

# CRE and XDRO for Long Term Care Facilities

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# Featured Presenters



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*The opinions, viewpoints, and content presented in this webinar may not represent the position of the Illinois Department of Public Health*

# CRE Detect and Protect webinar for **long-term care staff**

Deb Patterson Burdsall MSN, RN-BC, CIC

Infection Preventionist: Lutheran Home/Lutheran Life Communities

# Questions: Inquiring minds want to know

- how do we prevent or contain CRE?
- how do we implement prevention programs in a long term facility?
- how do we educate frontline staff on identification and prevention
- what cleaning products are effective

# What to Do?

Define

Collaborate

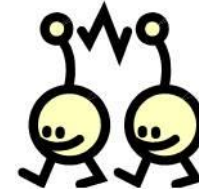
Prepare

Watch

Identify and Report

Respond and Control

# Definitions



- **CRE *Enterobacteriaceae*** - A family of bacteria. These types of bacteria have developed ways to become very resistant to commonly used antibiotics. The resistance makes the bacteria very difficult to kill and infections very hard to treat. There are 2 main types. *E-coli* (a common intestinal bacteria), and *Klebsiella pneumoniae*
- **PCR (Polymerase Chain Reaction)** A test that makes copies of DNA (or RNA) in order to identify specific organisms
- **Modified Hodge Test** Lab test that can identify organisms that produce carbapenemase

# Illinois Detect and Protect Campaign

**XDRO**  
registry

Extensively drug resistant organism registry

[Help](#) [Login](#)



The XDRO registry is a product of collaboration between IDPH, Medical Research Analytics and Informatics Alliance (MRAIA), and the Chicago CDC Prevention Epicenter.

## IL CRE Detect and Protect Campaign

### Background

The Illinois Department of Public Health (IDPH) is leading the statewide "CRE Detect and Protect" education campaign to promote practices that prevent carbapenem-resistant Enterobacteriaceae (CRE) infections. CRE are extensively drug-resistant organisms (XDROs) with few antibiotic treatment options that can transfer their resistance to other bacteria. These deadly superbugs have been increasingly detected among patients in Illinois.

As part of the campaign, IDPH is working with hospitals, long-term care facilities, and laboratories to adopt the Centers for Disease Control and Prevention strategy of detecting CRE and protecting patients through appropriate infection control and prevention measures. IDPH is providing educational materials and online trainings on CRE prevention and use of the XDRO registry, which is a tool for sharing patient information across facilities and reporting CRE isolates to IDPH. A statewide CRE Task Force comprised of infectious disease and infection prevention experts is helping to guide efforts.

Campaign participants have the opportunity to learn from other healthcare facilities, laboratories, and CRE experts committed to this issue. Preventing the spread of these drug-resistant infections will result in better outcomes for patients and reduced healthcare costs in Illinois.

### Funding

The CRE Detect and Protect Campaign is funded by an Affordable Care Act award from the Centers for Disease Control and Prevention.

### Sponsors

# The XDRO Registry

- Purpose #1 Report CRE-carrying patients to the XDRO
- Purpose #2 Query the XDRO registry to determine whether or a person has a history of CRE
- LTC in Illinois is required to report
- Need access to the XDRO registry through the IDPH portal
- Get access BEFORE you need it
- Lessons Learned....
  - Access to SIREN does not mean you have access to the XDRO registry.....



# Talk to your Micro Lab

- Ask what kind of CRE detecting capability is available?
- How will they let you know if they detect a CRE/KPC?
- Will they report to the XDRO registry?

# Burdsall High C's of Infection Prevention and Control



Clean Hands

Clean Clothes

Clean Equipment and Environment

Contained Drainage

Covered Wounds

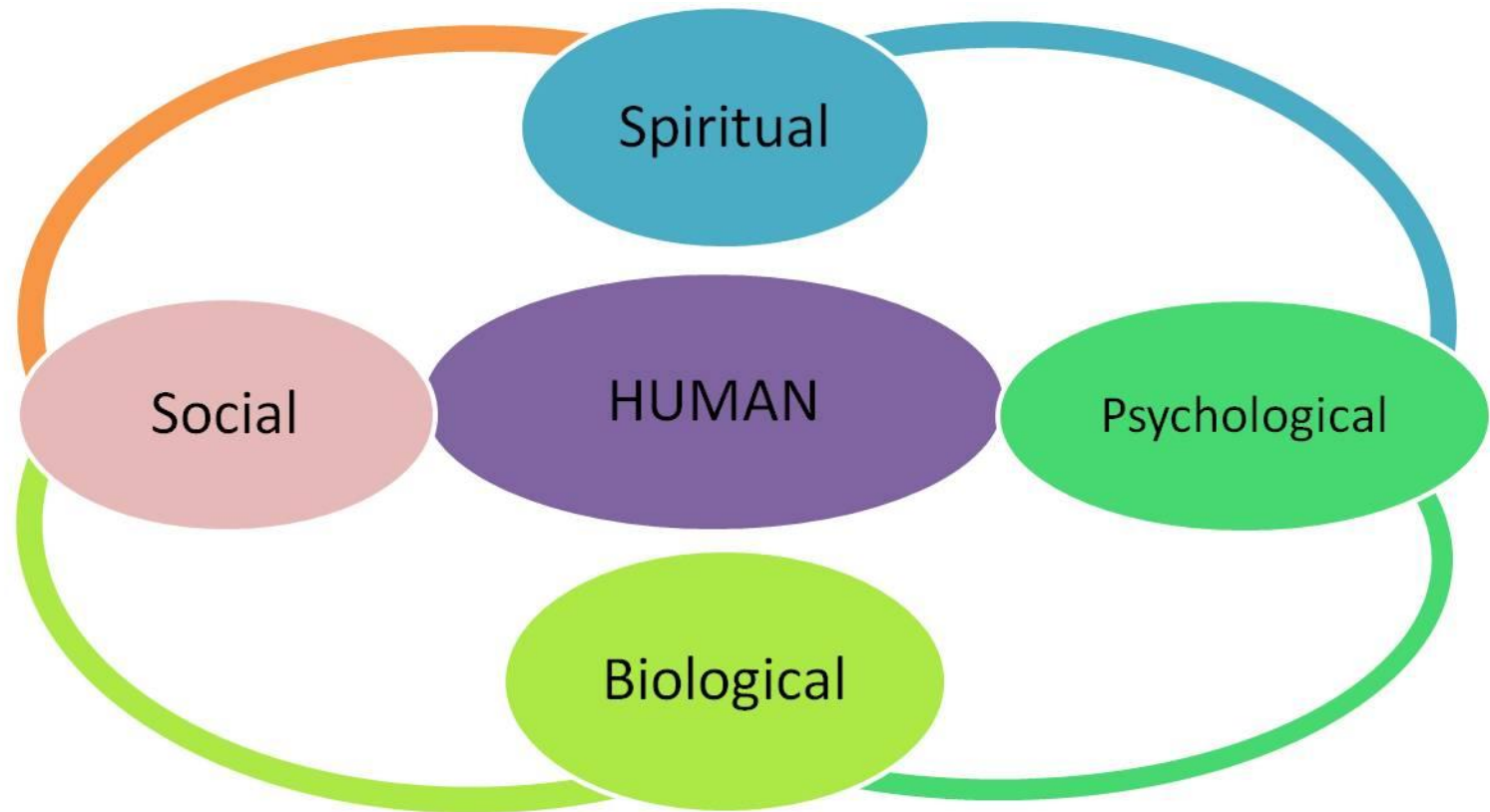
Careful Assessment

Careful Use of Antimicrobials

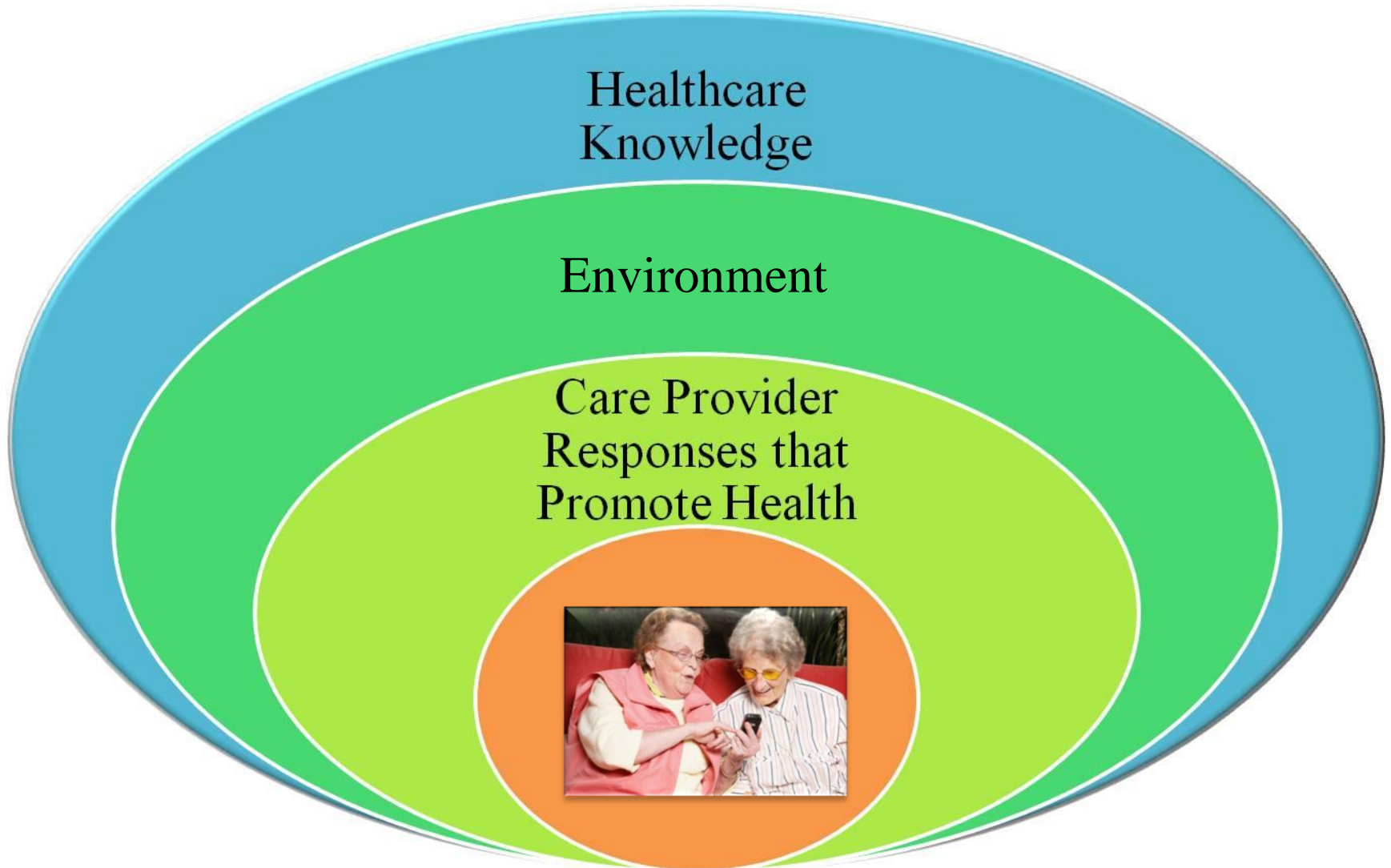
Collaborative Approach

Communication

The care we provide is undertaken as a **Human** issue, and we need to approach care in a biopsychosocial and spiritual framework  
The person does not become the bacteria



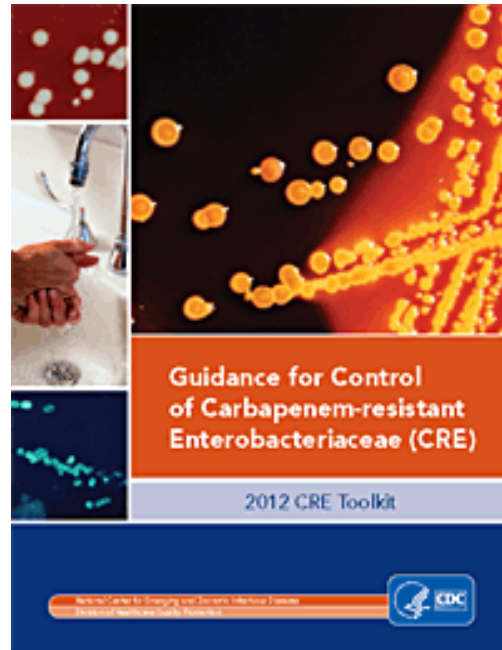
SUPPORT OLDER ADULTS WITH KNOWLEDGE/EVIDENCE  
BASED INTERVENTIONS AND RESPONSES  
THIS IS THE IDEAL



# Readiness

- Build on systems that consider biological, psychological, social, and spiritual needs
- Put systems in place to respond to colonization and infection
- Focus on risk factors that can be addressed to prevent colonization and infection
- Avoid using “limitations” as an excuse not to provide care OR admit residents and patients
- However, understanding limits of each level of LTC is very important

# *2012 CRE Toolkit - Guidance for Control of Carbapenem-resistant Enterobacteriaceae (CRE)*



[http://www.cdc.gov/hai/organisms/cre/cre-toolkit/index.html?s\\_cid=fb2214](http://www.cdc.gov/hai/organisms/cre/cre-toolkit/index.html?s_cid=fb2214)

## CRE Toolkit Guidance: *Core Measures for All Acute and Long-term Care Facilities*

- **Minimize use of invasive devices**
  - Get them out!
- **Promote antimicrobial stewardship**
  - Avoid antibiotic pressure
  - Avoid pressuring the prescribers for antibiotics

# CRE Toolkit Guidance: *Core Measures for All Acute and Long-term Care Facilities*

- **Hand Hygiene**
  - Promote hand hygiene
  - Monitor hand hygiene adherence and provide feedback
  - Ensure access to hand hygiene stations





# Proper Glove Use is a PhD Level Skill

- Gloves are useful when used correctly
- Gloves can be a nightmare when used in the wrong way
- Do not wear 1 pair of gloves for more than 1 job!!

**Hand Hygiene is one of the most important interventions to stop the spread of disease causing organisms!**



**Reported worldwide hand hygiene participation rates ranging from 5% to 89%**

**overall average reported to be 38.7%**

Pittet, D., Allegranzi, B., & Boyce, J. (2009). The World Health Organization guidelines on hand hygiene in health care and their consensus recommendations • *Infection Control and Hospital Epidemiology*, 30(7), 611-622

# F-441 Based Hand Hygiene

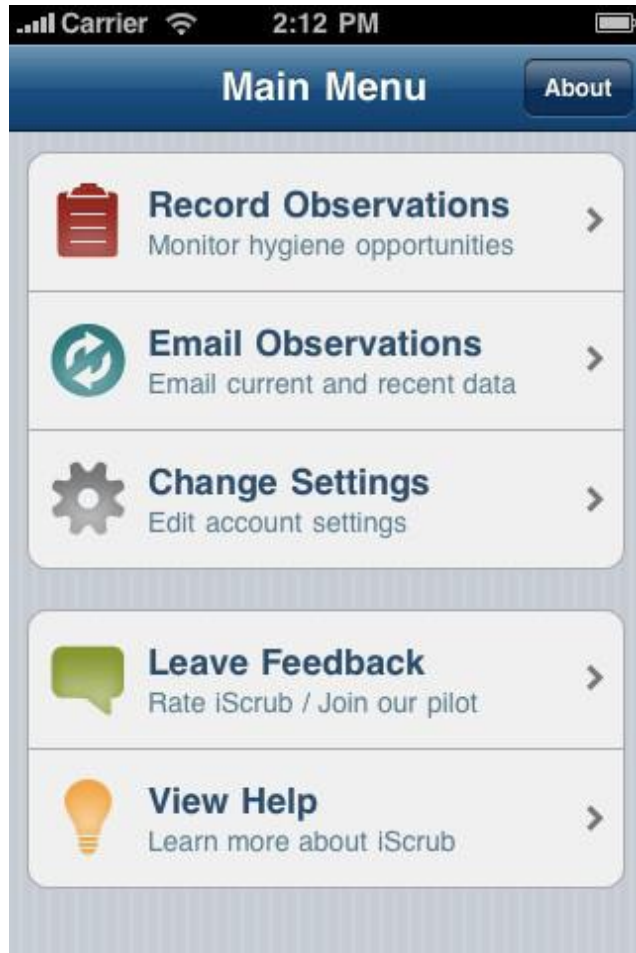
## Hand Sanitizer OR Soap and Water

- Wash or sanitize hands
- When coming to work and before going home
- When going room to room
- Before and after each resident contact
- After handling soiled equipment
- Before using gloves and after removing gloves

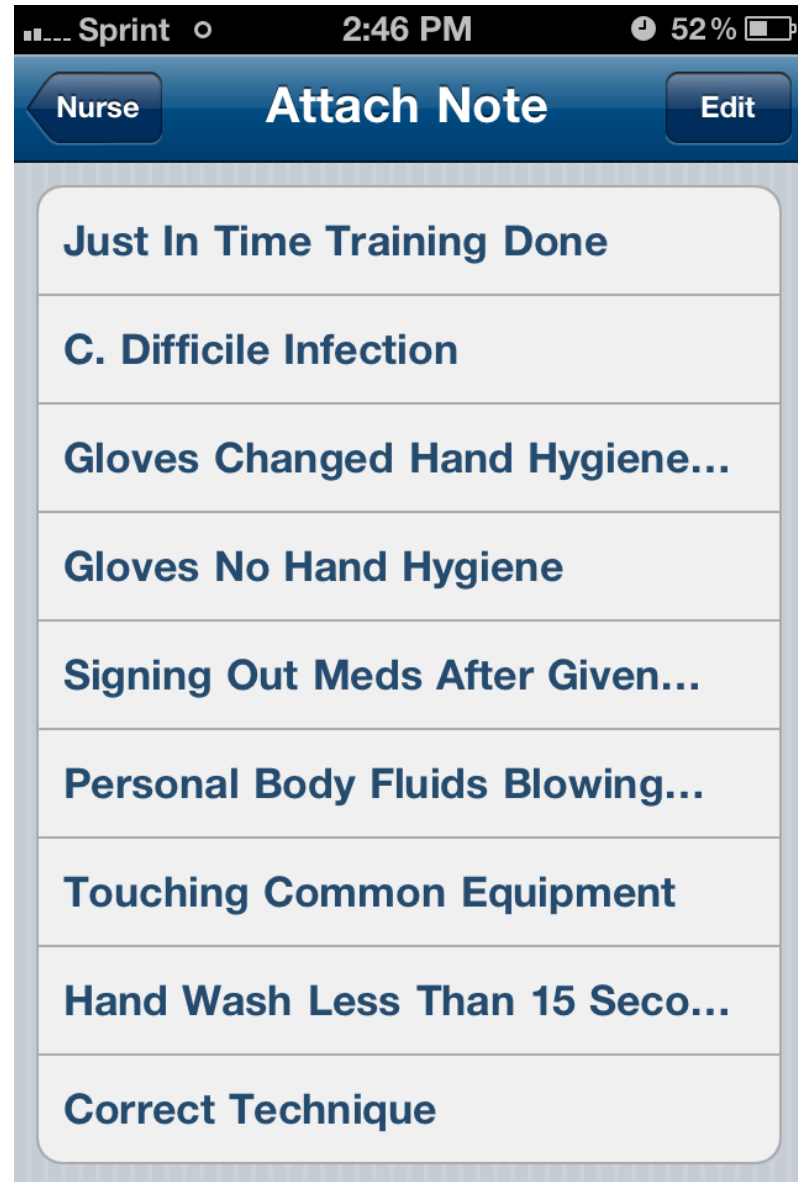
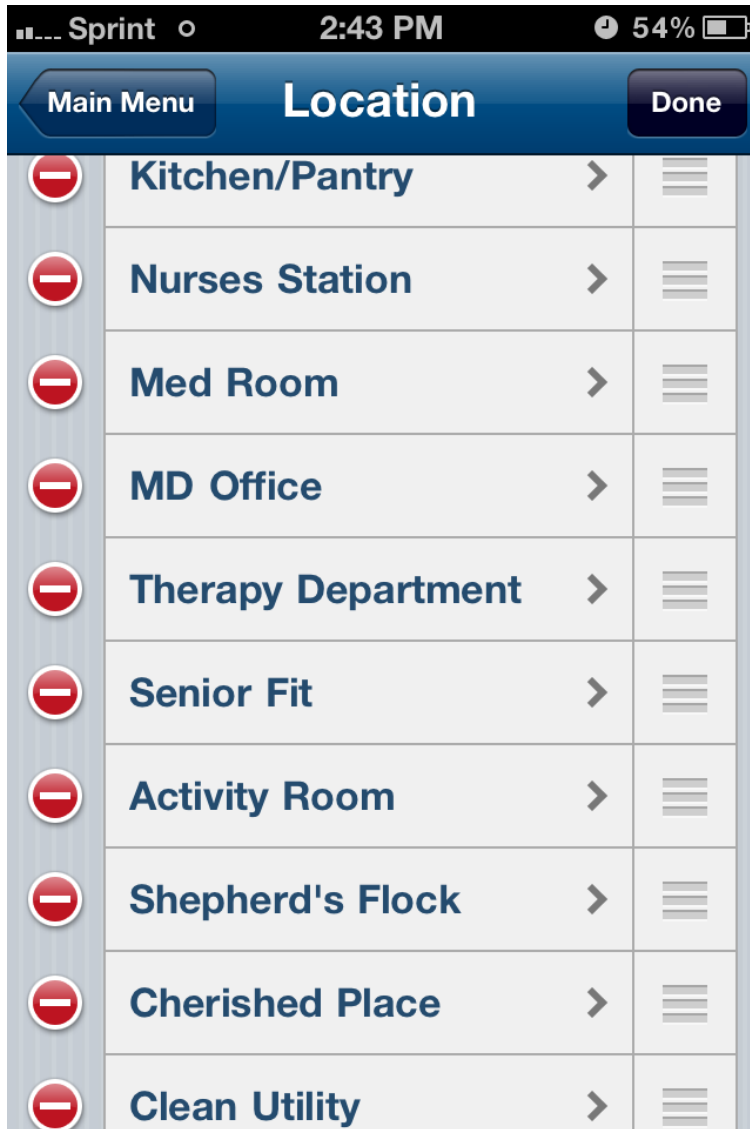
## Soap and Water

- Are visibly soiled (dirty)
- If they have come in contact with blood or other body fluids
- Before and after eating
- Before and after handling food
- Before and after assisting a resident with toileting
- after contact with a resident with infectious diarrhea
- After performing your own personal hygiene or personal use of the toilet

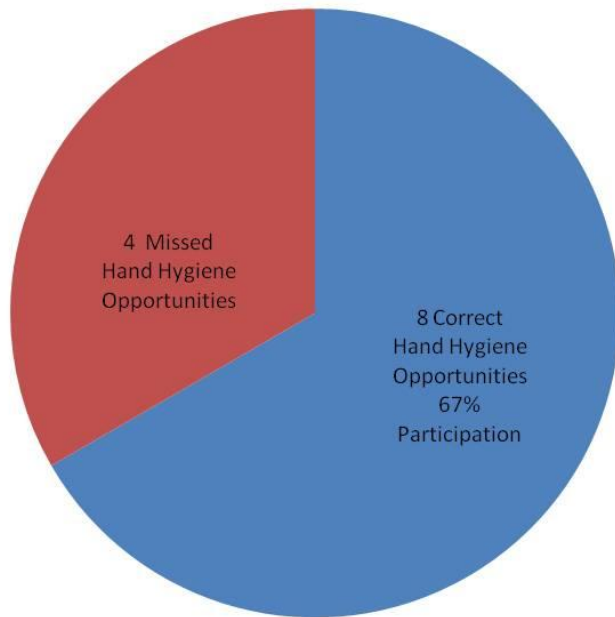
# Hand Hygiene Observations iScrub



# Edited locations and notes



# Examples of iScrub lite Feedback opportunities



## HCW opportunity

Hand Hygiene Nurse Before Touching a Patient	No
Nurse After Touching Patient Surroundings	Rub
Nurse Before Touching a Patient	No
Nurse After Touching a Patient	No
Nurse Before Touching a Patient	Wash
Nurse After Touching a Patient	Rub
Nurse Before Touching a Patient	Rub
Nurse Med Pass After Touching a Patient	Rub
Nurse Med Pass Before Touching a Patient	Rub
Nurse Med Pass After Touching a Patient	Rub
Nurse Med Pass After Touching Patient Surroundings	Rub
Nurse Med Pass Before Touching a Patient	Rub
Nurse Med Pass After Touching a Patient	No
Nurse Med Pass After Touching a Patient	Wash

# CLEAN ENVIRONMENT

- “The more I think about it, the more I realize cleanliness is the key with multi-drug resistant organisms”

Pat Rosenbaum RN, CIC



# Ideal Cleaner Disinfectant

- Single step (clean and disinfect in one step)
- Stable
- Low toxicity/danger for humans and pets
- EPA approved
- Rapid kill of wide range of microorganisms with minimal contact time
- Does not damage surfaces



# Some Common LTC Sanitizing and Disinfecting Products

- Isopropyl or Ethyl Alcohol
- Chlorine products
- Hydrogen Peroxide [Advanced hydrogen peroxide products (AHP)]
- Quaternary Ammonium Compounds

Cleaner/Disinfectant/Antiseptic	YES- USE HERE!!!
<p><b>Advanced Hydrogen Peroxide (Surfaces)</b></p>	<p>WASHING MACHINES AND DRYERS CARTS and TABLES EQUIPMENT</p> <p>IF THERE IS DIARRHEA, NAUSEA, VOMITING</p> <p>SAFE FOR SURFACES EXCEPT FOR MARBLE</p>
<p><b>BLEACH/DETERGENT (Surfaces)</b></p> <p>USE CAREFULLY WILL DAMAGE SURFACES USE GLOVES</p>	<p>WASHING MACHINES</p> <p>BLOOD TESTING EQUIPMENT</p> <p>ISOLATION ROOMS (INCLUDING C-DIFF)</p> <p>IF THERE IS DIARRHEA, NAUSEA, VOMITING</p>
<p><b>Hand Sanitizing Gel, Foam Wipes (Skin)</b></p>	<p>HANDS OF RESIDENTS STAFF EMPLOYEES VISITORS CHILDREN WIPE 15- 30 SECONDS</p>
<p><b>Chlorhexidine (CHG) bathing (Skin)</b></p>	<p>SKIN</p> <p>FOLLOW MANUFACTURER'S RECOMMENDATIONS</p>
<p><b>Personal Cleansing Cloths</b> THESE WIPES DO NOT KILL GERMS</p>	<p>RESIDENT/PATIENT/CLIENT SKIN EVERY DAY CLEAN UP PERSONAL CARE INCONTINENCE CARE</p>

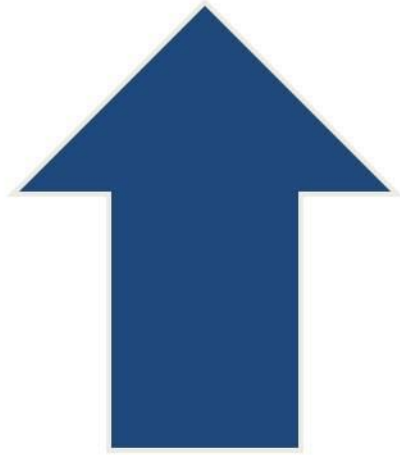
# Clean and Disinfect



- Cleaning is everyone's responsibility
- Concentrate general cleaning/disinfecting on high touch/high use areas
- Equipment must be cleaned/disinfected between each resident/client use
- Cleaning/disinfecting supplies must be available at the point of care

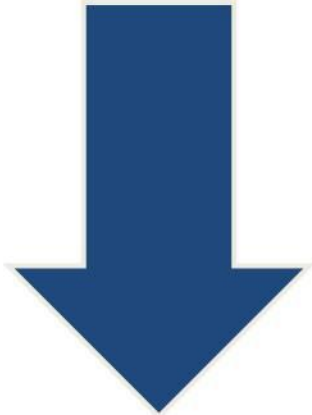


# Diffusion of Responsibility for Cleaning



“Housekeeping’s  
Job”

Equipment and Environment Not Cleaned



“Nursing’s Job”

# CRE Toolkit Guidance: *Core Measures for All Acute and Long-term Care Facilities*



- **Contact Precautions**
- Long-term care: CRE colonized or infected residents
- Patients/residents at high-risk for transmission on CP (as described in text)
- Patients/residents at lower risk for transmission use Standard Precautions for most situations

Standard Precautions does not mean “no precautions”

Standard Precautions require that PPE is Always Available

PPE Closets, Housekeeping carts

- Stock with gloves, gowns, goggles, masks



## **Standard Precautions: When should PPE be used?**

### **Gloves:**

- Before **any possible** contact with blood or body fluids, mucous membranes (eyes, nose, mouth) or potentially infectious materials such as contaminated medical equipment or waste

### **Face masks or shields**

- To protect eyes during situations where blood or body fluids may spray or splatter

### **Gowns**

- To protect skin and clothing during situations where blood or body fluids may spray or splatter or care of resident could result in contamination of skin/clothing

# Contact Precautions

- Hand Hygiene
  - Before / after PPE use
  - During resident care as appropriate (e.g. , if gloves changed)
- Use of gown and gloves for direct resident care
  - Don prior to room entry
  - Remove prior to room exit
- Dedicating non-essential items for resident care
  - May help decrease transmission due to contamination
  - Blood pressure cuffs; Stethoscopes; IV poles and pumps
- Private rooms or cohorting residents if possible

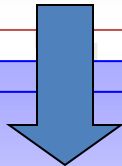




Individual with active infection on  
Contact Precautions



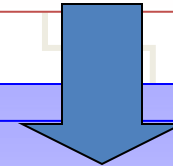
Social Interaction or Minimal  
Contact



Hand Hygiene



Personal Care  
Dressing Changes



Gown, Glove, possibly Mask  
and Eye Protection, Hand  
Hygiene

## Challenges with Contact Precautions in LTC

- Lack of private rooms / limited ability to move residents
  - Moving people is disrupting to residents and staff
  - Ability to identify carriers to cohort is limited (no active surveillance in most facilities)
- Determining duration of contact precautions
  - Unable to restrict resident mobility and participation in social events/therapy for prolonged periods
  - Unlikely to document clearance of carriage
- Large population of residents with unrecognized MDRO carriage
  - Underestimating the sources of potential transmission

# Strategic placement of residents based on risk factors

- New roommate assignments on resident characteristics and history of MDRO carriage
  - Try to avoid placing two high risk residents together
  - May be safer to cohort low-risk and high-risk residents
- Don't necessarily change stable room assignments just because of a new culture result unless it now poses new risk
  - Roommates who've been together for a long time have already had opportunity to share organisms in the past (even if you only learned about it recently)

## CRE Toolkit Guidance: *Core Measures for All Acute and Long-term Care Facilities*

- **Patient and staff cohorting**
  - When available cohort CRE colonized or infected patients and the staff that care for them even if patients are housed in single rooms
  - If the number of single patient rooms is limited, reserve these rooms for patients with highest risk for transmission (e.g., incontinence)

# CRE Toolkit Guidance: *Core Measures for All Acute and Long-term Care Facilities*

- **Supplemental Measures for Healthcare Facilities with CRE Transmission**
  - Active Surveillance and screening
  - Preemptive Contact Precautions
  - Chlorhexidine bathing
    - Bathe patients with 2% chlorhexidine

# Case Study

- Mr. Jones, an 86 year old white male, is a planned admission.
- He has some sort of resistant bacterial colonization (he flagged in the hospital system), but the hospital staff nurse giving report did not have the history on hand.
- He is not being treated with an antibiotic at this time.

# Situation

What is the situation, and what information do you need to care for Mr. Jones?

What do you need to tell the Physician or the Infection Preventionist?

# Background

What background information is needed to get a good picture of the individual and the situation?



# Exam

- Temperature is 98 F tympanic (normal range is 97.8 to 98.2 F)
- Blood pressure is 122/78 (normal range is 116/70 to 130/82)
- Pulse is 76 and regular (normal range is 68-80)
- His respiratory rate is 16. His lungs are clear.
- He has no open wounds or rashes- skin is clear and in good condition
- He has a urinary catheter inserted in the hospital, but there is no documentation about why he needs the catheter.

With Lab Result A

# Lab Result A

Source: URINE 01/13/13 clean  
catch

FINAL REPORT 01FEB14

100,000 COLONIES/ML

KLEBSIELLA

PNEUMONIAE

SUSCEPTIBILITY TESTING

KLEPNE	MIC	MIC
AMPICILL/SULBAC	8	S
CEFAZOLIN	<=4	S
CIPROFLOXACIN	<=0.25	S
ESBL	NEGATIVE	
GENTAMICIN	<=1	S
MEROPENEM	<=0.25	S
NITROFURANTOIN	64	I
TIGECYCLINE	1	S
TOBRAMYCIN	<=1	S
TRIMETH/SULFA	<=20	S
ZOSYN	<=4	S

With Lab Result B

# Lab Result B

- 13 January, 2013
- 100,000 COLONIES/ML
- **PROTEUS MIRABILIS**
- **EXTENDED SPECTRUM BETA LACTAMASE PRODUCER**
- RENDERING CEPHALOSPORINS, PENICILLINS, AND AZTREONAM CLINICALLY RESISTANT TO THERAPY.
- INSTITUTE CONTACT ISOLATION PRECAUTIONS AS PER INFECTION CONTROL POLICY.

• PROMIR	MIC	MIC
INTERP		
• AMPICILLIN		R
• CEFAZOLIN		R
• CEFEPIME		R
• CEFOTAXIME		R
• CIPROFLOXACIN	>2	R
• ESBL	POSITIVE	
• GENTAMICIN	>8	R
• LEVOFLOXACIN	>4	R
• <b>MEROPENEM</b>	<=1	<b>S</b>
• TOBRAMYCIN	>8	R
• TRIMETH/SULFA	>2	R
• ZOSYN		R



With Lab Result C

# Lab Result C

- **SUSCEPTIBILITY PHONED TO: RN 0900 ON 01/13/13**
  - 100,000 COLONIES/ML  
***KLEBSIELLA PNEUMONIAE***
  - MULTIPLE DRUG RESISTANT STRAIN. INSTITUTE CONTACT ISOLATION PRECAUTIONS AS PER INFECTION CONTROL POLICY.
- CONFIRMED  
CARBAPENEMASE  
PRODUCER  
(CONFIRMATORY TESTING  
PERFORMED BY OUTSIDE  
LABORATORY**

SUSCEPTIBILITY TESTING		
KLEPNE	MIC	MIC
AMPICILL/SULBAC	>=32	R
CEFAZOLIN	>=64	R
CEFEPIME		R
CEFTRIAZONE		R
CIPROFLOXACIN	>=4	R
ESBL	NEGATIVE	
GENTAMICIN	<=1	S
IMIPENEM		R
NITROFURANTOIN	256	R
TOBRAMYCIN	>=16	R
TRIMETH/SULFA	>=320	R



# Recommendation

Recommendation based upon scope of practice. How should the problem be corrected?

Source: The SBAR Communication Technique, Thomas et al.,



# Assessment

What is your assessment of this patient's immediate needs?

# Summary for Long term Care

- Register for the XDRO registry
- Educate direct care staff about CRE/KPC
- Involve the residents/patients and their families
- Hand Hygiene
- Cleaner/disinfectants at point of care
- Empower direct care staff re: Contact Precautions
- Minimize Antimicrobial Use
- Get tubes and lines out
- Rapid identification of symptoms
- Prompt isolation of infections (immune imbalance: host/microbe)
- Accurate and ongoing assessment

Realize we are part of a larger  
healthcare community and must  
work together in a spirit of  
cooperation.



# **XDRO Registry**

for long term care facilities:  
6 month update

May 2014

Michael Lin, MD MPH

William Trick, MD

Chicago CDC Prevention Epicenter

# Objectives

1. CRE overview and recent trends
2. CRE definition / laboratory considerations
3. XDRO registry sign-up and website update
4. Querying and automated alerts
5. Question and answer

# CRE: “nightmare bacteria”

- Carbapenem-resistant Enterobacteriaceae (CRE) are extensively drug resistant organisms (XDROs) with few antibiotic options, high mortality rate



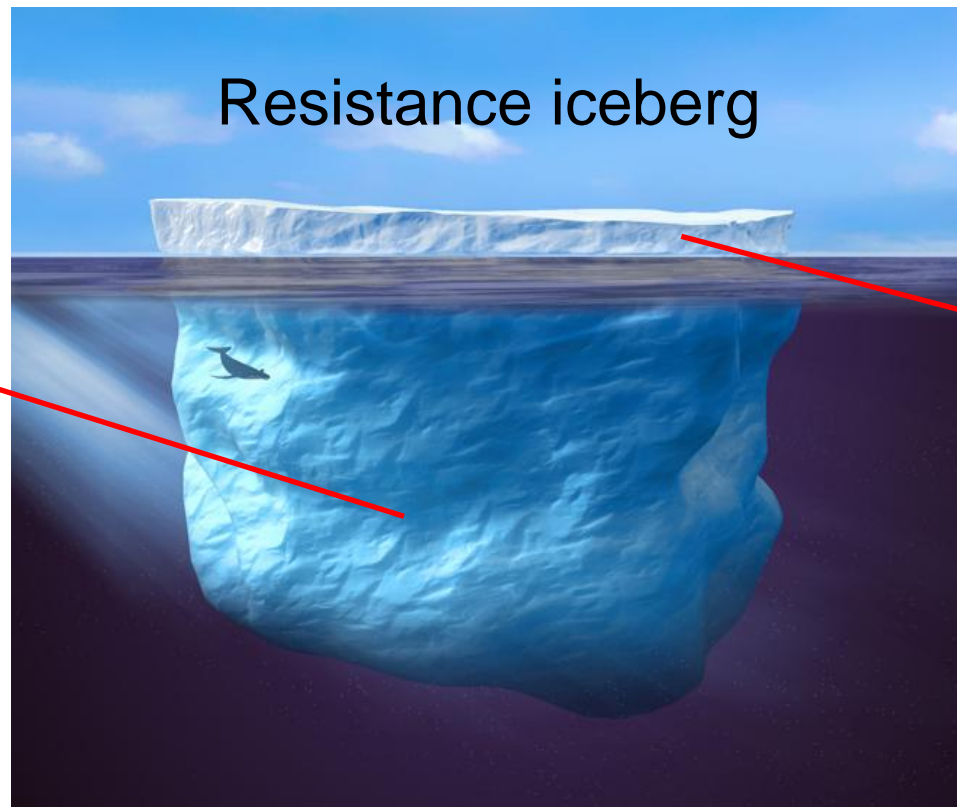
# Enterobacteriaceae

- Family of bacteria that include:
  - *Escherichia coli*
  - *Klebsiella* species
  - *Enterobacter* species
  - *Citrobacter* species
- Cause healthcare and community-associated infections
  - Example: urinary tract infections

# CRE

- Normally found in GI tract, sometimes skin.

Most CRE patients are asymptomatic carriers (“colonized”)



Some patients develop CRE infections



# CRE: 2 dominant types

	KPC	NDM
Stands for:	Klebsiella pneumoniae carbapenemase	New Delhi metallo- $\beta$ -lactamase
Bacterial species	Usually Klebsiella, sometimes <i>E. coli</i>	Often <i>E. coli</i> (in U.S.) but variable
Prevalence	Most common CRE	Rare but emerging
Treatment	Nearly impossible	Nearly impossible
Concerning?	Yes!	Yes!! Because it is still rare in U.S. and spreads aggressively. If your lab suspects it, report right away to IDPH

# CRE in Chicagoland

Facility type	CRE colonization prevalence
Short stay acute care hospitals (adult ICUs)	3%
Long term acute care hospitals (LTACHs)	30%

- CRE are relatively common in some Chicago healthcare facilities, particularly LTACHs
- Data unclear for nursing homes, but data suggest that skilled nursing facilities with ventilated patients have CRE rates similar to LTACHs

# CRE definition and laboratory considerations

# CRE definition: Enterobacteriaceae with one of the following test results:

1. Molecular test (e.g., PCR) specific for carbapenemase  
OR
2. Phenotypic test (e.g., Modified Hodge) specific for carbapenemase production  
OR
3. For *E. coli* and *Klebsiella* species only: non-susceptible to ONE of the carbapenems (doripenem, meropenem, or imipenem) AND resistant to ALL third generation cephalosporins tested (ceftriaxone, cefotaxime, and ceftazidime).

Report 1<sup>st</sup> CRE event per patient per encounter

# CRE reporting: points of confusion

- What are Enterobacteriaceae?

Common	<i>E. coli</i> , Klebsiella spp.
Less common	Enterobacter, Proteus, Citrobacter, Serratia, Morganella, or Providentia species
Never	Pseudomonas, Acinetobacter

- Ignore erlapenem susceptibility
- ESBL (extended spectrum  $\beta$ -lactamase) does not qualify as CRE

# Laboratory considerations

Criterion	Lab test	Common?
1: Molecular	PCR	Some
2: Phenotypic	Modified Hodge	Some
3: Susceptibility	Automated system	All labs

- Ask your lab about testing capability
  - Currently, many facilities will only use criterion 3
- Molecular testing (PCR) tests for the presence of CRE genes, and is currently the only way to confirm the carbapenemase type (KPC vs NDM)

# Laboratory example

BLOOD CULTURE (PERIPHERAL) (Abnormal):  
PROCEDURE: BLOOD CULTURE (PERIPHERAL)  
SOURCE: BLOOD  
COLLECTED: [REDACTED]

----- FINAL REPORT -----

FINAL REPORT

GROWTH OF GRAM NEGATIVE RODS

FINAL IDENTIFICATION: KLEBSIELLA PNEUMONIAE

This isolate demonstrates carbapenemase production.

Carbapenems, cephalosporins, and penicillins are unlikely to be effective in treatment of serious infections. Contact precautions required.

----- SUSCEPTIBILITY TESTING -----

K PNEUMO

	MIC mcg/ml	MIC INTERP	MIC mcg/ml	ET INTERP
TRIMETH/SULFA	>2/38	RESISTNT		
CEFAZOLIN	>16	RESISTNT		
TIGECYCLINE			1.00	SUSCEPT
LEVOFLOXACIN	>4	RESISTNT		
CEFOXITIN	16	INTERMED		
PIP/TAZOBACTAM	>64	RESISTNT		
TICARCIL/K CLAV	>64	RESISTNT		
CEFTRIAXONE	>32	RESISTNT		
GENTAMICIN	<=4	SUSCEPT		
TOBRAMYCIN	>8	RESISTNT		
AMIKACIN	16	SUSCEPT		
IMIPENEM	8	RESISTNT		
MEROPENEM	>8	RESISTNT		
CEFEPIME	16	RESISTNT		
COLISTIN			.38	SUSCEPT
A ERTAPENEM	>4	RESISTNT		

This laboratory performed confirmation testing and thus was able to determine carbapenemase presence. (but I had to ask the lab that the test was PCR and that it confirmed KPC)

Ceftriaxone was only 3<sup>rd</sup> gen cephalosporin reported

Non-susceptible to at least 1 carbapenem

Ignore ertapenem results

# Questions to ask your lab

**1) What kind of testing do you perform for CRE?**

- a. Modified Hodge testing?
- b. PCR testing?
- c. Metallo- $\beta$ -lactamase E-test [MBL E-test]?

**2) Are you (the lab) reporting CRE results to IDPH on our behalf? (if yes, LTCF needs to let IDPH know)**



**Submit Report**

**Search Registry**

**Facility Submission History**

**Facility Alert History**

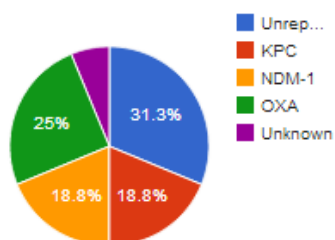


**XDRO Dashboard**

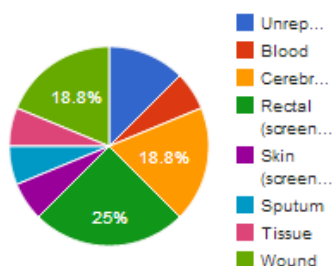
## XDRO Report

### Facility Data <sup>[a]</sup> (Facility data is fictitious, but state data is real)

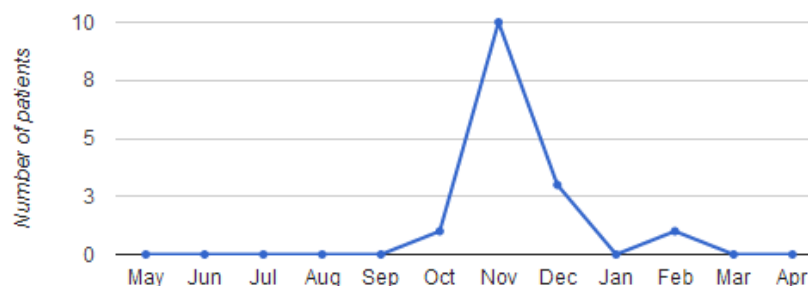
Resistance Mechanism



Specimen Source



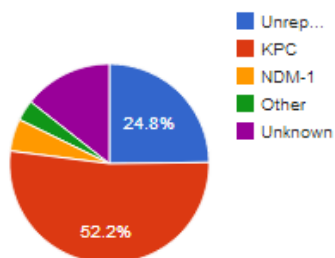
Trend, Last 12 Months



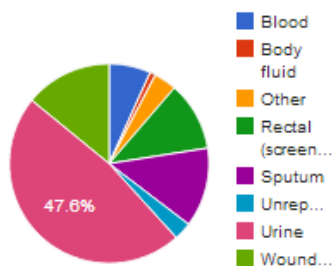
Entire Dataset

### State Data <sup>[b]</sup>

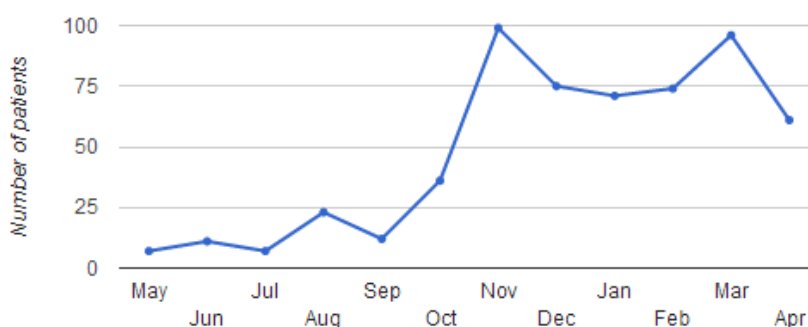
Resistance Mechanism



Specimen Source

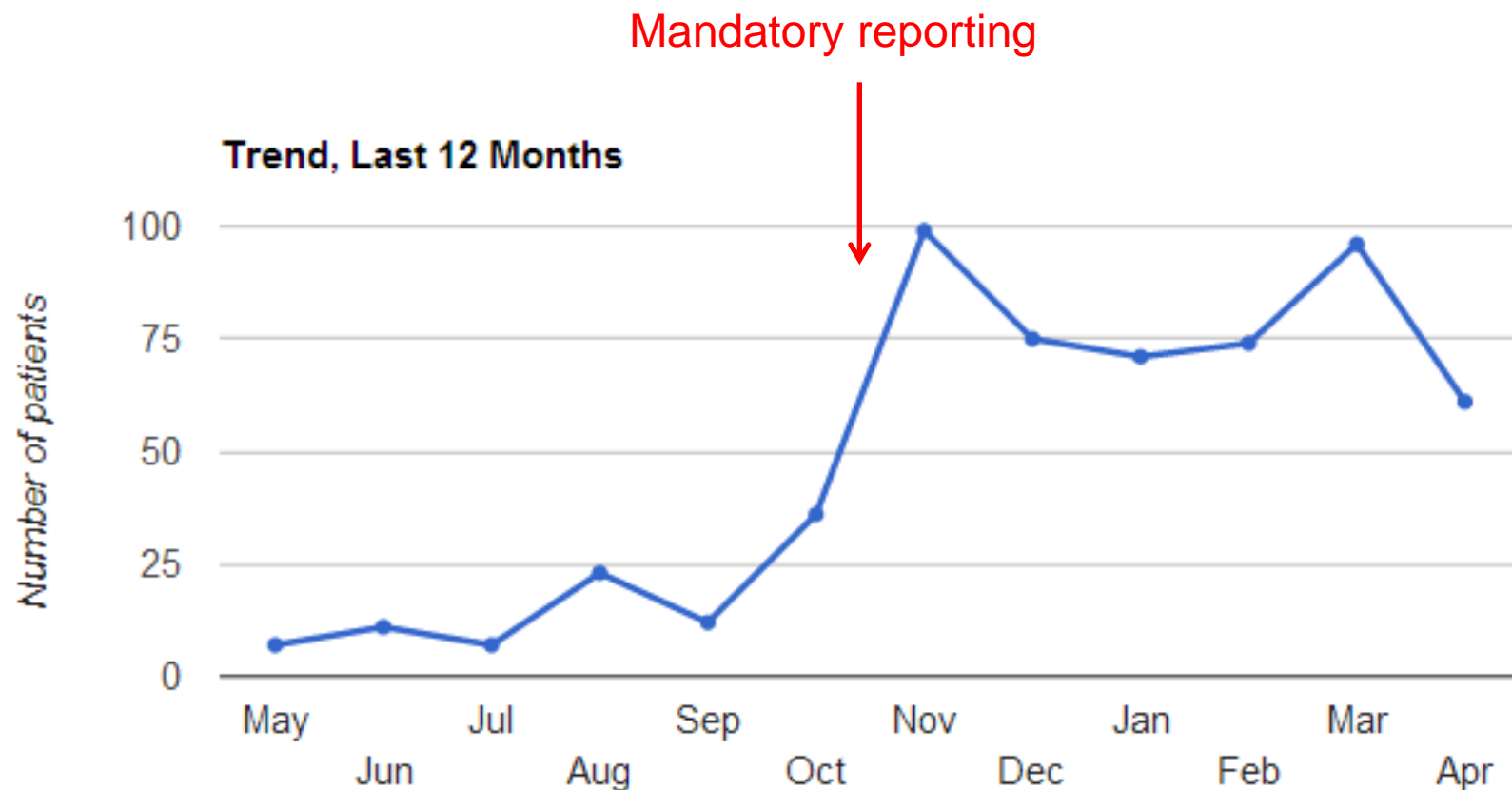


Trend, Last 12 Months



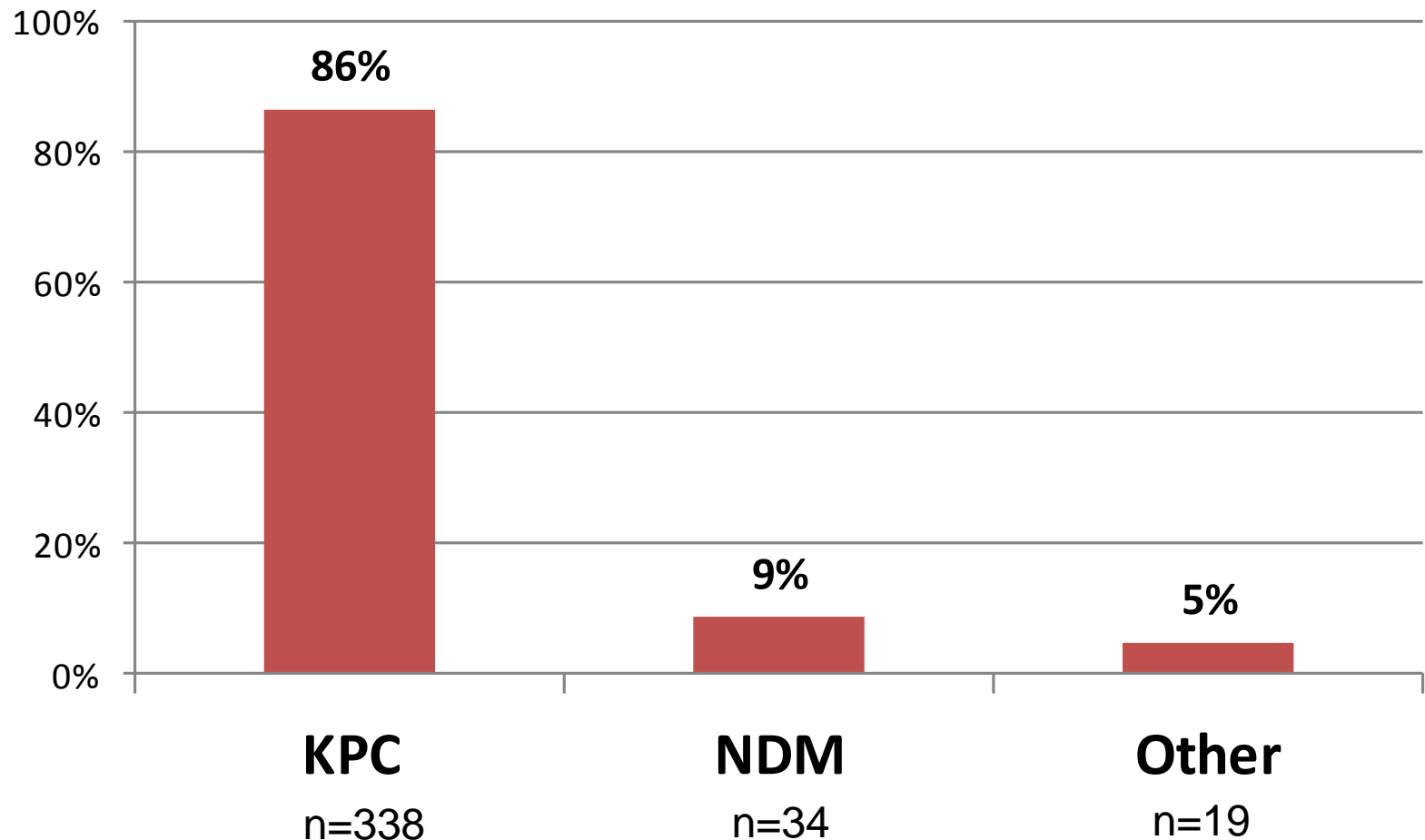
Entire Dataset

# Illinois CRE trend (unique pts)



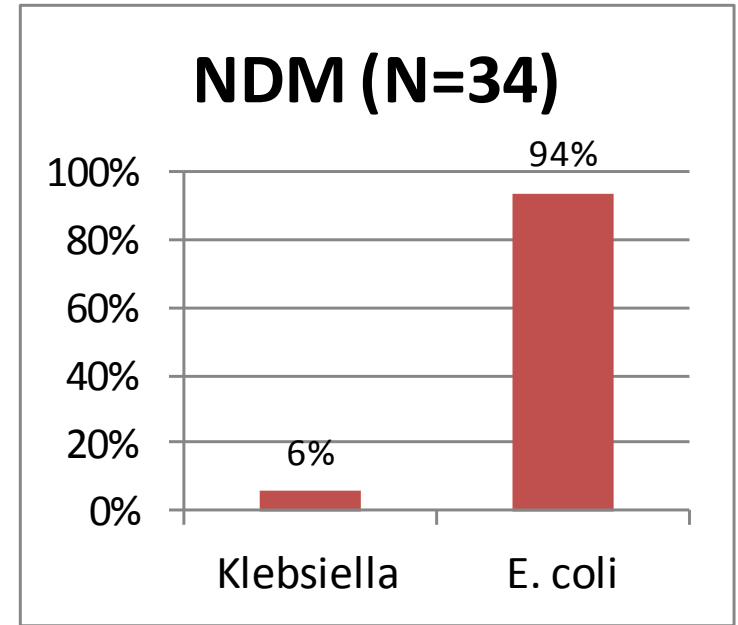
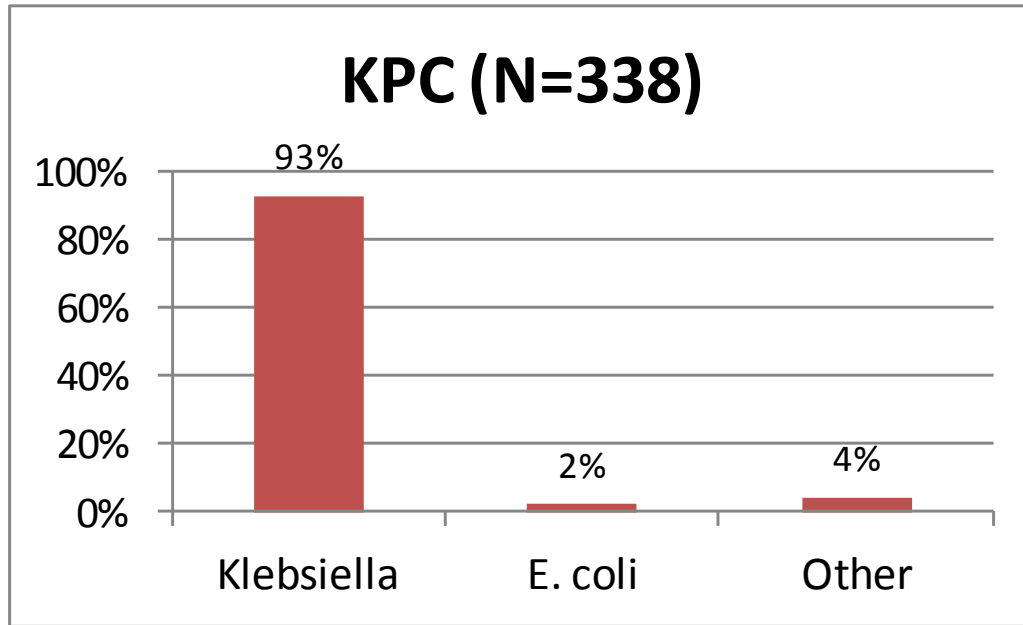
**618** total patients reported; **471** pts since Nov. 2013  
(average 2 to 3 patients reported per day)

## Resistance mechanisms reported to XDRO registry



Data through May 5, 2014; from pts with reported mechanism data, 63% of total

# Organism distribution

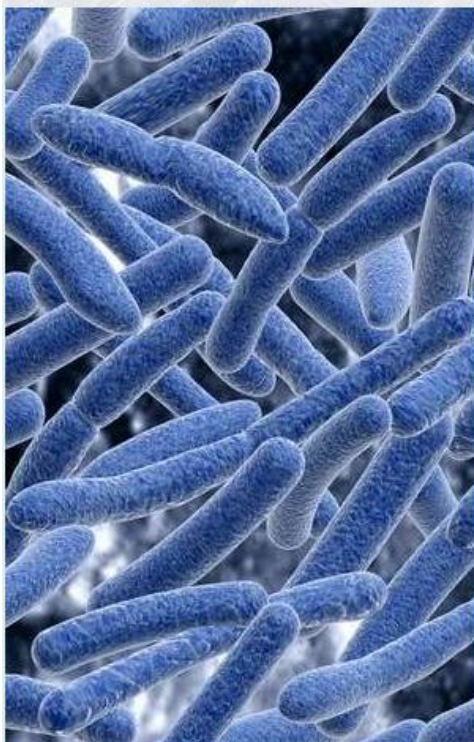


Data through May 5, 2014; from pts with reported mechanism data, 63% of total

# Specimen sources of reported CRE

	%
Urine	49
Wound	14
Sputum	13
Rectal (screening)	12
Blood	7
Body fluid, tissue, other	5

XDRO registry website:  
orientation and updates



The XDRO registry is a product of collaboration between IDPH, Medical Research Analytics and Informatics Alliance (MRAIA), and the Chicago CDC Prevention Epicenter.

Carbapenem-resistant Enterobacteriaceae (CRE) are extremely drug resistant organisms (XDROs) that have few treatment options and high mortality rates. CRE are increasingly detected among patients in Illinois, including acute and long term care healthcare facilities.

In response to the CRE public health threat, the Illinois Department of Public Health (IDPH) has guided development an infection control tool called the XDRO registry. The purpose of the XDRO registry is two-fold:

1. **Improve CRE surveillance:** The first CRE-positive culture per patient stay must be reported to the XDRO registry.
2. **Improve inter-facility communication:** Healthcare facilities can query the XDRO registry to see whether a patient has been previously reported as CRE-positive.

For access to the XDRO registry, click [here](#)

### UPDATES

IL CRE Detect and Protect Campaign. [More...](#)

CRE are reportable to IDPH via the XDRO registry. Links: [\[IDPH letter to facilities, September 2013\]](#)[\[Reporting rule\]](#)

XDRO registry orientation webinar [\[Slides\]](#)[\[Recording\]](#)

CDC guidance on control of CRE: [\[The 2012 Toolkit\]](#)

**As of November 1, 2013, the XDRO registry is open for CRE submissions and queries.**

View FAQs: [\[FAQs PDF\]](#)





Illinois Department of Public Health  
Health Alert Network  
Web Portal

## Welcome to the IDPH Web Portal

From here, you can:

- Find all your public health related information at one secure site.
- Join online communities to share files, discussions, calendars and more.
- Access Web-based applications.

To access the IDPH Web Portal, users must be running Internet Explorer 6.0 or higher. Some portal applications may not function properly with other browsers such as Mozilla Firefox.

Current Users: click here to access the portal: [Login](#)

I need to...

[Register for a Portal Account](#)

**Contact Customer Service Center**  
**1-800-366-8768**

For assistance with IDPH portal access and web-based application support, contact the Customer Service Center at 1-800-366-8768, Option 1, then Option 1 for password reset assistance or Option 7 to reach support personnel for the Department of Public Health.

Please indicate to the CSC staff that you are an IDPH Health Alert Network (portal) user when placing the call to ensure you are routed to the correct support staff to resolve the problem. Include your name, phone number, and specific application name, detail of the issue and error messages, if any, in your description of the problem to ensure efficient resolution.


# Registration Page: New Users

First name:	*	<input type="text"/>
Last name:	*	<input type="text"/>
Password must be a mix of letters and numbers, with a minimum of one capital letter and eight characters in length.		
Password:	*	<input type="password"/>
Confirm password:	*	<input type="password"/>
Title:	*	<input type="text"/>
Organization:	*	<input type="text"/>
Department:	*	<input type="text"/>
Work address:	*	<input type="text"/>
City:	*	<input type="text"/>
State:	*	<input type="text"/>
ZIP code:	*	<input type="text"/>
E-mail:	*	<input type="text"/>
Confirm E-mail:	*	<input type="text"/>
Work phone #:	*	<input type="text"/>
Cell phone #:		<input type="text"/>
Pager #:		<input type="text"/>
FAX #:		<input type="text"/>
Supervisor's name:		<input type="text"/>
Purpose for registration:		<input type="text"/>

Please check the appropriate box(es) below to request access to restricted applications.

- ☐ Beach Monitoring System
- ☐ Cancer Registry System
- ☐ EMS Licensing System
- ☐ Environmental Health Licensing System
- ☐ Food Service Sanitation Manager Certification
- ☐ Genetic Counseling System
- ☐ HAN Alert Notification Recipient
- ☐ HAN Alert Notification System Author
- ☐ Health Care Worker Background Check System
- ☐ Healthy Homes and Lead Poisoning Surveillance System
- ☐ Hospital Bypass/State Disaster Reporting System
- ☐ I-CARE/Immunization Registry (click here to select the [KeyMaster's e-mail:](#) )
- ☐ I-CARE/SFTP (MoveIT) HL7 File Transfer
- ☐ I-CARE/ITDC (HL7 Connect) HL7 File Transfer
- ☒ INEDSS (Disease Surveillance) System/Extensively Drug-Resistant Organisms (XDRO)

# User Sign-In



State of Illinois  
**Web Authentication Portal**

---

Security ( [show explanation](#) )

☒

This is a public or shared computer

☐

This is a private computer

---

☐

I want to change my password after logging on

---

**\*\*Warning! Unauthorized access is prohibited\*\***  
Further access is limited to authorized users only. By accessing or using this system you are consenting to monitoring and recording, which may be disclosed for administrative, disciplinary, civil, or criminal actions, penalties, or prosecution. Users should have no expectation of privacy when accessing or using this system or any of its components.

---

Domain: 

General Public (Not employed by the State of Illinois) ▼

User name: 

john.smith

Password: 

.....|

Log On

---

Don't have an Illinois.gov ID? [Sign up](#)

---

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https://dph.partner.illinois.gov/Pages/AppTest.aspx

Most Visited Getting Started Latest Headlines Customize Links Free Hotmail

DPH Partner



# IDPH Web Portal

Applications, Alerting & Resources

DPH Partner

DPH Partner

Applications

Communities

Discussion Board

View All Site Content

## Documents

## Lists

- Local Health Departments
- Portal Registration Authorities

## Communities

- Communicable Disease
- Division of Laboratories
- Environmental Health

Production Apps

Test Apps

Development Apps

## Test Applications



Business Objects 3.1 - NEW VERSION (Test)



Extensively Drug-Resistant Organisms (XDRO)



I-NEDSS Provider Reporting Test



**Submit Report**

**Search Registry**

**Facility Submission History**

**Facility Alert History**

**XDRO Dashboard**

## XDRO Report

### XDRO culture information

\* **Organism name  
(genus/species)**

Please Select Organism: ▼

\* **Specimen source**

Please Select Specimen: ▼

\* **XDRO criteria** (select all that apply)

[Reporting rule](#)

☐ **Molecular test** (e.g. PCR) specific for carbapenemase

☐ **Phenotypic test** (e.g. Modified Hodge) specific for carbapenemase production

☒ **For E. coli and Klebsiella spp. only:**

Resistant to ALL 3rd gen cephalosporins tested and non-susceptible (intermediate or resistant) to one carbapenem. **Ignore ertapenem.**

\* **Date (culture acquisition)**

mm / dd / yyyy

\* **Mechanism of resistance**

Please Select Mechanism: ▼

### Facility information

**Facility name**

Sample Hospital

\* **Patient MRN**

\* **Date of admission/Encounter Date**

mm / dd / yyyy

☐ Culture obtained as outpatient

### Patient demographics

\* **First name**


\* **Last name**


**Maiden name(if applicable)**

## XDRO Report

## XDRO culture information

**\* Organism name  
(genus/species)**

Please Select Organism: 

Please Select Organism: 

Citrobacter freundii

Citrobacter koseri

Citrobacter spp.

Enterobacter aerogenes

Enterobacter cloacae

Enterobacter spp.

Escherichia coli

Klebsiella oxytoca

Klebsiella pneumoniae

Klebsiella spp.

Morganella morganii

Pantoea agglomerans

Proteus mirabilis

Proteus spp.


Providencia stuartii

Providencia spp.

Salmonella spp.

Serratia marcescens

Serratia spp.

**\* XDRO criteria** (select all that apply)[Reporting rule](#)☐ **Molecular test** (e.g. PCR) specific for carbapenemase☐ **Phenotypic test** (e.g. Modified Hodge) specific for carbapenemase production☒ **For E. coli and Klebsiella spp. only:**  
Resistant to ALL 3rd gen cephalosporins tested and non-susceptible (intermediate or resistant) to one carbapenem. **Ignore ertapenem.****\* Date (culture acquisition)** mm /  dd /  yyyy**\* Mechanism of resistance** Please Select Mechanism: **\* Patient MRN****\* Date of admission/Encounter Date** mm /  dd /  yyyy**\* First name****\* Last name****Maiden name(if applicable)**



## XDRO Report

### XDRO culture information

\* **Organism name  
(genus/species)**

Klebsiella pneumoniae ▼

\* **Specimen source**

Please Select Specimen: ▼

\* **XDRO criteria** (select all that apply)

[Reporting rule](#)

☐ **Molecular test** (e.g. PCR) specific for carbapenemase

☐ **Phenotypic test** (e.g. Modified Hodge) specific for carbapenemase production

☐ **For E. coli and Klebsiella spp. only:**  
Resistant to ALL 3rd gen cephalosporins tested and non-susceptible (intermediate or resistant) to one carbapenem. **Ignore ertapenem.**

\* **Date (culture acquisition)**

mm / dd / yyyy

\* **Mechanism of resistance**

Please Select Mechanism: ▼

### Facility information

**Facility name**

Sample Hospital

\* **Patient MRN**

\* **Date of admission/Encounter Date**

mm / dd / yyyy

☐ Culture obtained as outpatient

### Patient demographics

\* **First name**

\* **Last name**

**Maiden name(if applicable)**



## XDRO Report

### XDRO culture information

\* **Organism name  
(genus/species)**

Klebsiella pneumoniae ▼

\* **Specimen source**

Please Select Specimen: ▼

\* **XDRO criteria**

[Reporting rule](#)

☒ **Molecular test** (e.g. PCR) specific for carbapenemase

☐ **Phenotypic test** (e.g. Modified Hodge) specific for carbapenemase production

☒ **For E. coli and Klebsiella spp. only:**

Resistant to ALL 3rd gen cephalosporins tested and non-susceptible (intermediate or resistant) to one carbapenem. **Ignore ertapenem.**

\* **Date (culture acquisition)**

mm / dd / yyyy

\* **Mechanism of resistance**

Please Select Mechanism: ▼

### Facility information

**Facility name**

Sample Hospital

\* **Patient MRN**

\* **Date of admission/Encounter Date**

mm / dd / yyyy

☐ Culture obtained as outpatient

### Patient demographics

\* **First name**

\* **Last name**

**Maiden name(if applicable)**

## XDRO Report

### XDRO culture information

\* **Organism name  
(genus/species)**

Klebsiella pneumoniae ▼

\* **Specimen source**

Please Select Specimen: ▼

\* **XDRO criteria**

[Reporting rule](#)

☒ **Molecular test** (e.g. PCR) specific for carbapenemase

☐ **Phenotypic test** (e.g. Modified Hodge) specific for carbapenemase production

☒ **For E. coli and Klebsiella spp. only:**

Resistant to ALL 3rd gen cephalosporins tested and non-susceptible (intermediate or resistant) to one carbapenem. **Ignore ertapenem.**

\* **Date (culture acquisition)**

mm / dd / yyyy

\* **Mechanism of resistance**

KPC (Klebsiella pneumoniae) ▼

Please Select Mechanism:

KPC (Klebsiella pneumoniae carbapenemase)

NDM-1 (New Delhi Metallo-β-lactamase)

OXA

Other

Unknown

\* **D** mm / dd / yyyy

### Facility information

**Facility name**

Sample Hospital

\* **Patient MRN**

☐ Culture obtained as outpatient

### Patient demographics

\* **First name**

\* **Last name**

**Maiden name(if applicable)**

## XDRO Report

### XDRO culture information

\* **Organism name  
(genus/species)**

Klebsiella pneumoniae ▼

\* **Specimen source**

Urine ▼

\* **XDRO criteria**

[Reporting rule](#)

☒ **Molecular test** (e.g. PCR) specific for carbapenemase

☐ **Phenotypic test** (e.g. Modified Hodge) specific for carbapenemase production

☒ **For E. coli and Klebsiella spp. only:**

Resistant to ALL 3rd gen cephalosporins tested and non-susceptible (intermediate or resistant) to one carbapenem. **Ignore ertapenem.**

\* **Date (culture acquisition)**

04 / 29 / 2014

\* **Mechanism of resistance**

KPC (Klebsiella pneumonia) ▼

### Facility information

**Facility name**

Sample Hospital

\* **Patient MRN**

\* **Date of admission/Encounter Date**

mm / dd / yyyy

☐ Culture obtained as outpatient

### Patient demographics

\* **First name**

\* **Last name**

**Maiden name(if applicable)**

## Patient demographics

\* First name

\* Last name

Maiden name(if applicable)

\* Gender

☐ Male ☐ Female

\* Date of birth(mm/dd/yyyy)

 /  / 

Social Security Number(last4)

Race

Please Select One: ▼

Ethnicity

- ☐ Hispanic or Latino  
☐ Not Hispanic or Latino

\* Street address

\* City

\* County

\* State

 ▼

\* Zip code

## Comments

CANCEL

SAVE DRAFT

SUBMIT

**Submit Report**

**Search Registry**



**Facility Submission History**

**Facility Alert History**

**XDRO Dashboard**

## Search Patient

\* Last name

\* Date of birth

 /  / 

First name

Query

### Search Instruction

#### a. Available fields

Last name (required), first name (optional), DOB (required).

#### b. Search algorithm

- i. If you enter all 3 fields, then attempt to match (exact; case insensitive) on all 3 fields.
- ii. If no match returns on 3 fields, then attempt to match (exact; case insensitive) on last name and DOB (ignore first name completely).

#### c. Results display

- i. In general, You will see the search results for exactly how you entered the information. If there are no exact matches for last name and dob, you will see a NULL result.

## Search Patient

\* Last name

\* Date of birth

 /  / 

First name

Query

Showing results for J, DOB 10/10/1999 (**FIRST NAME IGNORED**):

Name	Date of Birth	SSN	Organism	Culture Date	Last Transaction	Facility
J, J	10/10/1999		Other Enterobacteriaceae	10/10/2012	submitted,10/10/2013	Rush-presb-st L..

Disclaimer: A match on name and date of birth only may not be 100% accurate. We recommend that you verify XDRO status with the patient or by contacting the facility that entered the result.

## XDRO Report - Rush-presb-st Lukes Medical Center

### Patient information

**Patient name:** J, J**MRN:****Admission date:** 10/10/2012**Date of birth:** 10/10/1999**SSN (last 4):****Race:** Black/African American**Address:** 2200, Chicago, IL 60612

### XDRO culture information

**Organism:** Other Enterobacteriaceae**Culture date:** 10/10/2012**XDRO criterion:****Specimen source:** Blood**Mechanism of resistance:****Comments:**


Submitted by Vicky G, 10/10/2013, Rush-presb-st Lukes Medical Center

[Go Back](#)[Print](#)



**Submit Report**

**Search Registry**



**Facility Submission History**

**Facility Alert History**

**XDRO Dashboard**

## Sample Hospital Submission History

First name

Last name

Date of birth

 /  / 

SSN(last4)

RID

Report

Search

RID	Name	Date of Birth	MRN	Organism	▼Culture Date	Status	Username
585	Q, Q	12/12/2010	1212	Citrobacter spp.	03/01/2014	Pending	devxtest
835	Duck, Daffy	11/13/1973	1234	Klebsiella pneumoniae	02/14/2014	Submitted	rleidig
1017	T, Test	01/01/1955	1234536	Escherichia coli	12/31/2013	Submitted	devxtest
1018	B, A	11/11/2011	1234536	Escherichia coli	12/31/2013	Submitted	devxtest
846	S, B	11/11/1950	32152	Citrobacter spp.	12/12/2013	Submitted	devxtest
777	E, Ds	11/11/1982	1110	Enterobacter aerogenes	11/22/2013	Submitted	devxtest
861	, Test Criteria			Escherichia coli	11/12/2013	Pending	devxtest
871	Gao, TestUI	11/11/1958	lkdsfkj	Klebsiella oxytoca	11/11/2013	Submitted	devxtest
872	D, Testzip	11/12/1950	2321321	Enterobacter aerogenes	11/11/2013	Submitted	devxtest
899	T, Test	01/23/1980	3232132	Citrobacter spp.	11/11/2013	Submitted	devxtest

previous

1

2

3

next

## XDRO Report - Sample Hospital

### Patient information

**Patient name:** Duck, Daffy

**MRN:** 1234

**Admission date:** 03/13/2014

**Date of birth:** 11/13/1973

**SSN (last 4):**

**Race:**

**Address:** 122 S. Michigan, Chicago, IL 60603

### XDRO culture information

**Organism:** Klebsiella pneumoniae

**Culture date:** 02/14/2014

**XDRO criterion:** Molecular test

**Specimen source:**

**Mechanism of resistance:** KPC

**Comments:**

Submitted by ROBYNN LEIDIG, 03/14/2014, Sample Hospital

[Go Back](#)

[Edit](#)

[Delete](#)

[Print](#)

## XDRO Report - Sample Hospital

### Patient information

**Patient name:** Duck, Daffy

**MRN:** 1234

**Admission date:** 03/13/2014

**Date of birth:** 11/13/1973

**SSN (last 4):**

**Race:**

**Address:** 122 S. Michigan, Chicago, IL 60603

### XDRO culture information

**Organism:** Klebsiella pneumoniae

**Culture date:** 02/14/2014

**XDRO criterion:** Molecular test

**Specimen source:**

**Mechanism of resistance:** KPC

**Comments:**

Submitted by ROBYNN LEIDIG, 03/14/2014, Sample Hospital

Reason for deleting the above record:

Please Select Reason: ▼

Comment:

De-colonization or infection resolution is not a valid reason to delete the record.

## XDRO Report - Sample Hospital

### Patient information

**Patient name:** Duck, Daffy

**MRN:** 1234

**Admission date:** 03/13/2014

**Date of birth:** 11/13/1973

**SSN (last 4):**

**Race:**

**Address:** 122 S. Michigan, Chicago, IL 60603

### XDRO culture information

**Organism:** Klebsiella pneumoniae

**Culture date:** 02/14/2014

**XDRO criterion:** Molecular test

**Specimen source:**

**Mechanism of resistance:** KPC

**Comments:**

Submitted by ROBYNN LEIDIG, 03/14/2014, Sample Hospital

**Reason for deleting the above record:**

Please Select Reason: ▼

**Comment:**

De-colonization or infection reso

Please Select Reason:

- Data entry error
- Laboratory testing error
- Patient deceased
- Not a CRE
- Other

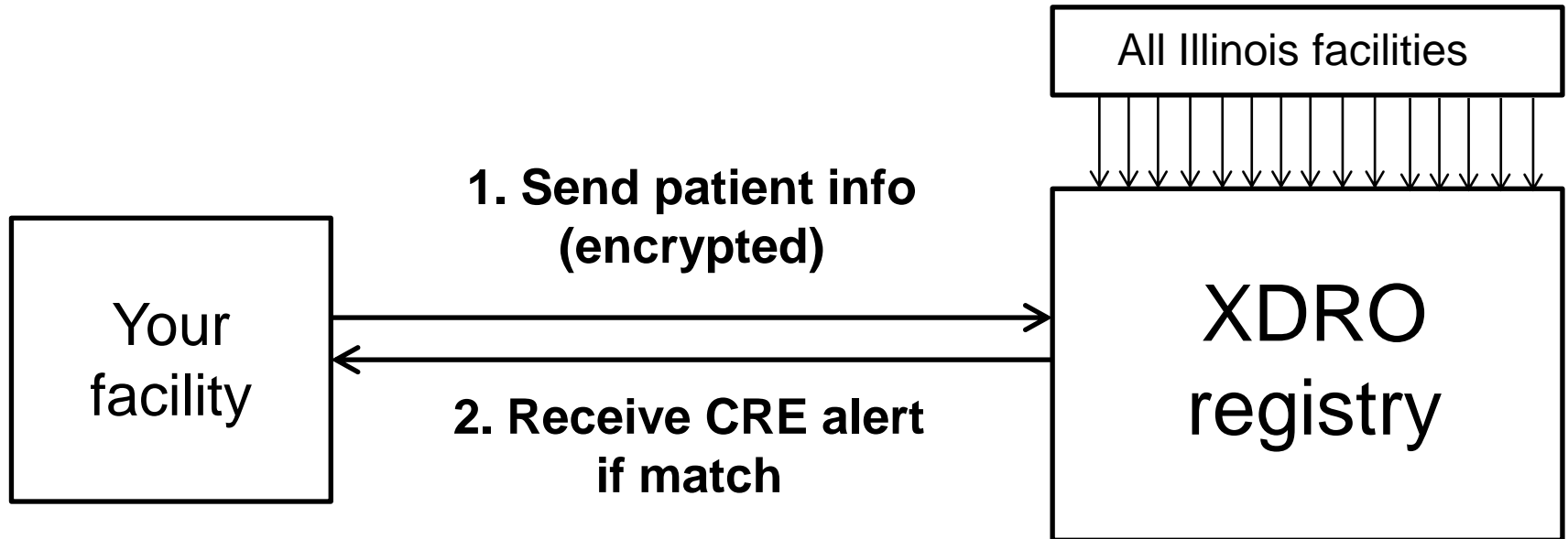
on to delete the record.

Querying the XDRO registry

# Querying the registry

- Currently, querying requires typing patient information into the webpage
  - Reasonable if few admissions per day  
(e.g., long term care facilities)
  - Large facilities may want to query only high-risk patients (e.g., transfers)

# Automated CRE alerts



Automated alerts will be piloted at limited hospitals in 2014;  
anticipate wider availability in 2015



# Take home points

1. You are required to report CRE to the XDRO registry. Discuss with your lab about CRE testing and reporting.
2. Even if your lab reports CRE for you, we advise every facility to designate an infection preventionist to sign up for the XDRO registry
  - Query the registry to see if new patients have been reported as CRE-colonized

Question and answer forum

# Upcoming Webinars



Target Audience	Topics	Date
Laboratorians	CRE testing guidelines, Reporting to XDRO	June 6
Long Term Care staff	Antibiotic Use in Nursing Homes	June 26

Webinar recordings and slides will be available at  
<https://www.xdro.org/cre-campaign/index.html>



# Survey and Continuing Education Units



- Fill out webinar evaluation on SurveyMonkey at:  
<https://www.surveymonkey.com/s/cre-ltcf-ip>
- Instructions on applying for CEUs will appear at the end of the SurveyMonkey
- Surveys and CEU applications must be completed by  
**Monday, June 9!**



Contact: Robynn.Leidig@illinois.gov or  
Angela.Tang@illinois.gov

