MDCH SHARP NHSN USERS CONFERENCE CALL
Wednesday, September 25, 2013

Thank you to those who were able to join our monthly NHSN users' conference call. If you were unable to participate, we hope you will be able to join us next month. Any healthcare facility is welcome to participate in these calls, whether sharing NHSN data with us or not. Conference calls are voluntary. Registration and name/facility identification are **not** required to participate.

Our monthly conference calls will be held on the 4th Wednesday each month at 10:00 a.m. Our next conference call is Wed, October 23, 2013 at 10:00 a.m.

Call-in number: 877-336-1831
Passcode: 9103755
Webinar: http://breeze.mdch.train.org/mdchsharp/

Suggestions for agenda items and discussion during the conference calls are always welcome! Please contact Judy at weberj4@michigan.gov to add items to the agenda.

HIGHLIGHTS FROM CONFERENCE CALL

Welcome & Introductions

Judy welcomed participants on the call and participating SHARP staff introductions were made. Participants were reminded to put their phones on mute or to press *6.

Update on SHARP Reports

Allie announced that she is finishing the 2012 Q4 surveillance report and working on the 2013 Q1 surveillance report. She is also continuing work on the new 2012 calendar year report along with a 1-2 page aggregate snapshot and corresponding 1-2 page individual hospital snapshots.

Allie also announced that the most recent edition of the SHARP Unit Newsletter (September 2013, Issue 5) has been released. It was attached to the meeting room and is also posted on the MDCH HAI website (www.michigan.gov/hai). This report includes articles about the cost of HAIs, the recent Antimicrobial Resistance Report released by the CDC, SHARP surveillance updates, and updates from the MRSA/CDI and CRE initiatives. Allie encouraged participants to read and share this newsletter.

Updates and Reminders:

Clarifications regarding CMS Reporting Requirements

Attached to the meeting room, as well as included on the MDCH HAI website, is the revised CMS list of HAI reporting requirements for all healthcare facilities. Judy reviewed the new reporting requirements for 2014 and 2015. The January 2014 requirement for acute care hospitals to add the patient Medicare beneficiary number to events within NHSN has been delayed until July 2014. Also, the January 2014

requirement for expansion of CLABSI and CAUTI reporting from all adult/pediatric medical, surgical and med/surg wards has been delayed until January 2015. LTACs, Inpatient Rehab facilities, and ambulatory surgical centers, will be required to begin reporting flu vaccination status on their healthcare personnel on October 1, 2014. For additional reporting requirements, please refer to the posted CMS reporting chart.

Judy also mentioned that the deadlines for entering CMS-required data into NHSN have been included in a CMS calendar posted to the meeting room and the MDCH HAI website. The deadlines are generally 4½ months following the reporting quarter.

Healthcare Personnel Flu Vaccination Module

This reporting requirement for acute care hospital begins again on October 1, 2013 and continues through March 31, 2014. In order to use the module, the Healthcare Personnel Safety Component must first be activated by the NHSN Facility Coordinator. This can be done by going to 'Facility' on the NHSN navigation bar, and then clicking 'Add/Edit' under 'Components Followed'. You should put a check mark in the box in front of 'Healthcare Personnel Safety Component' and then click on 'Update' at the bottom of the screen. Under "Users" on the navigation bar, you can add staff who will be adding data to this Component.

The next step is to set up a monthly reporting plan for this Component. On the NHSN Landing Page, you need to choose the 'Healthcare Personnel Safety Component' option. When the new screen opens, click on 'Reporting Plan" and "Add". On the new screen that opens, add the required information at the top of the screen, and then check the bottom box that indicates 'Influenza Vaccination Summary" and 'Save' it. You only need to complete the Monthly Reporting Plan once during the 2013-2014 flu season.

To enter healthcare flu vaccination data into NHSN, click on 'Flu Summary' and then "Add' on the navigation bar. On the screen that opens, you will be able to enter numbers for the 4 categories of healthcare personnel (note that the 'Other Contract Personnel' category is optional at this time). Numerator data will include the various categories of vaccination status of your healthcare personnel. A couple of important things to remember:

- The '30-day'working requirement for healthcare personnel has been changed to ONE day, regardless of number of hours worked.
- The various categories of healthcare personnel will vary from hospital to hospital. Work with your Human Resources Department to determine which categories your personnel fall into.
- Keep track of any new personnel that are added between October 1 and March 31, 2014. These new personnel need to be added to the column and line totals. Ask for help in keeping track of new personnel within your hospital.
- Medical contraindications (line 4 across) should only include personnel allergic to eggs, and personnel having GBS 6 weeks prior to receiving the flu vaccine. Religious exemptions should be included in line 5 (those who refuse the vaccine).

- HCP categories are mutually exclusive. Each HCP should be counted only once in the denominator (line 1 across).
- Data can be added monthly, weekly, or at the end of the flu season (as long as someone is keeping track of the various categories on the form). Any new data that are entered will overwrite and replace the previously entered data so facilities should maintain their own record if they want to keep track of previously reported numbers.
- All data must be entered into NHSN by May 15, 2014. CDC will send this data to CMS after this date.
- You should refer to the Healthcare Personnel Flu Vaccination protocol on the NHSN website if you have additional questions about definitions or procedures for entering the data into NHSN.

New Template of Conferred Data Rights

Judy indicated that facilities sharing data with the SHARP Unit will see an alert referring to a new template of conferred rights for acceptance. Doing so will allow the SHARP Unit to see Healthcare Personnel Safety Component healthcare personnel flu vaccination summary data. Because this is a separate Component from the Patient Safety Component and because the SHARP Unit has not requested this data from facilities previously, it was necessary for the SHARP Unit to develop a new data rights request. Note, however, that asking for this data does not conflict with the MDCH Master Data Use Agreement. Facilities using the Healthcare Personnel Safety Component should receive an alert when they enter into NHSN asking for acceptance of the new conferred rights template. Questions regarding this can be directed to Judy or Allie in the SHARP Unit.

Changes to Facility Information/Names/Email Addresses

Judy reminded facilities that if there are changes in the names of NHSN Facility Administrators or other hospital contacts, or changes in their email addresses, these changes should be made within NHSN. This is extremely important since CDC and the SHARP Unit use these names and email addresses to send out important information about NHSH or it use. These changes must be made by the NHSN Facility Administrator and can be done by going to 'Facility' and 'Facility Info" on the navigation bar. Scroll down to the heading 'Contact Information' on the screen that opens. Click on 'Edit' or 'Reassign' and then click on "Update" at the bottom of the screen to save the new information.

SAMS (Secure Access Management System)

Judy indicated that CDC is transitioning from use of the Secure Data Network (SDN) to SAMS. This new system will do away with digital certificates. Epi-X users are currently being switched over, and facilities will be switched over to the new system over the next several months/years. Digital certificates will become obsolete. Individuals currently using digital certificates will receive an email from CDC when it is time for them to switch over. New enrollees will use SAMS, which began in September 2013.

CDC Antibiotic Resistance Threats
Judy indicated that on September 16th, CDC released this new landmark report which is posted in the meeting room and also on the MDCH HAI website. The report provides a snapshot of the burden and threats posed by antibiotic resistant organisms having the most impact on human health. The threats have been ranked by severity according to urgent, serious, and concerning. The top three threats are listed as carbapenem-resistant Enterobacteriaceae (CRE), drug-resistant gonorrhea, and *C. diffile*. The report presents a "call to action" to educate the public about the complexity of this problem.

Quirks with NHSN
There was a request from a hospital to demonstrate calculating an SSI rate by wound class. There is no straightforward method of creating this, so Allie gave instructions on how to create this rate from NHSN.

Create a frequency table under Procedure – SSI – Frequency Table and specify the date variable by procedure date. Then specify that row = swClass and column=eventType. When you click run, you will get a pop-up showing a table of the number of SSIs per surgical wound class. You can also play around with it, and put variables like "spcEvent" in the column to see the different surgical wound classes per specific types of SSIs. To find the number of procedures, go to Advanced – Procedure-level data – Frequency table and specify the same time period and use that same time variable in the row (procDateYH, procDateYr, etc…) and procCode in the column. This will give you procedures by procedure type as well as a total.

When you get your numbers, you can take the events per each wound class and divide them by procedures *100 to get a rate.

Michigan's CRE Surveillance & Prevention Initiative
Brenda Brennan, the SHARP Unit's CRE Prevention Initiative Coordinator, provided an overview of this collaborative to reduce CRE infections in Michigan. Slides from her presentation can be found in the meeting and are attached to these minutes.

Q and A
There were no specific questions from the participants.

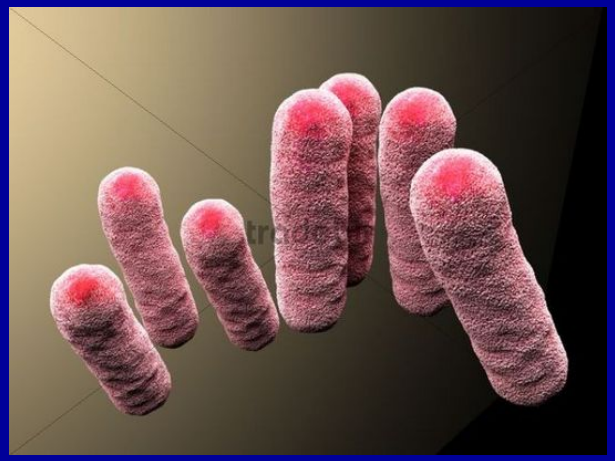
Next Conference Call
The next SHARP Unit NHSN conference call will be held on Wednesday, October 23 at 10:00 a.m. An agenda and call-in information will be posted on the MDCH HAI website a few days before the call.

Carbapenem-Resistant *Enterobacteriaceae* (CRE) Surveillance and Prevention Initiative

Brenda M. Brennan, MSPH
Surveillance for Healthcare-Associated and Resistant Pathogens (SHARP) Unit
Michigan Department of Community Health

Enterobacteriaceae

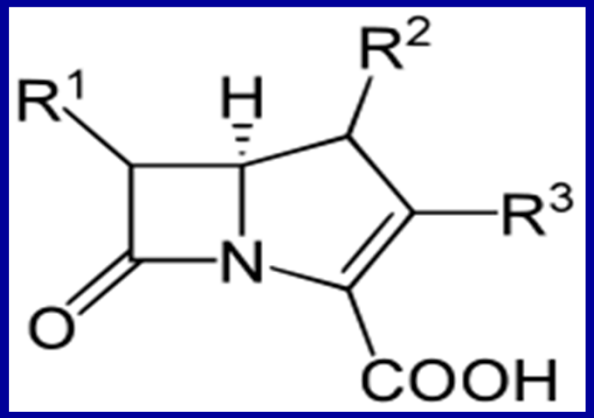
- Enteric organisms (intestinal colonizers)
- Facultatively anaerobic, gram-negative bacilli
- Pathogens responsible for
  - Urinary tract infections
  - Bacteremia
  - Pneumonia
  - Meningitis



- Genera: *Klebsiella, Escherichia, Enterobacter, Morganella, Proteus, Citrobacter, Salmonella, Serratia, Shigella*

Carbapenems

- Class of broad-spectrum, β-lactam antibiotics
- Act by inhibiting cell wall synthesis and most effective against gram negative infections
- Examples of carbapenems
  - Ertapenem
  - Doripenem
  - Imipenem
  - Meropenem



- Agents of last resort – one of the few remaining effective therapies

Laboratory Detection of CRE

- Screening
  - Labs use automated systems for antimicrobial susceptibility testing (AST)
    - Vitek, Vitek 2, Microscan, Phoenix, Sensititre
- Confirmation
  - Modified Hodge test (MHT)
    - Phenotypic test to detect carbapenemase production

  - Polymerase chain reaction (PCR)
    - Molecular test to confirm presence of specific resistance genes (e.g., *bla*$_{KPC}$ gene)

Issues with Laboratory Detection

- Bacteria that produce carbapenemase do not always test **resistant** to carbapenems using current carbapenem breakpoints and common AST methods
- Sensitivity of detection varies by which carbapenem is tested
- Identification of a carbapenemase in isolates that test **susceptible** to carbapenems creates problems in reporting susceptibility results

Patient Risk Factors

- Antimicrobial exposure
  - Vancomycin
  - Fluoroquinolones
  - Penicillins
  - Extended-spectrum cephalosporins
- Increased number of co-morbid conditions
- Invasive devices
  - ventilators, catheters, etc.
- Frequent or prolonged hospitalization
- Long-term acute care (LTAC) facility exposure

Public Health Threat

- Therapeutic options are limited
  - Understanding the epidemiology and controlling the spread of CRE is extremely important

CRE Surveillance and Prevention Initiative

CRE Collaborative

- The **CRE Collaborative group** helps direct surveillance and prevention efforts by
  - Developing a voluntary reporting mechanism for CRE
  - Enrolling acute care and LTAC facilities to participate
  - Identifying and implementing best-practice recommendations that can be applied across the healthcare continuum
  - Overseeing the Initiative
- **Overall goal**
  - Understand and describe CRE epidemiology
  - To build regional partnerships within healthcare and public health communities to reduce the spread of CRE in Michigan

CRE Collaborative

- **Organizations**
  - Detroit Medical Center, Spectrum Health, University of Michigan Health System, Bronson Methodist Hospital, St. Joseph Mercy, Select Specialty Hospital, and MDCH
- **Disciplines**
  - Infection Prevention, Epidemiology, Clinical Microbiology, Antimicrobial Stewardship, Infectious Disease, Pharmacy, Quality Management, and Public Health

Initiative Progress

- Enrolled 17 acute care and 4 long-term acute care facilities (21 total)
- Facilities submit case information and denominator data every month
- CRE Prevention Plans
  - Facilities chose interventions
  - Implementation began March 1, 2013
- Surveillance and prevention efforts continue through August 2014

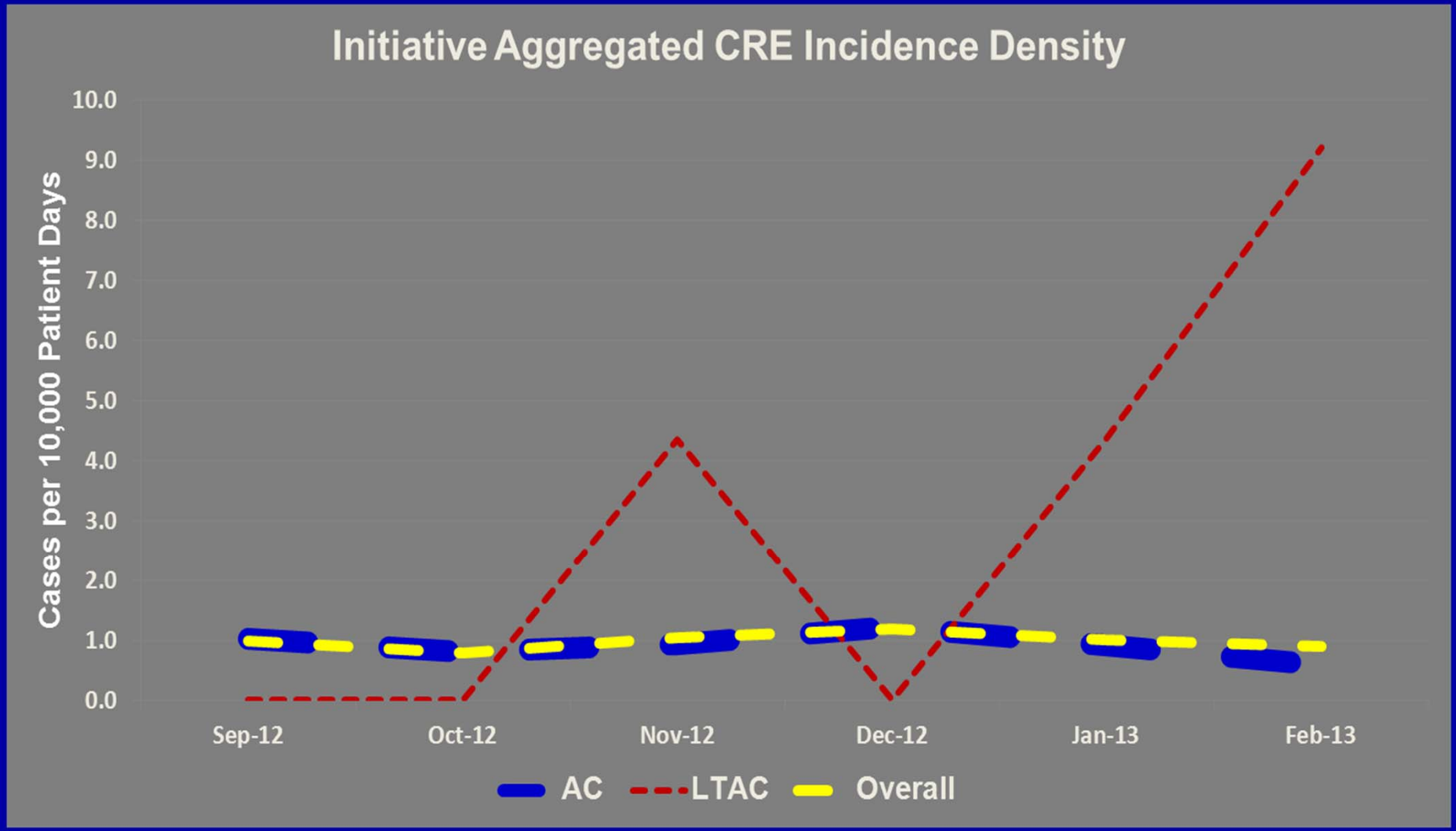
Initiative Progress

- CRE Educational Conference (November 2012)
- Benefits of participation
  - Professional and educational incentives
  - Data feedback
  - Collaborative effort to reduce CRE
    - Regional partners throughout the healthcare continuum
- Monthly Newsletter (CRE News)
  - Reminders, updates, tools, tips and guidance
- Monthly Reports
  - Facility-specific and overall Initiative trends

Baseline Data Highlights

September 2012 – February 2013

Baseline Data - Incidence



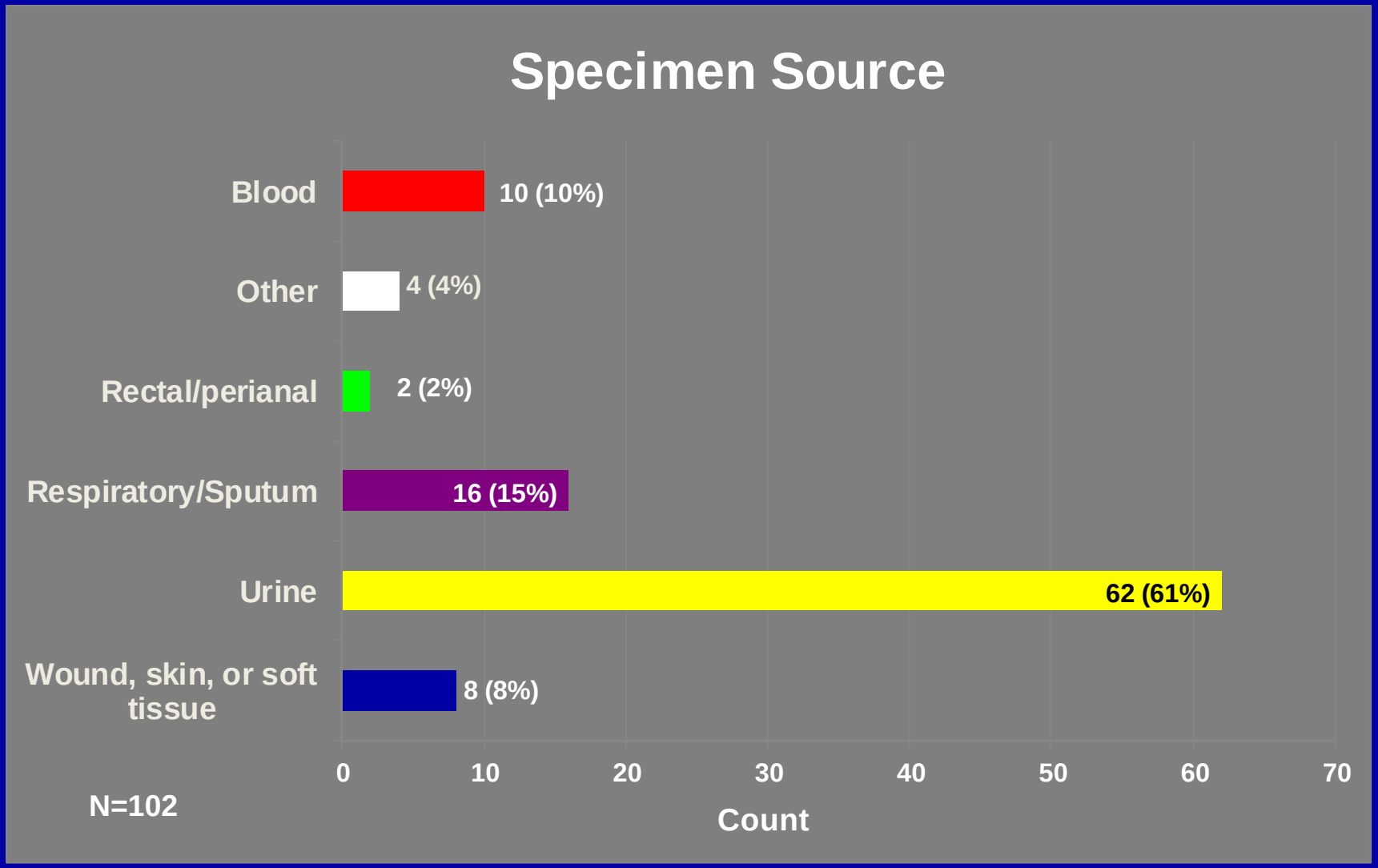
Patient Demographics

- **Total of 102 cases reported during baseline**
- Age
  - Median: 63 y/o
  - Range: 2-95 y/o
- Sex
  - 49% Female
- Patient Type
  - Inpatient ICU: 38%
  - Inpatient Non-ICU: 49%
  - Outpatient: 11%
  - Referral patient: 2%

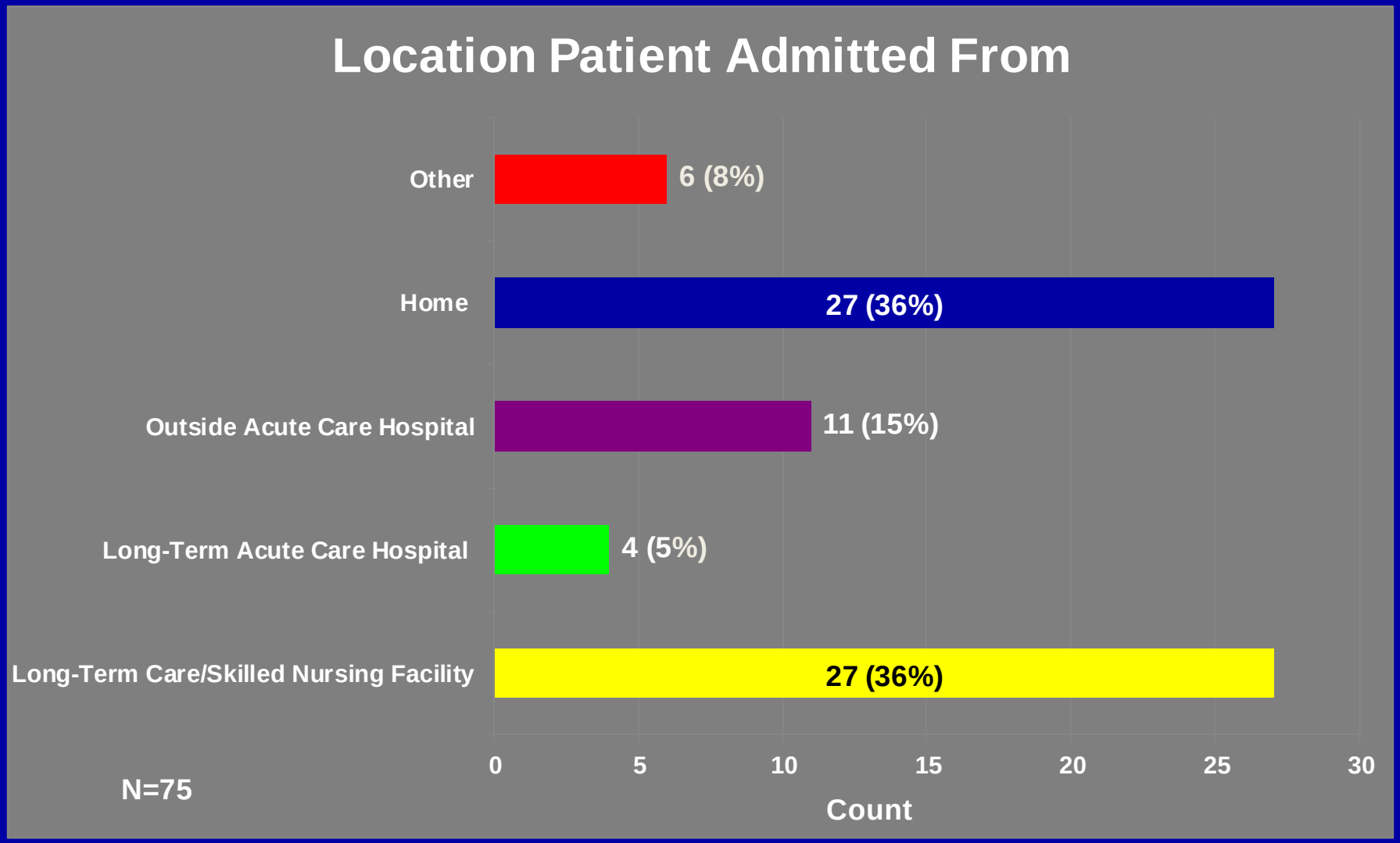
Laboratory Testing and Micro

- **Organism**
  - *Klebsiella pneumoniae*: 87%
  - *Escherichia coli*: 13%
- **Specimen Type**
  - Clinical culture: 97%
  - Surveillance Culture or screen: 3%

Laboratory Testing – Specimen Source



Location Patient Admitted From



Healthcare Onset (HO) vs. Community Onset (CO)

TABLE 5. Cases of CRE Stratified by CDC LabID Onset Type

	No. / Denominator (%)
Healthcare-Onset	36 / 102 (35)
Community-Onset	66 / 102 (65)
Previous healthcare exposure	
Healthcare-Onset[a]	14 / 16 (88)
Community-Onset[b]	33 / 44 (75)

NOTE. Healthcare exposure may include any acute, long-term acute, long-term care, or skilled nursing facility in the last 90 days.

[a] Data available for 16 of 36 cases

[b] Data available for 44 of 66 cases

Contact Precautions

- Time from Antimicrobial Susceptibility Results to placing the patient into isolation/contact precautions:
  - Paired dates for 67 (of 94) acute care patients
- 65 (97%) of patients were placed in CP within 24 hours
  - Range: 0-11 days, Mean: 6 hours

CRE Prevention

CDC 2012 CRE Toolkit

- Guidance for Control of Carbapenem-resistant *Enterobacteriaceae* - Released June 2012
  - **Part 1:** Recommendations for healthcare facilities – expands on March 2009 guidance for acute care facilities
  - **Part 2:** Reviews the role of public health in the control of CRE

Preventing Transmission

- Recognize CRE as epidemiologically important
- Understand the incidence/prevalence in your region
- Identify colonized and infected patients in the facility
- Implement regional and facility-based interventions

8 Core Prevention Measures

- Hand Hygiene
- Contact Precautions
- Healthcare Personnel Education
- Minimize the Use of Invasive Devices
- Patient and Staff Cohorting
- Laboratory Notification
- Promote Antimicrobial Stewardship
- CRE Screening

Examples of CRE Prevention Plans

- Flagging of CRE patients in IC surveillance system – isolated more quickly
- Development of practitioner-specific reports to describe infectious disease specialist approval of carbapenem usage
- DAZO fluorescent marking gel (cleaning of critical surfaces) – 6 week covert analysis 6 months of intervention
- Education (clinical staff and physicians) on CRE
- Rapid communication between lab, infection control, and infectious disease physicians
- Prompt discontinuance of unnecessary invasive devices
- Educating patient services regarding compliance with signage and how to prevent transmission of CRE

Future Activities

- Collaborative Meetings continue
  - Review incoming data – monitor reporting process
  - Describe CRE epidemiology
- CRE Prevention Plans
- Educational webinars
  - Antimicrobial stewardship, laboratory detection of CRE, infection prevention strategies, and microbiology lab report interpretations
- Expansion of the Initiative to include other organisms, additional facilities, and local public health

For more information

- Visit website for presentations, updates and training opportunities
  - www.michigan.gov/hai
  - Scroll down to the green banner boxes
  - MDCH SHARP HAI Prevention Initiatives
    - MRSA/CDI
    - CRE

Thank you

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Michigan Department of Community Health
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Healthcare-associated Infections
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Surveillance & Infectious Disease Epidemiology