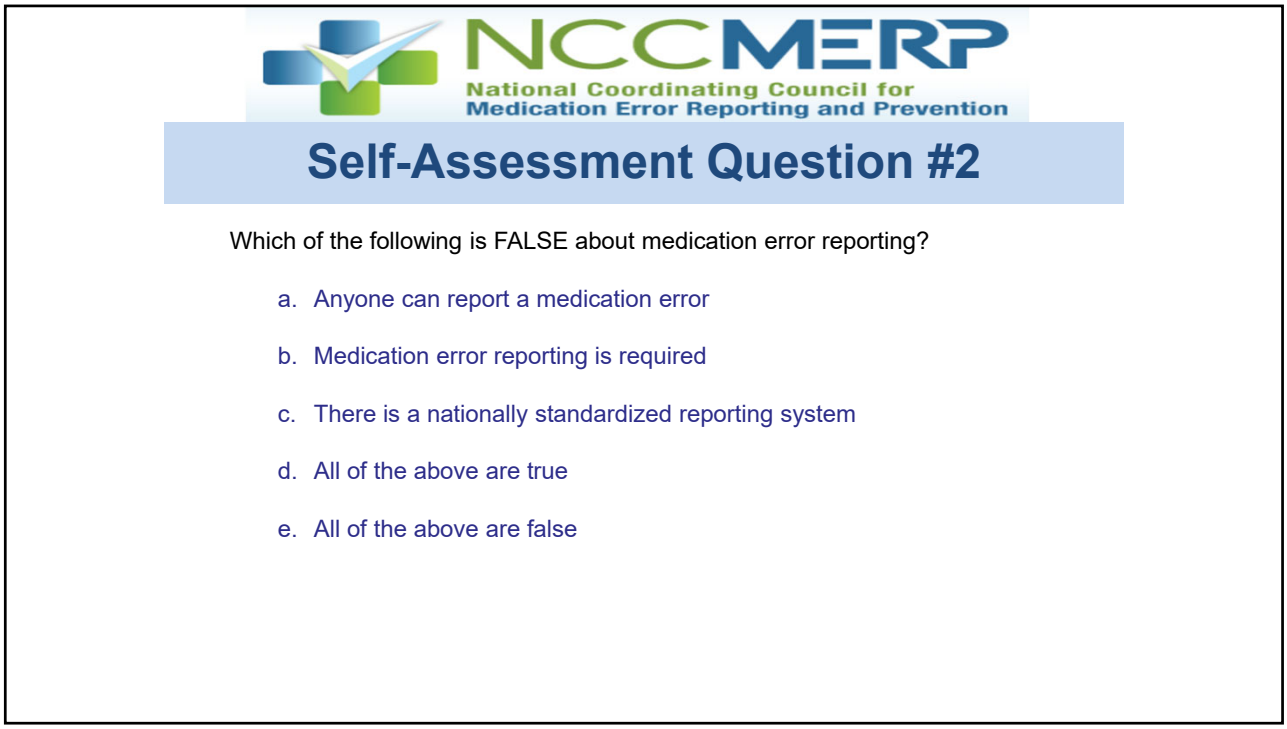
4


NCCMERP
National Coordinating Council for
Medication Error Reporting and Prevention
Pharmacist Tools to Support Patient Safety
Nakia Eldridge, PharmD, MBA
Director, Healthcare Patient Safety Information
US Pharmacopeia
Secretariat, NCC MERP

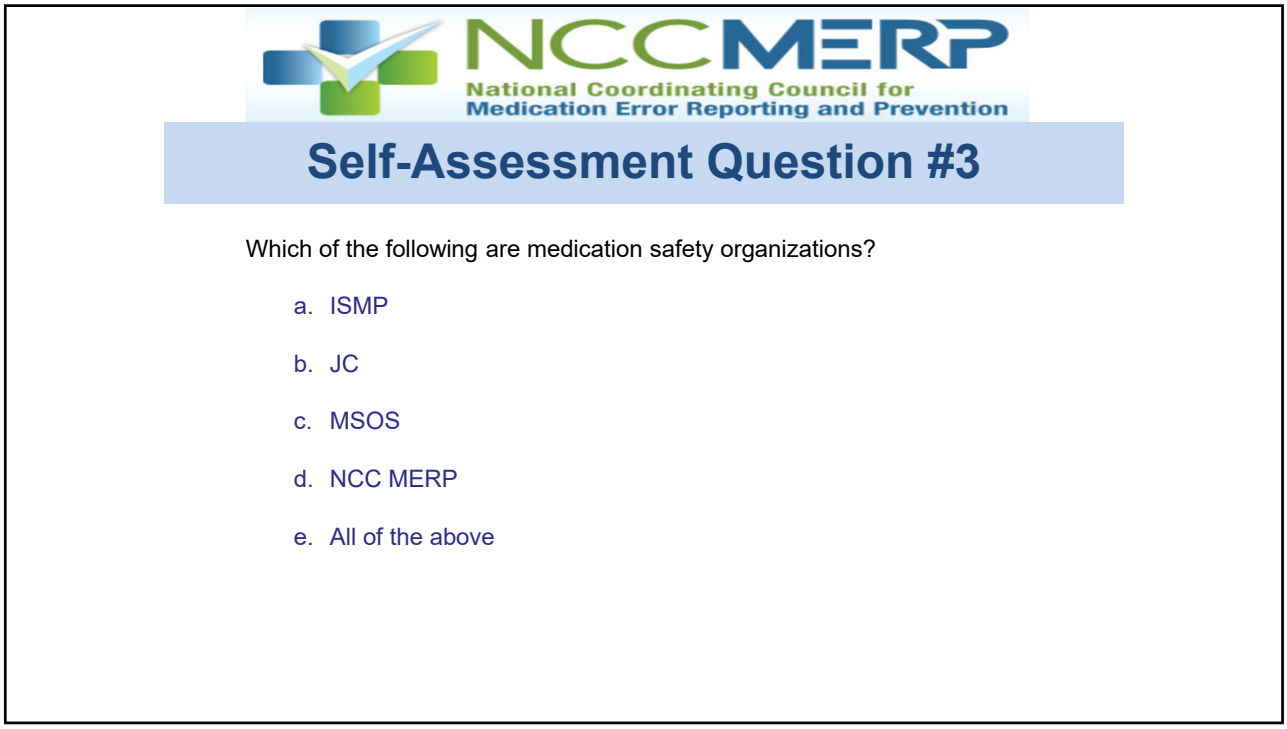
5


NCCMERP
National Coordinating Council for
Medication Error Reporting and Prevention
Self-Assessment Question #1
Medication errors can occur at which stage of the medication cycle?
a. Ordering/prescribing
b. Dispensing
c. Administering
d. Monitoring
e. All of the above

6


NCCMERP
National Coordinating Council for
Medication Error Reporting and Prevention
Self-Assessment Question #2
Which of the following is FALSE about medication error reporting?
a. Anyone can report a medication error
b. Medication error reporting is required
c. There is a nationally standardized reporting system
d. All of the above are true
e. All of the above are false

7


NCCMERP
National Coordinating Council for
Medication Error Reporting and Prevention
Self-Assessment Question #3
Which of the following are medication safety organizations?
a. ISMP
b. JC
c. MSOS
d. NCC MERP
e. All of the above

8

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

Agenda

1 **Medication Error Overview**
- Definitions
- Causes
- NCC MERP Role

2 **NCC MERP Medication Safety Promotion**
- Recommendations
- Statements

3 **NCC MERP Medication Error Prevention Solutions**

Medication errors are ranked the sixth highest cause of mortality in the United States, with 5-10% of the reported medication errors classified as harmful

www.free-powerpoint-templates-design.com

9

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

Medication Errors

Over 6,800 medications prescribed yearly

7,000 – 9,000 people die due to medication errors yearly in the US

Over 7 million patients are associated with medication errors yearly

Over $40 billion total cost of care for patients with medication-associated errors

10

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

Medication Safety Organizations

ISMP Institute for Safe Medication Practices An ECRI Affiliate

The Joint Commission

MSOS at the Institute for Safe Medication Practices

AHRQ Agency for Healthcare Research and Quality

Tackling medication safety takes a village

11

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

NCC MERP – Medication Safety Council

Formed to actively promote the reporting, understanding, and prevention of medication errors through the coordinated efforts of its member associations and agencies, and to focus on ways to enhance patient safety through a coordinated approach utilizing a systems-based perspective.

- Convened in 1995
- 23 Interdisciplinary Organizations & Agencies

AARP
American College of Clinical Pharmacology
American Geriatrics Society
American Medical Association
American Nurses Association
American Pharmacists Association
American Society for Healthcare Risk Management
American Society of Consultant Pharmacists
American Society of Health-System Pharmacists
Association for Accessible Medicines
BeMedWise Program at NeedyMeds
Department of Defense
Department of Veterans Affairs
Food and Drug Administration
Institute for Healthcare Improvement
Institute for Safe Medication Practices
The Joint Commission
Medication Safety Officers Society
National Alliance of State Pharmacy Associations
National Association of Boards of Pharmacy
Pharmaceutical Research and Manufacturers of America
Society of Hospital Medicine
United States Pharmacopeia

12

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

NCC MERP – Role in Medication Safety

Vision
No patient will be harmed by a medication error.

Mission
To maximize the safe use of medications and to increase awareness of medication errors through open communication, increased reporting, and promotion of medication error prevention strategies

Medication Error Focus
- Definitions
- Index
- Dangerous Abbreviation
- Taxonomy
- Medication Error Reporting
- Adverse Drug Event Algorithms

Recommendations
Statements

13

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

Medication Errors Defined

There is no uniform definition of a medication error.

The National Coordinating Council for Medication Error Reporting and Prevention defines a medication error as:

> *"A 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 healthcare professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures, and systems, including prescribing; order communication; product labeling, packaging, and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use."*

The Council has urged all stakeholders to adopt this definition of a medication error to promote uniformity in the discussion of medication errors across the healthcare continuum. Among those adopting the NCC MERP definition are FDA, Centers for Medicare and Medicaid Services (CMS), and others.

14

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

Medication Errors Roots

Medication errors can occur at many steps in patient care, from ordering to administration.

In general, medication errors usually occur at one of these points:

- Ordering/prescribing
- Documenting
- Transcribing
- Dispensing
- Administering
- Monitoring

15

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

Medication Errors Reporting

Voluntary reporting
The percent of underreporting of adverse events is estimated to range from 50% to 60% annually.

Blended Reporting
Despite their high incidence, medication errors reporting in the medical care practice is usually done in an informal manner.

Confusing / Complex Reporting Systems
Ineffective reporting systems

- The National Alert Network (NAN) distributes the alerts from the ISMP National Medication Errors Reporting Program


NATIONAL ALERT NETWORK (NAN)

May 17, 2022

Potassium chloride for injection concentrate in EXCEL plastic bags

NANALERT

The current US national discussions on patient safety are not based on a common language. This hinders systematic application of data obtained from incident reports and learning from near misses and adverse events. The Joint Commission

16

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

NCC MERP – Taxonomy of Medication Errors

- The purpose of this taxonomy is **to provide a standard language and structure of medication error-related data for use in developing databases analyzing medication error reports**.
- The goal of the taxonomy is to provide a detailed structure and standardized language to report medication error-related data for use in developing databases to analyze medication error reports.

The taxonomy consists of 8 major categories:

1. Patient Information
2. Medication Error Event
3. Patient Outcome
4. Product Information
5. Personnel Involved
6. Type of Medication Error
7. Causes
8. Contributing Factors

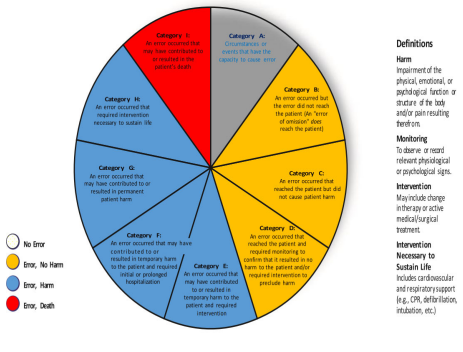
17

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

Categorizing Medication Errors

- An index to classify an error according to the severity of the outcome.
- Designed to help health care practitioners and institutions track medication errors in a consistent, systematic manner.
- Considers factors such as:
  - Whether the error reached the patient
  - If the patient was harmed and to what degree
- Circular configuration, which attributes an equal area to each of the nine medication error categories.

Index for Categorizing Medication Errors

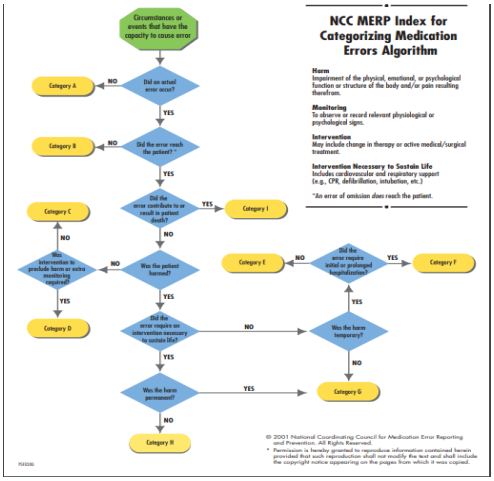


18

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

Algorithm for Medication Categories

Incorporates a series of "yes-no" questions to guide health care professionals in their determination of the appropriate medication error category for the error they are reporting or evaluating.



19

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

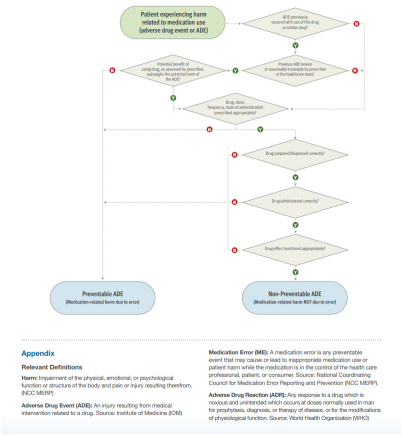
Differentiating Adverse Drug Events

Medication errors are main contributors to adverse events to hospitalized patients.

PROBLEM: Several definitions for the terms Adverse Drug Events (ADEs), Adverse Drug Reactions (ADRs), and Medication Errors in the literature, research reports, and by various organizations.

SOLUTION: Adverse Drug Events Algorithm

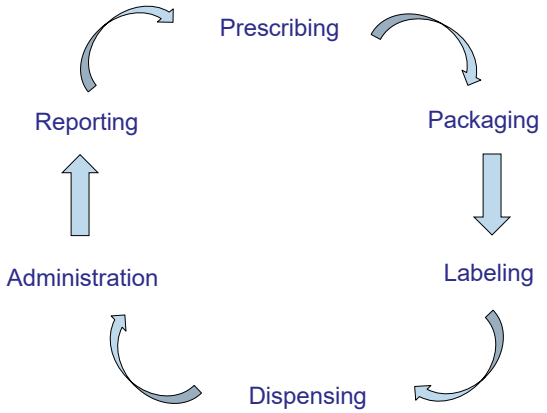
- An ADR has been defined as harm that results from a medication dose that is "normally used in man."
- An ADE has been defined as harm associated with any dose of a drug, whether the dose is "normally used in man" or not.



20

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

Promoting Medication Error Prevention Strategies



21

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

Recommendations for Prescribing

Prescribing errors are relatively common but preventable events

Most of these errors result in no harm or low-to-moderate harm

Prescribing error rates of 8.9 errors per 100 medicine orders have been observed in acute hospitals

In October 2015 at a Minnesota Golden Living facility, an LPN transcribing the resident's warfarin order made an error and placed the order on another resident's record. The resident did not receive a daily dose of warfarin for nine days, and the error went unnoticed. The resident was eventually sent to the hospital and later died of a "large ischemic stroke" and respiratory failure. The medication error was discovered when the hospital called the facility to check on laboratory results. The report cited failure to follow the facility's transcription procedures as the cause.

- In 2001, the Council developed recommendations to reduce medication errors associated with verbal medication orders and prescriptions.
  - Limiting verbal orders to emergency situations
  - Repeating the order back to the prescriber, immediately converting the order to writing
  - Fostering a culture where staff is encouraged to question prescribers about unclear verbal orders
  - Highlighting the risk of medication errors with the use of a drug

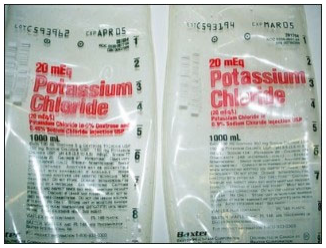
The Pharmaceutical Journal, PJ, February 2019, Vol 302, No 922;302(7922):DOI:10.1211/PJ.2019.20206123

22

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

Recommendations for Labeling and Packaging

On Jan. 22, 2017, Air Force and Korean War veteran Ralph Keogh went to Dorn VA for treatment for nausea and vomiting. The veteran, who had previously been treated for acute myelogenous leukemia, was given "several doses" of pegfilgrastim in error when he was prescribed filgrastim. "Given Mr. Keogh's medical history, the medication error caused Mr. Keogh to develop pulmonary toxicity, which led to acute respiratory distress syndrome or severe acute lung injury."



- In 1997 the Council adopted two sets of recommendations, one for regulators and standards-setters and one for manufacturers of pharmaceuticals and devices.
  - Restricting the use of any printing on caps and ferrules of injectables except to convey warnings
  - Using innovative labeling, such as enhanced letters, to distinguish similar drug names
  - Implementing of bar coding
  - Using failure mode and effects analysis for the design of devices, and for the packaging and labeling of medications
  - Partnering among members of the entire medication use spectrum to minimize labeling and packaging errors

23

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

Recommendations for Dispensing

For about 18 months, a young child had been receiving a 3-gram (20 mL) dose of tryptophan 150 mg/mL suspension by mouth at bedtime to treat a complex sleep disorder.

A refill of the tryptophan prescription was ordered and picked up from the compounding pharmacy that had prepared the suspension in the past. That night, the child was given the usual dose of medication; the next morning, the child was found deceased in bed.

A post-mortem toxicology test identified lethal levels of the antispasticity agent baclofen. Baclofen had not been prescribed for the child.

This finding was consistent with a selection error having been made at the pharmacy, whereby one ingredient was inadvertently substituted for another.

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.

ISMP Canada Safety Bulletin – Volume 17 • Issue 5 • May 25, 2017

- Patient harm is more likely to occur when there are no mechanisms in place to prevent medication errors from reaching patients.
- For example, poor environmental conditions, distractions, and excessive workload all act to undermine safe medication use practices.
- The Council adopted recommendations aimed at preventing errors that occur during the dispensing phase of the medication use process.
- Emphasis was placed on checking and rechecking labels, arranging product inventory to visually differentiate medications, designing dispensing areas that are conducive to uninterrupted work, and encouraging pharmacists to take an active role in counseling patients.

24

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

Recommendations for Administration

In December 2017, a Tennessee nurse was charged with reckless homicide because of an alleged medication error. According to several news outlets, including the Associated Press, instead of a sedative named Versed, the paralytic anesthetic vecuronium was injected to an elderly patient. It was alleged that when Versed could not be found in an automatic dispensing cabinet, the nurse selected vecuronium because it was the first medication that came up on the list when 'VE' was typed into the system of the cabinet.

A patient's heart stopped following administration of Levophed, a blood pressure drug. While the medication type was correct, a nurse administered 3,000-8,000 times the prescribed dosage. Numerous factors contributed to this error, regulators determined, including the lack of safeguards for high-alert medications, the administering nurse's lack of experience with Levophed, and failure for a second nurse to sign off on dispensing the medication.

- The Council seeks to ensure that health care professionals who administer medications are knowledgeable about the drugs they administer and have easily accessible product information.
- The Council adopted recommendations to reduce errors related to the administration of drugs in all areas of health care delivery, once again focusing on the five patient rights.
  - Check labels three times
  - Use linked automated systems (eg, direct order entry, computerized medication administration records, and bar coding)
  - Use data from actual or potential administration errors to continuously collect for quality improvement

25

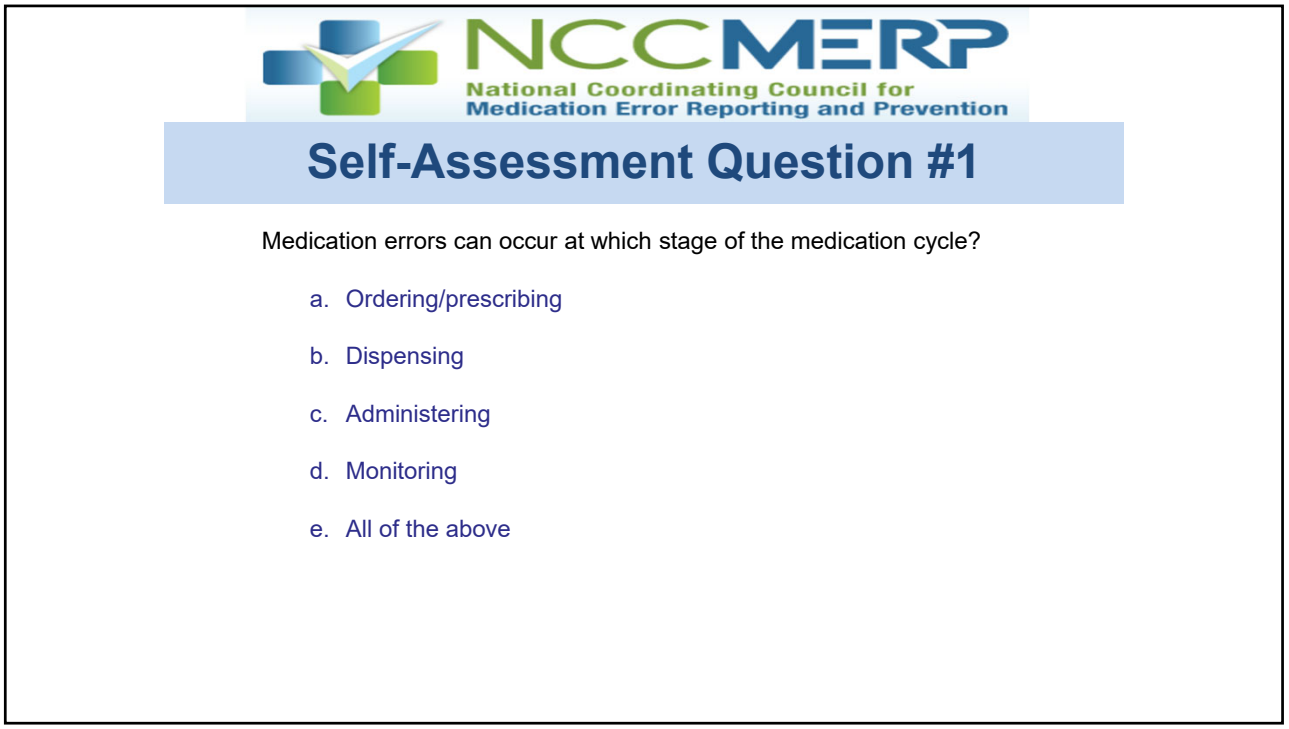
NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

The Future of Medication Safety

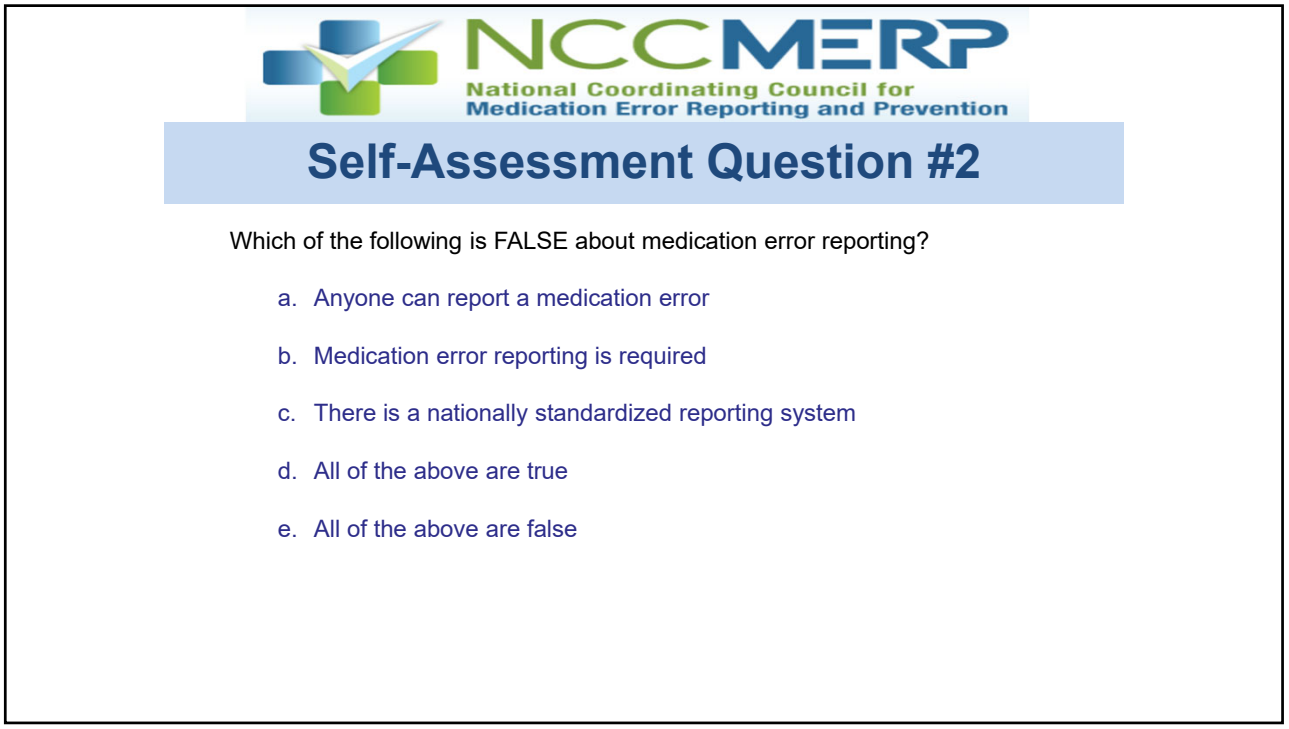
Continuously promote medication safety:

- Publications and presentations
- Ongoing generation of relevant and timely information
- Design and implement strategies to reduce and/or prevent medication errors
- Promote error reporting
- Increase communication with interested parties

26


NCCMERP
National Coordinating Council for
Medication Error Reporting and Prevention
Self-Assessment Question #1
Medication errors can occur at which stage of the medication cycle?
a. Ordering/prescribing
b. Dispensing
c. Administering
d. Monitoring
e. All of the above

27


NCCMERP
National Coordinating Council for
Medication Error Reporting and Prevention
Self-Assessment Question #2
Which of the following is FALSE about medication error reporting?
a. Anyone can report a medication error
b. Medication error reporting is required
c. There is a nationally standardized reporting system
d. All of the above are true
e. All of the above are false

28

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

Self-Assessment Question #3

Which of the following are medication safety organizations?

a. ISMP
b. JC
c. MSOS
d. NCC MERP
e. All of the above

29

NCCMERP
National Coordinating Council for Medication Error Reporting and Prevention

Nakia Eldridge, PharmD, MBA
Director, Healthcare Patient Safety Information
US Pharmacopeia
Secretariat, NCC MERP

Please direct any questions to Nakia.Eldridge@usp.org

30

NABP
National Association of Boards of Pharmacy

Q&A

You may use the Questions tool on your screen to submit questions to the presenter.

Our host will read the questions out loud in the order they are received.

31

NABP
National Association of Boards of Pharmacy

Submit Your CPE Claim

1. Claim your CPE credit by signing in to NABP's submission site: ***https://nabp.pharmacy/claimcpe*** (case-sensitive) If you do not have a login for NABP's CPE submission site, you will need to create an account.
2. Click on the "Live CPE" tab
3. Select the workshop from the Live Meetings and Conferences list
4. Enter the session code provided on the next slide
5. Complete the course and speaker evaluations
6. Select the appropriate credit (pharmacist or pharmacy technician)
7. Enter your NABP e-Profile ID and date of birth and certify that the information is correct
8. Click the claim button

Claims must be submitted by noon on February 12, 2023.

NABP does not submit CPE credit claims on participants' behalf. Attendees must follow the steps above by February 12, 2023, in order for the credit to appear in CPE Monitor®.

NABP® and NABP Foundation® are accredited by the Accreditation Council for Pharmacy Accreditation (ACPE) as providers of continuing pharmacy education (CPE). ACPE provider number: 0205.

1 contact hour (0.1 CEU)
0205-0000-22-074-L05-P
0205-0000-22-074-L05-T

The handout for today's presentation can be found at: *www.nabp.pharmacy/webinar*

Questions about submitting your claim? Please contact CPE@nabp.pharmacy.

32