

## **A Review of MDRO/CDI Module Improvements since Implementation in March 2009**

The Multidrug-Resistant Organism (MDRO) and *Clostridium difficile* Infection (CDI) Module has undergone some change and improvement, since its initial release in March 2009. This is a summary of the major updates specific to the Module, along with brief explanations for the modifications, which have been copied from NHSN Newsletters and/or blast e-mail messages that were sent out when the specific changes were originally implemented.

A new option became available within the MDRO/CDI Module beginning with the first NHSN release of 2010 and was retroactive back to January 1, 2010. Facilities were given the new option to report overall facility-wide LabID Events from blood specimens only for any of the MDROs (MRSA, VRE, MDR-*Klebsiella*, and MDR-*Acinetobacter*). Prior to this change, the only option for LabID Event reporting was to enter LabID Events from all specimen sources for a specified MDRO. This update allowed for the monitoring of bloodstream infections only. The purpose was to cut down on manual data entry burden, by focusing reporting on only the most severe infections for a specific MDRO from throughout an entire facility.

In the same February 2010 release, the LabID Event Specimen Source was split into two separate variables – Specimen Body Site/System and Specimen Source. The purpose was to make data entry and reporting easier by creating a hierarchy of shorter lists whereby the first list would specifically focus the second list of choices. A document can be found at the NHSN website that lists all currently available specimen source codes. This list will be greatly expanded by the end of 2012, so that all potential specimen source SNOMED codes are included for the purposes of vendor coding and electronic reporting.

A few big changes were made to the LabID Event report form in the second NHSN release of 2010, which occurred in May. The term “ALL” was eliminated as a reference to Overall Facility-Wide inpatient and outpatient reporting and two new and better clarified locations were added for LabID Event reporting within the MDRO/CDI Module - FacWideIN and FacWideOUT. The term ‘BOTH’ was also removed from use, so that inpatient and outpatient data were treated separately. A change was made to LabID Event reporting for the purposes of standardization across all facilities with different levels of capabilities to know a patient's MDRO history and for facilities that will choose to report via CDA with electronic capture of data. The required question "Documented prior evidence of previous infection or colonization with this specific organism type?" was changed to a system auto-fill on the application data entry screen, and was reworded as "Documented prior evidence of previous infection or colonization with this specific organism type from a previously reported LabID Event." 'Yes' is auto-filled if a previous LabID Event for the patient and specific organism in any location was reported into NHSN prior to the current reporting month. To make LabID Event reporting consistent across all organisms and for further information on healthcare facility association, the question "Has patient been discharged from your facility in the past 3 months?" was changed to be required for all LabID Events reported, not just *C. difficile* LabID Events.

In June, 2010 a patch for NHSN was released and in that patch specific *C. difficile* denominators were added and required for data entry whenever *C. difficile* is reported at the FacWide (IN or OUT) level for LabID Event monitoring. If monitoring *C. difficile* for FacWideIN, then “C. diff Days” and “C. diff Admissions” are required, and if monitoring *C. difficile* for FacWideOUT, then a “C. diff Encounters” count is required. This addition to the MDRO/CDI Summary Data was necessary, because *C. difficile* is not to be monitored in NICU or Well baby locations, therefore the protocol requires that all NICU and Well Baby location counts be subtracted from the Total Days, Total Admissions, and Total Encounters when reporting the denominators for *C. difficile* monitoring.

There are a number of changes in this upcoming June 2011 NHSN release. The title of the Module has completely made the transition from its old name, MDRO/CDAD Module, to its new name, MDRO/CDI Module. This name change from *C. difficile*-Associated Disease to *C. difficile* Infection was done to remain consistent with the subject matter experts and the current terminology. It is just a name change, the names are synonymous, and there is no change to definitions for *C. difficile* reporting. All reference to CDAD will now be removed from the protocols and the application. In this upcoming release, required drugs for reported organisms have been updated to include all relevant drugs and results that would be found on laboratory testing panels. With the required drug expansion, you will notice a revision in the way that drug results are now entered into NHSN. The restructuring should make it faster and easier to report the required drug results into the application. Consistent with the added drugs, the MDR-*Acinetobacter* definition has been updated and expanded to include more drug classes. There have also been two new MDROs added to the list of reporting choices, carbapenem-resistant *Klebsiella* (CRE-*Klebsiella*) and carbapenem-resistant *E. coli* (CRE-*E. coli*). With the addition of CRE-*Klebsiella*, the name of MDR-*Klebsiella* has been changed to cephalosporin-resistant *Klebsiella* (CephR-*Klebsiella*) and two drugs have been added to that definition. The new and revised definitions can be found in the updated and posted MDRO/CDI protocol.

There is a patch release planned for July 2011 that will provide a few fixes and updates to the MDRO and CDI prevalence rates to ensure that readmits are correctly included in the counts and that outpatient rates are calculated appropriately. There are no changes being made to any of the incidence rates.

In response to user requests, the MDRO Infection Surveillance question that is found on the specific HAI report forms to indicate that the HAI organism is also being reported for Infection Surveillance in the MDRO/CDI Module will be updated again for further clarity in the late 2011 release. This question will now read: “Yes, this infection’s pathogen & location are in-plan for Infection Surveillance in the MDRO/CDI Module” or “No, this infection’s pathogen & location are **not** in-plan for Infection Surveillance in the MDRO/CDI Module”.

Along with all of the changes, fixes, and updates that are described above, we have released a number of guidance documents along the way to address specific instances needing clarification. These include the following: *C. difficile* specific denominators, specimens collected in the ED before patient admission, LabID Event 14-day rule for blood specimens and *C. difficile*, determining accurate patient day and admission counts, MDRO/CDI reporting when following other modules, and surveillance cultures NOT for LabID Event reporting. This information can be found at the following links:

([http://www.cdc.gov/nhsn/PDFs/commup/MDRO\\_Updates\\_Patch\\_2010.pdf](http://www.cdc.gov/nhsn/PDFs/commup/MDRO_Updates_Patch_2010.pdf)  
[http://www.cdc.gov/nhsn/PDFs/PatientDay\\_SumData\\_Guide.pdf](http://www.cdc.gov/nhsn/PDFs/PatientDay_SumData_Guide.pdf)  
[http://www.cdc.gov/nhsn/PDFs/Newsletters/NHSN\\_NL\\_DEC\\_2009.pdf](http://www.cdc.gov/nhsn/PDFs/Newsletters/NHSN_NL_DEC_2009.pdf)  
[http://www.cdc.gov/nhsn/PDFs/commup/DA\\_PA\\_MDRO\\_3232009.pdf](http://www.cdc.gov/nhsn/PDFs/commup/DA_PA_MDRO_3232009.pdf) ).

Although we will try to make as few changes as possible to this Module moving forward, we will continue to evaluate its function and listen to the valuable input from our users. If future changes are relevant and necessary, then we will take the required steps in order to continually improve the use and benefits of this Module.