

# Multidrug-Resistant Organism (MDRO) and *Clostridium difficile*-Associated Disease (CDAD) Module

## Training Course Section:

### Prevention Process Measures and Active Surveillance Testing Outcome Measures



### Target Audience

This training session is designed for those who will collect and analyze prevention process adherence measures and/or active surveillance testing outcome measures in the MDRO and CDAD Module of NHSN. This may include:

- NHSN Facility Administrator
- Patient Safety Primary Contact
- Infection Preventionist
- Epidemiologist
- Microbiologist
- Professional Nursing Staff
- Trained Support Staff



**Reminder!**

You should have previously viewed the *NHSN Overview* and the *MDRO and/or CDAD Infection Surveillance* slides prior to beginning this training.

### Objectives

- Describe the rationale for monitoring Prevention Process Measures and/or Active Surveillance Testing (AST) Outcome Measures in NHSN
- Describe the methodology, protocols, and definitions used in monitoring:
  - Hand hygiene adherence
  - Gown and gloves use adherence
  - Active surveillance testing adherence
- Describe the collection and reporting of AST outcome measures

## Prevention Process & Outcome Measures

### Reporting Options

-Infection Surveillance

-Proxy Infection Measures:

-Laboratory-Identified (LabID) Event


-Prevention Process Measures:

-Monitoring Adherence to Hand Hygiene

-Monitoring Adherence to Gown and Gloves Use

-Monitoring Adherence to Active Surveillance Testing

-Active Surveillance Testing (AST) Outcome Measures



One of these  
two options is  
required for  
participation  
in MDRO!

## Prevention Process & Outcome Measures

The following documents and forms will be discussed in this training. You may wish to PRINT these to follow along.

**1) MDRO and CDAD Module Protocol**

- [http://www.cdc.gov/ncidod/dhqp/nhsn\\_MDRO\\_CDAD.html](http://www.cdc.gov/ncidod/dhqp/nhsn_MDRO_CDAD.html)

**2) Patient Safety Monthly Reporting Plan**

- [http://www.cdc.gov/ncidod/dhqp/forms/A\\_PSReportPlan\\_BLANK.pdf](http://www.cdc.gov/ncidod/dhqp/forms/A_PSReportPlan_BLANK.pdf)

**3) MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring form**

- [http://www.cdc.gov/ncidod/dhqp/forms/57\\_127\\_MDROMonthlyReporting.pdf](http://www.cdc.gov/ncidod/dhqp/forms/57_127_MDROMonthlyReporting.pdf)

# **Prevention Process Measures Surveillance**

### Background



#### **Why monitor adherence?**

- Reinforces and supports the DHQP and HICPAC approved guidelines for control of MDROs using combined interventions
- Epidemiologic evidence suggests that MDROs can be carried from one patient to another via the hands of the healthcare practitioner
- Hands are easily contaminated during care-giving or from contact with surfaces in close proximity to the patient
- Gown and gloves use for patients on Transmission-based Contact Precautions have been shown to reduce rates of MDRO transmission
- Published reports support the use of active surveillance testing and isolation of infected patients.

<http://www.cdc.gov/ncidod/dhqp/pdf/ar/mdroGuideline2006.pdf>

### Resistant Organisms Monitored

#### **Hand Hygiene, Gown & Gloves Use, AST:**

- Methicillin-Resistant *Staphylococcus aureus* (MRSA)  
(option w/ Methicillin-Susceptible *S. aureus* (MSSA))
- Vancomycin-Resistant *Enterococcus* spp. (VRE)

#### **Hand Hygiene and Gown & Gloves Use Only (No AST):**

- Multidrug-Resistant (MDR) *Klebsiella* spp.
- Multidrug-Resistant (MDR) *Acinetobacter* spp.
- *Clostridium difficile*





### Prevention Process Measures Surveillance

- 1) Monitoring Adherence to Hand Hygiene
- 2) Monitoring Adherence to Gown and Gloves Use as Part of Contact Precautions
- 3) Monitoring Adherence to Active Surveillance Testing (for MRSA & VRE only)



### Reporting Method

#### **B. Selected Locations:**


- Report separately from 1 or more specific locations in a facility.
- Separate denominators (patient days, admission, encounters) for each location
  - Report “patient days” for infection surveillance
  - Report “encounters” for outpatient areas monitored for AST adherence (e.g., emergency room or clinic)
  - Report “admissions” for AST adherence monitored in inpatient locations
  - Report “admissions” and “patient days” for AST Outcome Measures
  - Other denominators for each process measure are described in the related sections.

# Hand Hygiene

## Prevention Process Measures: Hand Hygiene

### Hand Hygiene: Required Minimum Reporting

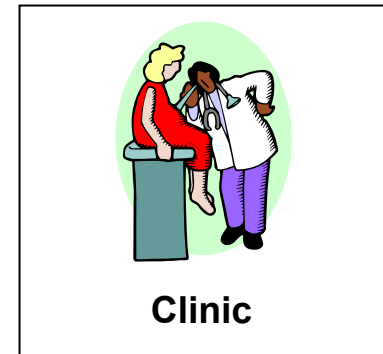
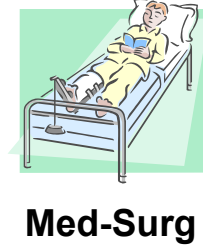
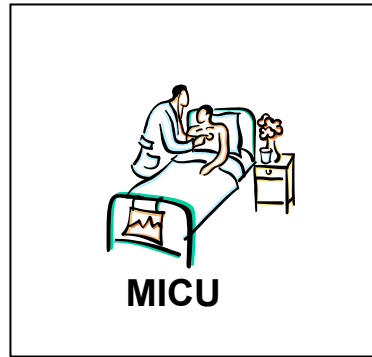
Procedures (If chosen): any MDRO organism

- At least 30 unannounced observations after HCW contact with a patient or inanimate objects in patient's vicinity
- At least one selected location in the healthcare facility
- At least one month in a calendar year 
- Strongly suggest MDRO (or *C. difficile*) Infection Surveillance or LabID Event reporting be performed in the same patient care location

Settings: 1) Inpatient  
2) Outpatient locations (no outpatient dialysis centers)

# Prevention Process Measures: Hand Hygiene

## B. Selected Locations





### Definitions

- Antiseptic Handwash: Washing hands with water and soap or other detergents containing an antiseptic agent.
- Antiseptic Hand Rub: Applying antiseptic hand-rub product to all surfaces of the hands to reduce the number of organisms present.
- Hand Hygiene: Handwashing, antiseptic handwash, antiseptic hand rub, or surgical hand antisepsis.
- Handwashing: Washing hands with water and plain (i.e. non-antimicrobial) soap.

## Prevention Process Measures: Hand Hygiene

### Process

- Hand hygiene performed = Total number of observed contacts during which a HCW touched either the patient or inanimate objects in the immediate vicinity of the patient and appropriate hand hygiene was PERFORMED
- Hand hygiene indicated = Total number of observed contacts during which a HCW touched either the patient or inanimate objects in the immediate vicinity of the patient and therefore, appropriate hand hygiene was INDICATED



## Prevention Process Measures: Hand Hygiene

### Direct observation

- Personnel other than an infection preventionist can be trained to perform the observations and collect required data elements.





## Prevention Process Measures: Hand Hygiene

### Reporting Forms

- 1) Patient Safety Monthly Reporting Plan
- 2) MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring form
  - a) Numerator – number hand hygiene performed
  - b) Denominator – hand hygiene observations indicated

## Prevention Process Measures: Hand Hygiene

### Example



In August 2008, DHQP Memorial Hospital infection preventionist, Betty Brown, initiated surveillance for MRSA infection in MICU. She also wants to monitor hand hygiene adherence in the same area.

Hand hygiene adherence monitoring is recommended for patient care areas where infection surveillance is also being performed, so Betty has chosen MICU for both.

Only one reporting method can be used for hand hygiene adherence:

B. Selected locations

The next slide shows an example of the front and back of the Patient Safety Monthly Reporting Plan that Betty completed.

## Prevention Process Measures: Hand Hygiene

Enter at the Beginning of the Month



### Patient Safety Monthly Reporting Plan

OMB No. 0920-0666  
Exp. Date: 03-31-2011

\* required for saving

Facility ID: 9999

\*Month/Year: **08** / **2008**

No NHSN Patient Safety Modules Followed this Month

#### Process and Outcome Measures

Locations	Specific Organism Type	Infection Surveillance	%AST Timing	%AST Eligible	Incidence	Prevalence	Lab ID Event	HH	GG
<b>MICU</b>	<b>MRSA</b>	<b>X</b>	Adm Both	All NHx	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>	<input type="checkbox"/>

## Prevention Process Measures: Hand Hygiene

### Example



At the end of the month, Betty's records showed that while there were 30 episodes where hand hygiene was indicated, her appointed observer recorded 24 times where the hand hygiene protocol was actually followed.

There were also several MRSA infections observed in MICU in the same month. Betty completed the appropriate infection event forms for these as she learned in the MDRO Infection Surveillance training.

The next slide shows an example of the MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring Form she completed. Note that because she was also performing MRSA infection surveillance she included her MICU patient days for the month.

## Prevention Process Measures: Hand Hygiene

### MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring

OMB No. 0920-0666  
Exp. Date: 03-31-2011

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\*required for saving      \*\*conditionally required based upon monitoring selection in Monthly Reporting Plan

Facility ID #:   9999   \*Month:   08   \*Year:   2008   \*Location Code:   MICU  

Setting: Inpatient \*\*Days<sup>§</sup>:   740   \*\* Admissions<sup>§</sup>: \_\_\_\_\_

Setting: Outpatient (or Emergency Room) \*\*Encounters: \_\_\_\_\_

#### MDRO & CDAD Infection Surveillance or LabID Event Reporting

(Specific Organism Type)	MRSA	VRE	MDR- <i>Klebsiella</i>	MDR- <i>Acinetobacter</i>	<i>C. difficile</i>
Infection Surveillance	<b>X</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LabID Event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Process Measures (Optional)

##### Hand Hygiene

\*\* Performed:   24  

\*\* Indicated:   30  

##### Gown and Gloves

\*\* Used: \_\_\_\_\_

\*\* Indicated: \_\_\_\_\_

#### Active Surveillance Testing (AST)



# Gown and Gloves Use

## Prevention Process Measures: Gown & Gloves Use



### Gown & Gloves Use: Required Minimum Reporting

Procedures (if chosen):

- At least 30 unannounced observations during HCW contact with patient or inanimate objects in patient's vicinity (Patient on Transmission-Based Contact Precautions)
- At least one selected location in the healthcare facility
- A least one month in a calendar year



- Strongly suggest MDRO (or *C. difficile*) Infection Surveillance or LabID Event reporting be performed in the same patient care location

Reporting Methods: B. Selected locations

Settings - Inpatient locations:

- 1) ICUs
- 2) Specialty Care Areas
- 3) Neonatal ICUs
- 4) Other inpatient care areas

## Prevention Process Measures: Gown & Gloves Use

### Definitions

- Gown and gloves used = Total number of observed contacts between a HCW and a patient or inanimate objects in the immediate vicinity of the patient for which gown and gloves had been donned prior to the contact
- Gown and gloves indicated = Total number of observed contacts between a HCW and a patient or inanimate objects in the immediate vicinity of the patient and therefore, gown and gloves were indicated.





## Prevention Process Measures: Gown & Gloves Use

### Process

**Gown and Gloves Use** - In context of Transmission-based Contact Precautions:

- Donning of both a gown and gloves prior to contact with a patient or inanimate objects in vicinity of patient
- Both gown and gloves must be donned prior to contact for compliance



## Prevention Process Measures: Gown and Gloves Use

### Reporting Forms

- 1) Patient Safety Monthly Reporting Plan
- 2) MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring form
  - a) Numerator – number of contacts for which gown/gloves were used correctly
  - b) Denominator – number of contacts for which gown/gloves use was indicated

## Prevention Process Measures: Gown and Gloves Use

### Example: Tinytown Memorial



Bob Jones, an infection preventionist at Tinytown Memorial Hospital, a small local hospital with 40 beds, has decided to initiate gown and gloves adherence monitoring in addition to infection surveillance for MRSA, in MICU during August 2008.

Because he is monitoring gown and gloves use adherence, only one reporting method can be used:

#### **B. Selected locations**

An example of his Patient Safety Monthly Reporting Plan is shown on the next slide. Note that he is performing MRSA infection surveillance AND gown and gloves use adherence in the same location.

## Prevention Process Measures: Gown & Gloves Use



### Patient Safety Monthly Reporting Plan

OMB No. 0920-0666  
Exp. Date: 03-31-2011

\* required for saving

Facility ID: 9999

\*Month/Year: 08 / 2008

No NHSN Patient Safety Modules Followed this Month

#### Process and Outcome Measures

Locations	Specific Organism Type	Infection Surveillance	%AST Timing	%AST Eligible	Incidence	Prevalence	Lab ID Event	HH	GG
<u>MICU</u>	<u>MRSA</u>	<b>X</b>	Adm Both	All NHx	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>X</b>

## Prevention Process Measures: Gown and Gloves Use

### Example: Tinytown Memorial



At the end of the month, Bob noted that of the 30 times when gown and gloves use was indicated, he observed 27 episodes where the staff adhered to the protocol.

Three MRSA infections were identified during the same time period, so Bob completed the appropriate infection event forms as he learned from the MDRO Infection Surveillance training.

An example of his MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring form is shown on the next slide. Note that because he also performed MRSA infection surveillance, he included MICU patient days for the month.

## Prevention Process Measures: Gown & Gloves Use

### MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring

OMB No. 0920-0668  
Exp. Date: 03-31-2011

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\*required for saving      \*\*conditionally required based upon monitoring selection in Monthly Reporting Plan

Facility ID #:   9999   \*Month:   08   \*Year:   2008   \*Location Code:   MICU  

Setting: Inpatient \*\*Days<sup>5</sup>:   200   \*\* Admissions<sup>5</sup>: \_\_\_\_\_

Setting: Outpatient (or Emergency Room) \*\*Encounters: \_\_\_\_\_

#### MDRO & CDAD Infection Surveillance or LabID Event Reporting

(Specific Organism Type)	MRSA	VRE	MDR- <i>Klebsiella</i>	MDR- <i>Acinetobacter</i>	<i>C. difficile</i>
Infection Surveillance	<b>X</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LabID Event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Process Measures (Optional)

##### Hand Hygiene

\*\* Performed:   \_\_\_  

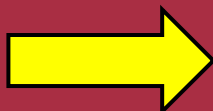
\*\* Indicated:   \_\_\_  

##### Gown and Gloves

\*\* Used:   27  

\*\* Indicated:   30  

#### Active Surveillance Testing (AST)



## Prevention Process Measures: Gown & Gloves Use

### Question:

My facility is interested in monitoring hand hygiene (HH) and gown and gloves (GG) use in several patient care areas of the hospital. Do I have to perform infection surveillance in every area where HH and GG is monitored during the month?



### Answer:

While infection surveillance is suggested for at least one area where HH or GG monitoring is also performed, it is not required. So, for example, you could do MRSA infection surveillance in one unit along with HH or GG, but, in addition, you could monitor HH or GG in several other units. The next slide shows an example of your reporting plan.

**While NHSN will allow you to do this, our protocol strongly recommends that you perform infection surveillance or LabID Event reporting in every location where HH or GG adherence monitoring is performed.**



Reminder!

## Prevention Process Measures: Gown & Gloves Use

### Patient Safety Monthly Reporting Plan

\* required for saving

Facility ID: 9999

\*Month/Year: 08 / 2008

No NHSN Patient Safety Modules Followed this Month

#### MDRO and CDAD Module

Locations	Setting (Circle one)	Specific Organism Type	*LabID Event
<b>ALL</b>	In Out Both	_____	<input type="checkbox"/>
<b>ALL</b>	In Out Both	_____	<input type="checkbox"/>
<b>ALL</b>	In Out Both	_____	<input type="checkbox"/>
<b>ALL</b>	In Out Both	_____	<input type="checkbox"/>

#### Process and Outcome Measures

Locations	Specific Organism Type	Infection Surveillance	%AST Timing	%AST Eligible	Inci- dence	Preva- lence	Lab ID Event	HH	GG
<u>MICU</u>	<u>MRSA</u>	X	Adm Both	All NHx	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	X
<u>PICU</u>	_____	<input type="checkbox"/>	Adm Both	All NHx	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
<u>Med-Surg</u>	_____	<input type="checkbox"/>	Adm Both	All NHx	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
<u>Onc</u>	_____	<input type="checkbox"/>	Adm Both	All NHx	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X



# Active Surveillance Testing Adherence

## Prevention Process Measures: Active Surveillance Testing

### Active Surveillance Testing: Required Minimum Reporting



Procedures (if chosen):

- Adherence to AST for MRSA and/or VRE. MDRO Infection Surveillance or LabID Event reporting in same location highly recommended.
- Choose at least one location in the healthcare facility
- Report at least one month in a calendar year

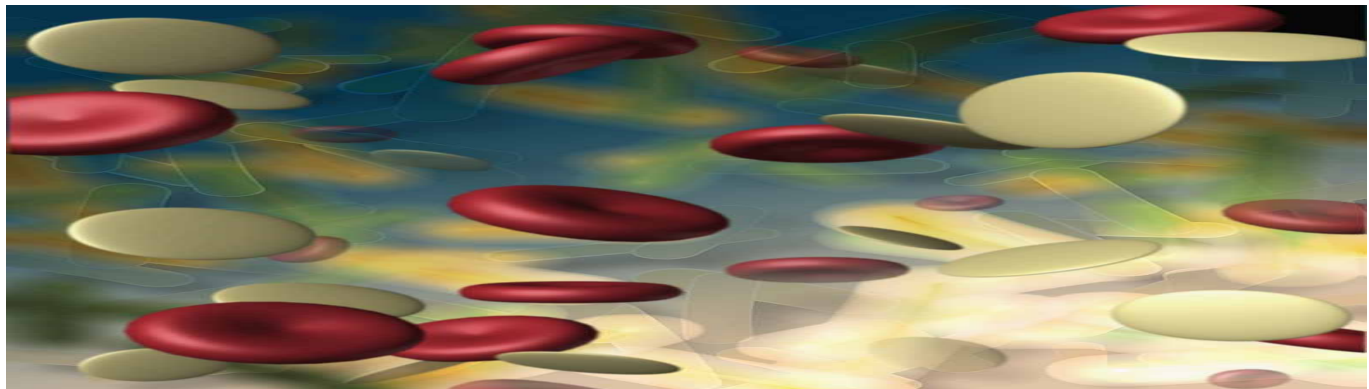
Reporting Methods: B. Selected locations

Settings - Inpatient locations:

- 1) ICUs
- 2) Specialty Care Areas
- 3) Neonatal ICUs
- 4) Other inpatient care areas

### Resistant Organisms Monitored

- Methicillin-Resistant *Staphylococcus aureus* (MRSA)
- Vancomycin-Resistant *Enterococcus* spp. (VRE)



### Definitions

- **AST Eligible Patients** (choose one)
  - All
    - All patients in the selected location regardless of history of MDRO infection or colonization
  - NHx
    - All patients in selected location with NO documented positive MDRO infection or colonization during previous 12 months and no evidence of MDRO during current stay.
- **Timing of AST** (choose one)
  - Adm
    - Specimens for AST obtained at time of patient admission (i.e.,  $\leq 3$  days)
  - Both
    - Specimens for AST obtained at time of patient admission, and for patient stays  $> 3$  days, also at time of discharge/transfer.

## Prevention Process Measures: Active Surveillance Testing

### 3 days vs. 48 hours

- ✓ To improve standardization of applying rules relating to 48 hours this is operationalized as  $\leq 3^{\text{rd}}$  day of admission when admission is day 1.
- ✓ For example, if a patient is admitted to the hospital on a Tuesday, an admission AST specimen should be collected by 11:59 p.m. on Thursday.



## Reporting Forms

- 1) Patient Safety Monthly Reporting Plan
- 2) MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring form
  - a) Numerator – AST performed
  - b) Denominator – AST eligible

## Prevention Process Measures: Active Surveillance Testing



### Example

Tinytown Memorial Hospital has initiated AST for MRSA in MICU. Bob Jones, our infection preventionist, would like to monitor adherence to the AST protocol in the month of August. Since the protocol suggests infection surveillance or LabID event reporting in any location where AST adherence monitoring is performed, Bob decided to do MRSA infection surveillance.

Because Bob is monitoring AST adherence, only one reporting method can be used:

#### **B. Selected locations**

Tinytown Memorial has decided that ALL patients should have AST regardless of their history of MRSA. They have also decided to perform AST on admission AND on discharge/transfer (BOTH).

The next slide shows Bob's monthly reporting plan.

# Prevention Process Measures: Active Surveillance Testing



## Patient Safety Monthly Reporting Plan

OMB No. 0920-0666  
Exp. Date: 03-31-2011

\* required for saving

Facility ID: 9999

\*Month/Year: 08 / 2008

No NHSN Patient Safety Modules Followed this Month

### Process and Outcome Measures

Locations	Specific Organism Type	Infection Surveillance	%AST Timing	%AST Eligible	Incidence	Prevalence	Lab ID Event	HH	GG
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<u>MICU</u>	<u>MRSA</u>	<b>X</b>	Adm Both	All NHx	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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## Prevention Process Measures: Active Surveillance Testing



### Example

At the end of the month, Bob completed his MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring form for August.

Fourteen patients were admitted to MICU during the month and all were eligible for AST because Tinytown chose to test “All” admissions. Bob reviewed his line list and saw that AST was actually performed for 12 of the 14. In the same month, nine patients were discharged from MICU and should have had AST on discharge/transfer. Bob noted that seven of the nine patients had AST performed.

The next slide shows how Bob completed his form. Note that he included inpatient days AND number of admissions for MICU for the month. Infection surveillance requires patient days and AST adherence requires number of admissions.

## Prevention Process Measures: Active Surveillance Testing

### MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring

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\*required for saving      \*\*conditionally required based upon monitoring selection in Monthly Reporting Plan

Facility ID #: 9999    \*Month: 08    \*Year: 2008    \*Location Code: MICU

Setting: Inpatient    \*\*Days<sup>§</sup>: 200    \*\* Admissions<sup>§</sup>: 14

Setting: Outpatient (or Emergency Room)    \*\*Encounters: \_\_\_\_\_

#### MDRO & CDAD Infection Surveillance or LabID Event Reporting

(Specific Organism Type)	MRSA	VRE	MDR- <i>Klebsiella</i>	MDR- <i>Acinetobacter</i>	<i>C. difficile</i>
Infection Surveillance	<b>X</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LabID Event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Timing of AST † (circle one)	<b>Adm Both</b>	<b>Adm Both</b>			
**AST Eligible Patients † (circle one)	<b>All NHx</b>	<b>All NHx</b>			
<b>Admission AST</b>					
** Performed	<b>12</b>				
** Eligible	<b>14</b>				
<b>Discharge/Transfer AST</b>					
** Performed	<b>7</b>				
** Eligible	<b>9</b>				

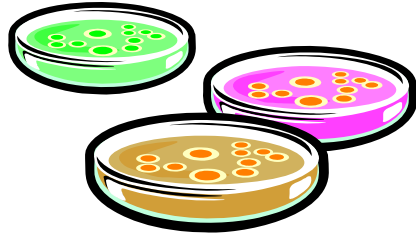
## Outcome Measures: Active Surveillance Testing



### AST Outcome Measures Surveillance (Optional)



## Outcome Measures: Active Surveillance Testing



### Purpose

To allow facilities to more accurately quantify exposure burden and/or healthcare acquisition of MRSA and/or VRE:

- Utilize active surveillance testing results
- AST adherence must be performed in the same location (minimum adherence level required to calculate prevalence & incidence)
- Infection surveillance or LabID Event reporting is also recommended in the same location for the same organism

## Outcome Measures: Active Surveillance Testing

### AST Outcome Measures: Required Minimum Reporting

Procedures: (if chosen)

- At least one location in the healthcare facility
- At least one month in a calendar year

Reporting Methods: B. Selected locations (MRSA and/or VRE only)

Settings - Inpatient locations:

- 1) ICUs
- 2) Specialty Care Areas
- 3) Neonatal ICUs
- 4) Other inpatient care areas

## Outcome Measures: Active Surveillance Testing

### Definitions

- **AST Admission Prevalent Case**
  - Known Positive
    - Patient with documented MRSA/VRE colonization or infection in previous 12 months OR
  - Admission AST or Clinical Positive
    - Patient with MRSA/VRE isolated from specimen collected on admission ( $\leq 3$  days).
  
- **AST Incident Case**
  - Patient with stay  $> 3$  days
  - With no documented MRSA/VRE in previous 12 months or on admission ( $\leq 3$  days )
  - With MRSA/VRE isolated from specimen collected  $> 3$  days after admission or at time of discharge/transfer.

## Outcome Measures: Active Surveillance Testing

### Reporting Forms

- 1) Patient Safety Monthly Reporting Plan
  
- 2) MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring form
  - a) Numerator – number of prevalent or incident cases
  - b) Denominator – number of admissions or patient-days

## Outcome Measures: Active Surveillance Testing

### Example



At Gotham Memorial, infection preventionist Terry Thomas, decided to use the results of her active surveillance testing and infection surveillance to calculate the prevalence and incidence of MRSA in MICU at her facility.

Her facility performs AST on all patients, regardless of history. AST is done on admission and on discharge/transfer.

The next slide shows how she completed her monthly reporting plan.



## Outcome Measures: Active Surveillance Testing



### Patient Safety Monthly Reporting Plan

OMB No. 0920-0666  
Exp. Date: 03-31-2011

\* required for saving

Facility ID: 9999

\*Month/Year: 08 / 2008

No NHSN Patient Safety Modules Followed this Month

#### Process and Outcome Measures

Locations	Specific Organism Type	Infection Surveillance	%AST Timing	%AST Eligible	Inci- dence	Preva- lence	Lab ID Event	HH	GG
<u>MICU</u>	<u>MRSA</u>	<b>X</b>	Adm <b>Both</b>	<b>All</b> NHx	<b>X</b>	<b>X</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## Outcome Measures: Active Surveillance Testing



### Example

To track both AST adherence and MRSA cases during the month Terry maintained a list of every patient that was eligible for AST in MICU. For any patient who had a specimen positive for MRSA she listed date 1<sup>st</sup> positive, source, and MDRO type. This is how part of her list looked:

Patient ID	Unit	Date Admitted to Unit	Admission AST Date	Discharge AST Date	Date of 1 <sup>st</sup> Positive Specimen	Source of (+) Specimen	MDRO Type
123456	MICU	08/02/2008	08/03/2008		08/03/2008	Nasal	MRSA
123459	MICU	08/05/2008	08/05/2008	08/30/2008	08/21/2008	Skin wound	MRSA
123470	MICU	08/08/2008	08/08/2008		08/08/2008	Nasal	MRSA
123007	MICU	08/08/2008	08/08/2008	08/11/2008	Negative		
120005	MICU	08/09/2008	08/10/2008	08/12/2008	Negative		
107359	MICU	08/09/2008	08/09/2008		08/09/2008	Nasal	MRSA
002348	MICU	08/10/2008	08/11/2008	08/17/2008	08/17/2008	Nasal	MRSA
122457	MICU	08/12/2008	08/13/2008	08/25/2008	08/13/2008	Nasal	MRSA
123473	MICU	08/14/2008	Not done				
123480	MICU	08/15/2008	08/15/2008		08/15/2008	Nasal	MRSA
070559	MICU	08/17/2008	08/18/2008		08/18/2008	Nasal	MRSA

## Outcome Measures: Active Surveillance Testing



### Example

At the end of the month Terry counted eight patients who had positive specimens obtained  $\leq$  3 days from admission, whether obtained for AST or as part of clinical care. These were her admission prevalent cases.

Two patients had negative AST on admission to MICU but  $>$  3 days after, had cultures positive for MRSA (shown in yellow on the previous slide). One patient was detected through discharge/transfer AST. The other patient was detected as a result of a culture taken from an open wound. These were the incident cases.

The next slide shows how Terry completed her MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring form. Note that she included her MICU patient days and number of admissions for the month.

# Outcome Measures: Active Surveillance Testing

## MDRO and CDAD Prevention Process and Outcome Measures Monthly Monitoring

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\*required for saving      \*\*conditionally required based upon monitoring selection in Monthly Reporting Plan

Facility ID #: 9999    \*Month: 08    \*Year: 2008    \*Location Code: MICU

Setting: Inpatient    \*\*Days<sup>S</sup>: 573    \*\* Admissions<sup>S</sup>: 17

Setting: Outpatient (or Emergency Room)    \*\*Encounters: \_\_\_\_\_

### MDRO & CDAD Infection Surveillance or LabID Event Reporting

(Specific Organism Type)	MRSA	VRE	MDR- Klebsiella	MDR- Acinetobacter	C. difficile
Infection Surveillance	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LabID Event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Outcome Measures (Optional)

#### Prevalent Cases

(Specific Organism Type)	MRSA	VRE	MDR- Klebsiella	MDR - Acinetobacter	C.difficile
** AST/Clinical Positive	8	≤ 3 days of admission			
** Known Positive	—				

#### Incident Cases:

** AST/Clinical Positive	2	> 3 days of admission			
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## Prevention Process and Outcome Measures

Table 1. Reporting Choices for MDRO and CDAD Module

Reporting Choices	MRSA or MRSA/MSSA	VRE	<i>Klebsiella</i> spp.	<i>Acinetobacter</i> spp.	<i>C. difficile</i>
	Method	Method	Method	Method	Method
Infection Surveillance (*Location Specific for $\geq 3$ months) Choose $\geq 1$ organism	A, B	A, B	A, B	A, B	A, B OR LabID Event
Proxy Infection Measures Laboratory-Identified (LabID) Event	A, B, C	A, B, C	B,C	B,C	A, B, C
<u>Prevention Process Measures</u> Options:					
Hand Hygiene Adherence	B	B	B	B	B
Gown and Gloves Use Adherence	B	B	B	B	B
Active Surveillance Testing (AST) Adherence	B	B	N/A	N/A	N/A
<u>AST Outcome Measures</u> Incident and Prevalent Cases using AST	B	B	N/A	N/A	N/A

## Prevention Process & Outcome Measures

Specific Metrics	Exposure	Infection	Acquisition
HH, GG, and/or AST Adherence Rate	---	---	---
AST Admission Prevalence Rate	√		
AST Incidence Rate			√



### Let's Review!

- ✓ Infection surveillance or LabID Event reporting for at least one MDRO in at least one facility location is highly recommended when any process measure protocol is implemented. At least one location should include infection surveillance (or LabID Event) and the process measure.
- ✓ Monitoring for HH, GG or AST adherence can only be performed using one reporting method: B: Selected locations in a facility
- ✓ AST adherence and AST outcome measures can only be done for MRSA or VRE
- ✓ MDROs that are identified  $\leq 3$  days of admission are considered admission prevalent. This includes specimens obtained for AST or for clinical care
- ✓ An incident case is one where there is no MDRO positive specimen  $\leq 3$  days of admission AST or clinical culture and no documentation within the last 12 months; but MDRO positive  $> 3$  days after admission
- ✓ Minimum reporting for any process or outcome measure is one month

## Custom Fields

- Alphanumeric fields – labels and dates
- Available with each form
- User can customize the data being collected and submitted (i.e. additional information)

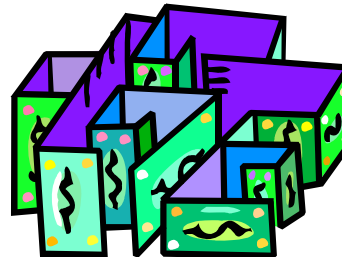


### Question:



1. There seem to be so many options to choose from in the MDRO and CDAD Module. How do I begin?

Answer: If your facility is new to monitoring MDRO and process measures, we suggest you start small by limiting your monitoring to a single location. Try implementing infection surveillance in one facility location first. Then, once you have that procedure in place, you can try to add one of the adherence process measures.



### Question:



2. My facility has been doing active surveillance testing and infection surveillance for MRSA for the past two years. How far back can I go when entering data into NHSN?

Answer: In NHSN you can go as far back as the first year your facility enrolled. However, for the MDRO module, keep in mind that there will not be any aggregate data across facilities to use for comparison prior to 2009.

### References

Centers for Disease Control and Prevention (CDC)  
– National Healthcare Safety Network (NHSN) –

Home Page:

<http://www.cdc.gov/ncidod/dhqp/nhsn.html>

Document Library (main link to all specific forms):

[http://www.cdc.gov/ncidod/dhqp/nhsn\\_documents.html](http://www.cdc.gov/ncidod/dhqp/nhsn_documents.html)

MDRO and CDAD Module:

[http://www.cdc.gov/ncidod/dhqp/nhsn\\_MDRO\\_CDAD.html](http://www.cdc.gov/ncidod/dhqp/nhsn_MDRO_CDAD.html)