

## UNMC ID ECHO Project to Reduce COVID-19 Health Disparities Through Quality Improvement

### **Welcome to Session 35**





Project Funded by Nebraska DHHS through a CDC grant

## **Housekeeping Reminders**

- Discussion makes sessions work best!
- Please stay muted unless you are speaking
- ➤ We love to see your face!
- Sessions will be recorded and available upon request
- > Attendance is taken by filling the survey in the chat
- > All the session presentation are available on our <u>website</u>
- Project ECHO collects registration, participation, questions and answers, chat comments, and poll responses for some ECHO programs. Your individual data will be kept confidential. This data may be used for reports, maps, communications, surveys, quality assurance, evaluation, research, and to create new initiatives.



## **Subject Matter Experts**

#### **Infectious Diseases Team**

- M. Salman Ashraf, MBBS
  - Erica Stohs, MD, MPH
  - Kelly Cawcutt, MD, MS
- Jonathan Ryder, MD

### **Quality Improvement Team**

- Jeff Wetherhold, QI Consultant
  - Gale Etherton, MD
  - Mahliqha Qasimyar, MD

### **Health Equity & Cultural**

### **Sensitivity Team**

- Nada Fadul, MD
- •Mahelet Kebede, HE & CS Consultant
  - Shirley Delair, MD
  - Jasmine Marcelin, MD
    - •Andrea Jones, MD
  - Precious Davis, EdD
- Samantha Jones, Program Manager

•Dan Cramer, NP





### **CE Disclosures**





### UNMC ID Health Equity and Quality Improvement ECHO Project

Topics: IPC: Injection Safety and Infection Prevention

Free Live ECHO Project April 5, 2023 CID 57619



#### TARGET AUDIENCE

This accredited continuing education activity is intended for physicians, APPs, nurses, social workers, case managers, and anyone else interested in learning about health equity in underserved populations.

### **ACTIVITY DESCRIPTION**

Achieving health equity, addressing COVID-19 disparities, and improving the health of all Nebraskans using a quality improvement approach are the goals for our newly launched educational initiative. This COVID-19-focused health equity and quality improvement educational series will use the ECHO model for training healthcare workers. The course is being offered through the University of Nebraska Medical Center (UNMC) infectious diseases (ID) ECHO program and is funded by the Nebraska Department of Health and Human Services (DHHS) via a CDC grant.



#### **EDUCATIONAL OBJECTIVES**

At the conclusion of this live activity, the participants should be better able to:

- Define safe needle use never shared between patients; limited to only one needle, one syringe, and only one time.
- Describe clean areas for safe medication and injection preparation.
- List at least 3 differences between single-dose vials and multi-dose vials.

#### **REQUIREMENTS FOR SUCCESSFUL COMPLETION**

In order to receive continuing education credit/credits, you must:

- 1. Participate in the live activity via ZOOM. Your attendance will be tracked by the course facilitator.
- 2. Complete the overall evaluation
  - a. Instructions on how to access the overall evaluation will be provided on a quarterly basis.
  - b. Continuing education credits will be issued for activities you attended.

For questions regarding evaluation and attendance, please contact Nuha Mirghani, MD, MBA, HCM at <a href="mailto:nmirghani@unmc.edu">nmirghani@unmc.edu</a>



### ACCREDITED CONTINUING EDUCATION



INTERPROFESSIONAL CONTINUING EDUCATION

In support of improving patient care, University of Nebraska Medical Center is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

#### PHYSICIANS/PHYSICIAN ASSISTANTS

The University of Nebraska Medical Center designates this live activity for a maximum of 1.5 AMA PRA Category 1 Credit(s)<sup>TM</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

#### NURSES/NURSE PRACTITIONERS

The University of Nebraska Medical Center designates this activity for 1.5 ANCC contact hour(s). Nurses should only claim credit for the actual time spent participating in the activity.



### ACCREDITED CONTINUING EDUCATION



As a Jointly Accredited Organization, University of Nebraska Medical Center is approved to offer social work continuing education by the Association of Social Work Boards (ASWB) Approved Continuing Education (ACE) program. Organizations, not individual courses, are approved under this program. Regulatory boards are the final authority on courses accepted for continuing education credit. Social workers completing this course receive 1.5 general continuing education credits. **Social work level of content: Advanced.** 



This program has been pre-approved by The Commission for Case Manager Certification to provide continuing education credit to CCM<sup>®</sup> board certified case managers. The course is approved for 1.5 CE contact hour(s). Activity code: I00054527 Approval Number: 230000976 To claim these CEs, log into your CCMC Dashboard at www.ccmcertification.org.



### **DISCLOSURE DECLARATION**

As a jointly accredited provider, the University of Nebraska Medical Center (UNMC) ensures accuracy, balance, objectivity, independence, and scientific rigor in its educational activities and is committed to protecting learners from promotion, marketing, and commercial bias. Faculty (authors, presenters, speakers) are encouraged to provide a balanced view of therapeutic options by utilizing either generic names or other options available when utilizing trade names to ensure impartiality.

All faculty, planners, and others in a position to control continuing education content participating in a UNMC accredited activity are required to disclose all financial relationships with ineligible companies. As defined by the Standards for Integrity and Independence in Accredited Continuing Education, ineligible companies are organizations whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients. The accredited provider is responsible for mitigating relevant financial relationships in accredited continuing education. Disclosure of these commitments and/or relationships is included in these activity materials so that participants may formulate their own judgments in interpreting its content and evaluating its recommendations.

This activity may include presentations in which faculty may discuss off-label and/or investigational use of pharmaceuticals or instruments not yet FDA-approved. Participants should note that the use of products outside currently FDA-approved labeling should be considered experimental and are advised to consult current prescribing information for FDA-approved indications.

All materials are included with the permission of the faculty. The opinions expressed are those of the faculty and are not to be construed as those of UNMC.



### Disclosures

The accredited provider has mitigated and is disclosing identified relevant financial relationships for the following faculty, planners, and others in control of content prior to assuming their roles:

#### FACULTY

The below faculty have nothing to disclose:

• Rebecca Martinez, BA, BSN, RN, CIC



### Disclosures

#### **PLANNING COMMITTEE**

#### M. Salman Ashraf, MBBS

Merck & Co, Inc: Industry funded research/investigator

#### Erica Stohs, MD, MPH

ReViral Ltd.: Industry funded research/investigator

The below planning committee members have nothing to disclose:

- Valeta Creason-Wahl, HMCC
- Precious Davis, EdD, MSN, BSN, RN
- Nada Fadul, MD
- Samantha Jones, CSW
- Mahelet Kebede, MPH
- Heidi Keeler, PhD, MSN/MBA, RN
- Nuha Mirghani, MD, MBA, HCM
- Renee Paulin, MSN, RN, CWOCN
- Jonathon Ryder, MD
- Jeff Wetherhold, M. Ed
- Bailey Wrenn, MA





### www.unmc.edu/cce







# **Project Updates**



- Approval received from the CDC for project extension
- Focus on providing consultation on QI projects
- Invitation to everyone throughout the state of NE





# **Participant Interviews**

- 30-45 minutes each
- Focused on how you hope to apply what you are learning to your work
- Helps us improve program content

### Schedule an interview:







## **Poll Results**





## Infection Prevention and Control: Injection Safety and Infection Prevention

Presenter: Rebecca Martinez, BA, BSN, RN, CIC





# **Objectives**

1. Define safe needle use as never shared between patients; limited to only one needle, one syringe, and only one time.

2. Describe clean areas for safe medication and injection preparation.

3. List at least 3 differences between single-dose vials and multi-dose vials.





# World Health Organization Statement

A safe injection is one that does not harm the recipient, does not expose the provider to any avoidable risks and does not result in waste that is dangerous for the community. Unsafe injection practices can lead to transmission of bloodborne pathogens, with their associated burden of disease.

To ensure rational and safe use of injections globally, better injection safety practices are needed. The responsibility for ensuring injection safety rests with national governments, prescribers, administrators, receivers of injections and the wider community.









https://www.who.int/publications/i/item/9789241599252

# **One & Only Campaign**







## Outbreaks & Devastating Consequences

Nebraska had one of the largest health-care related outbreaks

- The investigation revealed that the health-care worker responsible for medication infusions routinely used the same syringe to draw blood from patients' central venous catheters and to draw catheter-flushing solution from 500cc saline bags that were used for multiple patients.
- 99 patients were infected as they were identified to have clinic-acquired hepatitis C virus infection
- For more information, there is a book and other publications
  - <u>https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5238a1.htm</u>
  - <u>https://www.cdcfoundation.org/blog-entry/unsafe-injections-put-patients-risk-serious-illness</u>





## Injection Safety Checklist

All healthcare settings can benefit from using the CDC Injection Safety Checklist.

 As healthcare providers, we should promote best practices in any setting for any patient.

#### INJECTION SAFETY CHECKLIST

The following Injection Safety checklist items are a subset of items that can be found in the CDC Infection Prevention Checklist for Outpatient Settings: Minimum Expectations for Safe Care.

The checklist, which is appropriate for both inpatient and outpatient settings, should be used to systematically assess adherence of healthcare providers to safe injection practices. Assessment of adherence should be conducted by direct observation of healthcare personnel during the performance of their duties.

	Practice Performed?	If answer is No, document plan for remediation
Proper hand hygiene, using alcohol-based hand rub or soap and water, is performed prior to preparing and administering medications.	Yes No	
Injections are prepared using aseptic technique in a clean area free from contamination or contact with blood, body fluids, or contaminated equipment.	Yes No	
Needles and syringes are used for only one patient (this includes manufactured prefilled syringes and cartridge devices such as insulin pens).	Yes No	
The rubber septum on a medication vial is disinfected with alcohol prior to piercing.	Yes No	
Medication vials are entered with a new needle and a new syringe, even when obtaining additional doses for the same patient.	Yes No	
Single-dose or single-use medication vials, ampules, and bags or bottles of intravenous solution are used for only one patient.	Yes No	
Medication administration tubing and connectors are used for only one patient.	Yes No	
Multi-dose vials are dated by healthcare when they are first opened and discarded within 28 days unless the manufacturer specifies a different (shorter or longer) date for that opened vial. Note: This is different from the expiration date printed on the vial.	Yes No	
Multi-dose vials are dedicated to individual patients whenever possible.	Yes No	
Multi-dose vials to be used for more than one patient are kept in a centralized medication area and do not enter the immediate patient treatment area (e.g., operating room, patient room/cubide). Note: If multi-dose vials enter the immediate patient treatment area, they should be dedicated for single-patient use and	Yes No	

medical injections. To learn more about safe injection practices, please

visit www.cdc.gov/injectionsafety/1anonly.html.

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### Injection Safety Checklist (Key Points)

- Hand hygiene prior to preparing and administering medications.
- Aseptic technique in a clean area free from contamination
- Needles and syringes are used for only one patient
- **Rubber septum** is **disinfected** with alcohol prior to piercing.
- Vials are always entered with a new needle and a new syringe each and every time.
- Single-dose or single-use means for only one patient
- Medication administration tubing and connectors are used for



only one patient.



### Injection Safety Checklist (Key Points)

- **Multi-dose vials are dated** when first opened and discarded within 28 days unless the manufacturer specifies a different (shorter or longer) date.
- Multi-dose vials are dedicated to individual patients whenever possible.
  - If to be used for more than one patient keep in a centralized medication area <u>and</u> do not enter the immediate patient treatment area
    - Note: If multi-dose vials enter the immediate patient treatment area (operating room, patient room etc.) they should be dedicated for single-patient use and discarded immediately after use.





### Single-Dose Vial (SDV) vs. Multiple-Dose Vial (MDV)



- A SINGLE-DOSE VIAL (SDV) is approved for use on a SINGLE patient for a SINGLE procedure or injection.
- \*
- **SDVs typically lack an antimicrobial preservative.** Do not save leftover medication from these vials. Harmful bacteria can grow and infect a patient.

#### DISCARD after every use!

### SIZE DOES NOT MATTER!



SDVs and MDVs can come in any shape and size. **Do not assume** that a vial is an SDV or MDV based on size or volume of medication. **ALWAYS check the label!**  A MULTIPLE-DOSE VIAL (MDV) is recognized by its FDA-approved label. Although MDVs can be used for more than one patient when aseptic technique is followed, *ideally even MDVs are used for only one patient.* 

**MDVs typically contain an antimicrobial preservative** to help limit the growth of bacteria. Preservatives have no effect on bloodborne viruses (i.e. hepatitis B, hepatitis C, HIV).

**Discard MDVs** when the beyond-use date has been reached, when doses are drawn in a patient treatment area, or any time the sterility of the vial is in question!



https://www.cdc.gov/injectionsafety/pdf/Injection-Safety-For-Healthcare-P.pdf

MDV

## **Poll Questions**





### **Clean Medication Preparation Areas**

In CMS State Operations Manuals there are standards that state all medication administration must be consistent with accepted standards of practice, as well as Federal and State laws.

CMS also notes that "In addition, the Centers for Disease Control and Prevention (CDC) publishes evidenced-based practice guidelines and recommendations on medication preparation and administration practices, designed to reduce the risk of infection associated with these activities.



<u>https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/som107ap\_w\_cah.pdf</u> <u>https://www.cdc.gov/injectionsafety/index.html</u> https://www.cdc.gov/injectionsafety/ip07\_standardprecaution.html



### Where Should I Draw Up Medication?

CDC provides resources for healthcare providers and answers questions specific to medication preparation.

- Question Where should I draw up medication?
- Answer In a clean medication preparation area
  - Medications should be drawn up in a designated clean medication preparation area that is not adjacent to potential sources of contamination, including sinks or other water sources. Water can splash or spread as droplets more than a meter from a sink. In addition, any item that could have come in contact with blood or body fluids, such as soiled equipment used in a procedure, should not be in the medication preparation area. Examples of contaminated items that should not be placed in or near the medication preparation area include: used equipment such as syringes, needles, IV tubing, blood collection tubes, or needle holders (e.g., Vacutainer® holder).
  - The medication preparation area should be cleaned and disinfected on a regular basis and any time there is evidence of soiling. In addition, there should be ready access to necessary supplies (such as alcohol-based hand rub, needles and syringes in their sterile packaging, and alcohol wipes) in the medication preparation area to ensure that staff can adhere to aseptic technique.

https://www.cdc.gov/injectionsafety/providers/provider\_faqs\_med-prep.html



## **Splash Zones**

- Outbreaks of infection have been associated with medications contaminated with tap water.
- Do not prepare medications near areas of splashing water (e.g., within 3 feet of a sink).
- Make sure sink splash zones do not contain any items which could become contaminated from hand washing/water splash.
- Mount a splash guard when workspace is limited.



Splash zone cluttered - Bad







https://icap.nebraskamed.com/wpcontent/uploads/sites/2/2018/02/Splash-Zone-Around-Sinks.pdf

# COVID-19 Pandemic – Disruption & Complexity to Processes



On-going changes have occurred over the pandemic impacting routine vaccine processes including but not limited to:

- Supply chain disruptions
  - Unavailable needles, syringes, gloves, hand sanitizer, disinfectants, etc.
  - Lack of desired supplies so different supplies were purchased with lack of standardization
  - Staffing shortages including having seasoned staff with competency-based training on injection safety
- COVID-19 vaccine on-going changes and updates
  - Supply of vaccine was limited and only came from federal public supply
  - Storage and Handling temperature optimization, complex preparation, beyond use dating, expirations
  - Consent documentation with emergency use authorizations
  - Pressure to use low dead volume syringes and needles to get more doses
  - Use of volunteers and non-routine staff for large vaccination clinics
  - Interim COVID-19 Immunization Schedule frequent updates
  - Summary Document for Interim Clinic Consideration –frequent updates
  - Pressure to save on costs



### **Remaining Injection Safety Concerns**

Injection safety remains the biggest area of concern over the past few years identified from Nebraska Infection Control Assessment and Promotion (NE ICAP) program remote and on-site assessments.

- Clean medication preparation areas not in splash zones.
- Lack of safety devices.
- Use of single-dose vials for multiple patients even with a new needle and new syringe.
- Pre-drawing injectable medication.
- Improper storage of injectable medication (past beyond use date, unlabeled, inadequate temperature control.





# **Call to Action**

- Review the <u>CDC Injection Safety Checklist</u>
- Never means never One needle, One syringe, One Time
- Always aseptic technique with hand hygiene in a clean area
- Workplaces should be safe ensure safety devices and safe practices
- Consider preference for single-dose vials and raise awareness of MDV risks
- Never administer anything in question
  - Look of signs of tampering (dust cap off, discoloration, altered volume etc.)



- Ensure if using MDV they are properly labeled and stored
- Become familiar with the medications you are injecting



## **Case Discussion**





# **Today's Topic**

## Navigating through Failure





# **Context for Our Case**

Many changes have occurred over the past three years which impact routine vaccine processes. These include:



- COVID-19 vaccine preparation
- Formal and informal changes to protocols during peaks of COVID infection
- Increased availability of needles
  without safety devices
- Vaccine supplies via multiple channels (public and private)
- Supply chain disruptions
- Staff fatigue and burnout



# **Case Discussion**

At a clinic, a patient has agreed to receive a COVID-19 booster after initially expressing hesitation. A nurse prepares and draws up the vaccine using a needle. She changes out the needle used for drawing up the vaccine to a new needle for injecting into the patient. The new needle does not have a safety device attached.

A nurse attempts to administer the vaccine and notices the needle leaking at its hub. The patient feels liquid running down their arm. The nurse withdraws the needle and takes it to the sharps container for disposal.





# **Case Discussion (Continued)**

The nurse now must address this incident with the patient and request their permission to deliver another dose of vaccine.

Leaking occurred another time with the provided supplies. The nurse wants to prevent this from happening again and alerts you as the clinic supervisor.







# **Breakout Groups**

### **Instructions:**

Consider this incident from the perspective of the clinic supervisor

- 1. What factors might have contributed to the use of a less safe device from the provided supplies?
- 2. How would you address this with the patient?
- 3. How would you address this with clinic leadership?

**Miro Board** 











# **Ground Rules**

1. Be present & turn on your videos 2. Make Space, Take Space 3. ELMO: Enough Let's Move On 4. Take the lessons, leave the details 5. Assume positive intent 6. Be open to learning 7. Building, not selling 8. Yes/and, both/and





At a clinic, a patient has agreed to receive a COVID-19 booster after initially expressing hesitation. A nurse prepares and draws up the vaccine using a needle. She changes out the needle used for drawing up the vaccine to a new needle for injecting into the patient. The new needle does not have a safety device attached. A nurse attempts to administer the vaccine and notices the needle leaking at its hub. The patient feels liquid running down their arm. The nurse withdraws the needle and takes it to the sharps container for disposal. The nurse now must address this incident with the patient and request their permission to deliver another dose of vaccine.

#### Leaking occurred another time with the provided supplies. The nurse wants to prevent this from happening again and alerts you as the clinic supervisor.

	Breakout Room 1	Breakout Room 2	Breakout Room 3
1.What factors might have contributed to the use of a less safe device from the provided supplies?	New or faulty equipment New personnel Short staffing Lack of training with unfamiliar equipment Supply/demand Increased stress on hospital system/providers	Availability/scarcity Cost Changes/differences in quality Preferred/or not vendors Education/training, or lack thereof Changes to processes Time scarcity Documentation burden Coordination between ordering and use Policies/safeguards in purchasing	Limited options to supplies Financial burden / cost of supplies Variation between manufacturers> confusion Smaller clinics = fewer resources (to supplies, personnel, time, etc.)
2. How would you address this with the patient?	Transparency Involve clinician, someone they trust Explain next steps	Acknowledge and apologize Recognize the experience as undesirable Have a plan for what to do next, and for how to communicate that to the patient How will you prevent this from recurring? Know what's safest for the patient and how to explain that clearly TLC! Understand initial hesitance and prepare to address it Be ready to be resilient What is the process for service recovery?	Honest acknowledgement and apology to patient. Reassure: "This is a rare event" Encourage re-vaccination Explain that vaccine was not received. Explain there is a mechanism to report this incident to prevent future similar situations.
3. How would you address this with clinic leadership?	Communicate the issue with them clearly (e.g., SBAR) Perform root cause analysis, develop a plan to fix in the future (give solutions, not just problems) May need leadership to communicate with patient (patient relations)	Understand the source of the defect Have documentation to support that Risk assessment Incident report - what happened, remedies, etc. Be clear about how you intervened Have details/resources to back up your decisions	ACCOUNTABILITY: Report the adverse event / SOS which is transmitted to leadership for investigation. OSHA regulations: address how this episode applies. Encourage identification & removal of defective supplies. Replace with compliant equipment.

#### Consider this incident from the perspective of the clinic supervisor.



# Recommendations

- 1. Stop the process stop using the needles that may leak and notify the manufacturer
- 2. Always use a safety device for administration
- 3. Analyze and document the incident to identify any root causes and contributing factors for prevention
- 4. Ensure competency-based training upon hire, annually, and whenever new equipment or processes are introduced





## Current State of COVID-19 in Nebraska





#### **Community risk level metrics**





#### Nebraska SARS-CoV-2 Wastewater Surveillance Report



Nebraska Statewide SARS-CoV-2 Wastewater Levels and COVID-19 Hospitalizations

https://dhhs.ne.gov/Pages/COVID-19-Genomics-and-Wastewater-Surveillance.aspx

Test positivity rate	Hospitalized	Deaths
Multim	Mar 2000	man Man Miller Leve
Mar. 2020 Mar. 2023	DAILY AVG. ON MAR. 23	23 PER 100,000 14-DAY CHANGE
Cases	216	6 11 -1%
Test positivity	15%	% – –3%
Hospitalized	193	3 10 +5%
In I.C.U.s	24	4 1 +34%
Deaths	<1	1 <1 -94%



https://www.nytimes.com/interactive/2021/us/nebraska-covid-cases.html



https://covidactnow.org/us/nebraska-ne/?s=46123360



Data Source: COVID-19 Whole Genome Sequencing Lab Reports, Nebraska Electronic Disease Surveillance System (NEDSS)

https://dhhs.ne.gov/Documents/COVID-19-Genomics-Data.pdf







# Wrap-Up

- 1. You will receive today's presentation, in addition to a one-page keytakeaways document and next session's agenda through email
- 2. Next session will be on April 19th on:
- Didactic: Health Equity: Disability and American Sign Language
- Discussion Topic: Transportation and Social Determinants of Health





## **Poll Results**





## Thanks



