



MDSS Release Notes

Version 4.7

February 2018



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Patient Auto-Match Enhancements

The Automatic Patient Merge functionality will now automatically match patients if any of the Sex, Race, or Ethnicity demographics are Unknown, either in the existing and/or incoming patient information. Middle name will now auto-match when the middle name or initial would match against a blank and will overwrite a blank middle name and when the middle name would match against a proper middle initial and will overwrite a matching middle initial.

Automatic Case Merge for Hepatitis C

Hepatitis C cases (Acute and Chronic) will now automatically merge for New, Active, Completed and Completed-Follow Up cases with a Confirmed, Probable or Unknown status. When an electronic lab for Hepatitis C is sent to the MDSS and if the criteria for a patient auto-match exists and there is a qualifying Hepatitis C case on the patient, the lab will by-pass the deduplication queue and be added to the qualifying case. This is done without any user intervention.

Case Disposition Field

The Patient Status field has been a patient variable that indicates whether a patient is an inpatient, an outpatient or whether the patient was deceased. However, because the inpatient/outpatient status was attached to the person, the patient's current status became increasingly confusing to determine if they were reported again into the system after previously having an inpatient case in the MDSS.

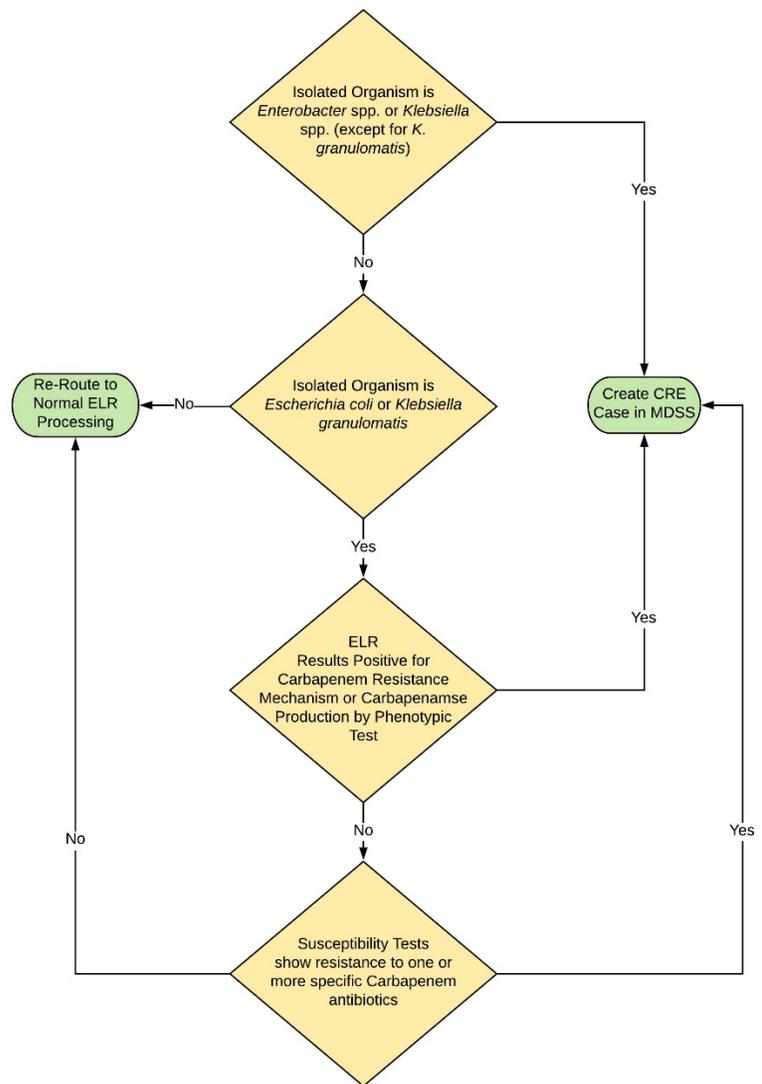
In MDSS 4.7, the inpatient/outpatient status has been moved to Case Disposition and is now a variable on the case and not the person. Patient Status now refers to whether the patient is alive or dead and the Patient Status date will reflect the date at which the Patient Status was last updated. All Case Dispositions have been populated with the patients' existing Patient Status at the time of upgrade.

The screenshot displays the MDSS patient record interface for Patient TESTINGLY, FORTIFIED, locked by HARTWICKE (EDWARD F HARTWICK). The interface includes several tabs: Case Reporting, Address History, Demographics, Referrer, Lab Reports, Notes, Map, Audit, Person History, Field Record, and Interview Record. The main content area shows the following fields:

- Reportable Condition*: Chlamydia (Genital) (with a Detail button)
- Case Status*: Unknown
- Investigation Status*: New
- Patient Information section:
 - Patient Status*: Alive (highlighted with a red box)
 - Patient Status Date* (mm/dd/yyyy): 02/20/2018 (highlighted with a red box)
 - Case Disposition*: OutPatient (highlighted with a red box)
- First*: FORTIFIED
- Last*: TESTINGLY
- Middle: (empty)

CP-CRE Condition Assignment Logic

In January 2018, Carbapenemase Producing Carbapenem Resistant Enterobacteriaceae (CP-CRE) became reportable in Michigan. Because of the specific nature of what makes an organism reportable as CP-CRE instead of as a different condition or not reportable at all, new condition assignment logic was introduced in the MDSS to handle condition assignment for CP-CRE. The logical algorithm is detailed in the diagram.



Electronic Case Report (eCR) Support

With version 4.7, MDSS has the capability to consume Electronic Case Reports (eCR) in a very basic case report. The cases are handled in a very similar fashion to electronic lab reports for deduplication and merging cases. Currently only initial case information and demographics are mapped from the eCR into the MDSS. Subsequent versions will integrate more of the eCR data into the MDSS.

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Pending Work Queue						Date	Sort	Help
Search By	First Name	Last Name	Primary Jurisdiction	Filter	Clear			
Date Added	Type	Current Owner	Jurisdiction	Added By				
02/28/2018	GEocode - LAB Crittenton Hospital		Statewide	Crittenton Hospital		Resolve		
02/28/2018	PATIENT DEDUP - LAB Lake Huron Medical Center		St Clair County	Lake Huron Medical Center		Resolve		
02/28/2018	eCR PATIENT DEDUP - LAB EICR Test Facility 2		Genesee County	EICR TEST		Resolve		

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Local Health Jurisdiction Statewide Access

** Not Available Until All Agreements are Signed and Returned to MALPH **

The ability for Local Health Jurisdiction users to view any case from any jurisdiction has been developed, but has been delayed until a future patch. With this feature, an LHJ user would still be assigned a Primary Jurisdiction. This Jurisdiction would act the same way the Primary Jurisdiction works currently for case assignments and user permissions and approvals. The user, however, will be able to see and edit cases that their Program group allows for all other jurisdictions in the system.

Pending Work Queue Primary Jurisdiction Filter

In the Deduplication Queue, a Primary Jurisdiction filter has been created. When checked, this function will filter the Pending Work Queue so that only items assigned to the user's Primary Jurisdiction will be shown. This was made in preparations for the LHJ Statewide Access functionality in order for users to be able to limit the view to their jurisdictions items, but also allow access to other jurisdictions if needed. This filter will be on by default.

Displaying results 1-10 of 129 found

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The screenshot shows a web interface for a 'Pending Work Queue'. At the top, there are buttons for 'Date', 'Sort', and 'Help'. Below this is a search bar with fields for 'First Name' and 'Last Name'. A red box highlights a 'Primary Jurisdiction' checkbox, which is currently checked, and 'Filter' and 'Clear' buttons. Below the search bar is a table with columns: 'Date Added', 'Type', 'Current Queue', 'Jurisdiction', and 'Added By'.

Form Updates

Hepatitis – All Forms

The ALT (SGPT) and AST (SGOT) Result and Upper Limit Normal fields have been updated to only accept numeric results. This is a result of updates needed to send the information to CDC in data formats that they can accept.

The screenshot shows a form titled 'Liver Enzyme Levels at Time of Diagnosis'. It has a table with four columns: 'Test Name', 'Result', 'Upper Limit Normal', and 'Date of Result'. The 'Date of Result' column has a placeholder '(mm/dd/yyyy)'. There are two rows of data: 'ALT (SGPT)' and 'AST (SGOT)'. A red box highlights the 'Result' and 'Upper Limit Normal' input fields for both rows. There are also small icons in the 'Date of Result' column for each row.

CP-CRE

Changes were made to the CP-CRE form as well. Addition of questions asking which facility the specimens were collected from and whether that facility participates in the CRE Surveillance and Prevention Initiative were added.

Patient Status <input type="text"/>	Patient Status Date mm/dd/yyyy <input type="text"/>	Case Disposition <input type="text"/>	Part of an outbreak? <input type="text"/>	Outbreak Name <input type="text"/>	Case Updated Date mm/dd/yyyy <input type="text"/>
Facility where specimen collected: <input type="text"/>			Participate in the CRE Surveillance and Prevention Initiative <input type="radio"/> Yes <input type="radio"/> No		
Patient Information					

Options under the Phenotypic Carbapenemase Production question for “Indeterminate” as well as “Negative” and “Other” options under the Resistance Mechanism Testing were added.

Colistin <input type="text"/>
Phenotypic Carbapenemase Production Testing: (e.g., Modified Hodge test (MHT), CarbaNP, Neo-Rapid CARB, metallo-B-lactamase test, carbapenem inactivation method (CIM), modified CIM (mCIM)) <input type="radio"/> Positive <input type="radio"/> Negative <input type="radio"/> Indeterminate <input type="radio"/> Not available/Not tested
Resistance Mechanism for Carbapenemase Testing: (e.g., PCR or other molecular genetic test) <input type="checkbox"/> KPC <input type="checkbox"/> NDM <input type="checkbox"/> OXA-48 <input type="checkbox"/> VIM <input type="checkbox"/> IMP <input type="checkbox"/> Negative <input type="checkbox"/> Other, specify <input type="text"/> <input type="checkbox"/> Not available/Not tested
Case ID First Name Last Name CRE Investigation Form Page 3
Clinical Information

Latent Tuberculosis Infection (LTBI)

With this version, LTBI has been updated so that it can be closed as a Suspect Case. The “Date Therapy Started” field was also added to the form in the “Treatment and Outcome Information” section.

Case ID First Name Last Name Report of Case of Latent Tuberculosis Infection Page 5	
Treatment and Outcome Information	
Patient Started LTBI Treatment <input type="radio"/> Yes <input type="radio"/> No	Date Therapy Started mm/dd/yyyy <input type="text"/>
If No, primary reason treatment was not started (select one)	

Hepatitis A

The Hepatitis A form has been updated to include symptom questions for diarrhea, vomiting, dark urine, and clay-color stools. Fields for Hepatitis A Virus Genotype results and for the MDSS Investigation ID for the case to which the current case is epidemiologically linked.

Case ID	First Name	Last Name	Viral Hepatitis Case Report	Page 3
Clinical Information and Patient History				
Place of Birth: <input type="radio"/> USA <input type="radio"/> Other <input type="text"/>		Was the patient aware they had viral hepatitis prior to lab testing? <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown		
Did the patient die? <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown	If yes, specify the date of death: mm/dd/yyyy <input type="text"/>		Was the death due to hepatitis A? <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown	
Does the patient have a provider of care for hepatitis? <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown	Does the patient have diabetes? <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown		Diabetes Diagnosis Date: mm/dd/yyyy <input type="text"/>	
Reason for Testing: (Check all that apply)				
<input type="checkbox"/> Symptoms of acute hepatitis		<input type="checkbox"/> Blood / Organ donor screening		<input type="checkbox"/> Follow-up testing for previous marker of viral hepatitis
<input type="checkbox"/> Evaluation of elevated liver enzymes		<input type="checkbox"/> Unknown		<input type="checkbox"/> Other <input type="text"/>
Symptoms (check all that apply)				
Is the patient symptomatic? <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown	Date of first symptom onset mm/dd/yyyy <input type="text"/>	Diarrhea <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown		Vomiting <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown
Fever <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown	Malaise <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown	Nausea <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown		
Abdominal pain <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown	Anorexia <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown	Dark urine <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown		Clay-colored stools <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown
Date of jaundice onset mm/dd/yyyy				

Diagnostic Tests		
Test Name	Result	Date
	(P=Positive N=Negative UNK=Unknown)	mm/dd/yyyy
Please insert the first positive lab report date for this illness (for metrics analyses) First positive lab report date		
		<input type="text"/>
Hepatitis A		
Total antibody, hepatitis A virus [total anti-HAV]	<input type="text"/>	<input type="text"/>
IgM antibody to hepatitis A virus [IgM anti-HAV]	<input type="text"/>	<input type="text"/>
Hepatitis A Virus Genotype	<input type="text"/>	<input type="text"/>
Hepatitis D		

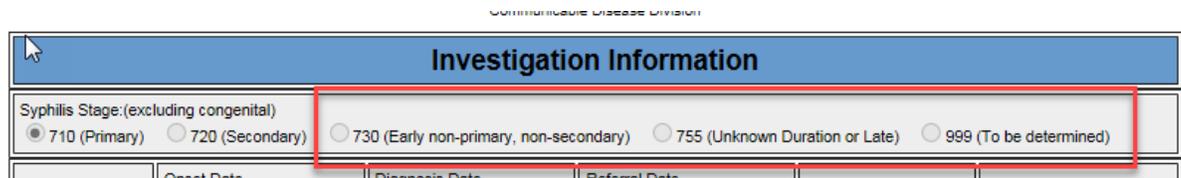
Case ID	First Name	Last Name	Viral Hepatitis Case Report	Page 5
Epidemiologic Information				
If this case has a diagnosis of hepatitis A that has not been serologically confirmed, is there an epidemiologic link between this patient and a laboratory-confirmed hepatitis A case? <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown				
MDSS number for confirmed hepatitis A case <input type="text"/>				
Please answer the following questions for the time period 2 - 6 weeks prior to the onset of symptoms.				
Has the patient had contact with:				

Listeriosis

The Listeriosis form has gone through significant revisions in this version that makes mapping to old data in the previous form difficult. Because of this, a new condition was created for Listeria cases that have been reported for 2018. Existing Listeriosis cases from 2014-2017 have been moved to the Listeriosis (2014-2017)* condition.

Syphilis

Significant changes to Syphilis conditions to bring reporting in line with national reporting standards. The Syphilis – Late Latent, Syphilis – Late with Manifestations, and Syphilis – Latent of Unknown Duration conditions are will no longer be used beginning in 2018. Syphilis – Early Latent is now Syphilis – Early non-primary, non-secondary. Syphilis – Unknown Duration or Late and Syphilis – To be Determined have been newly created. By default, new syphilis cases should be classified as Syphilis – To be Determined until a specific classification can be discerned.

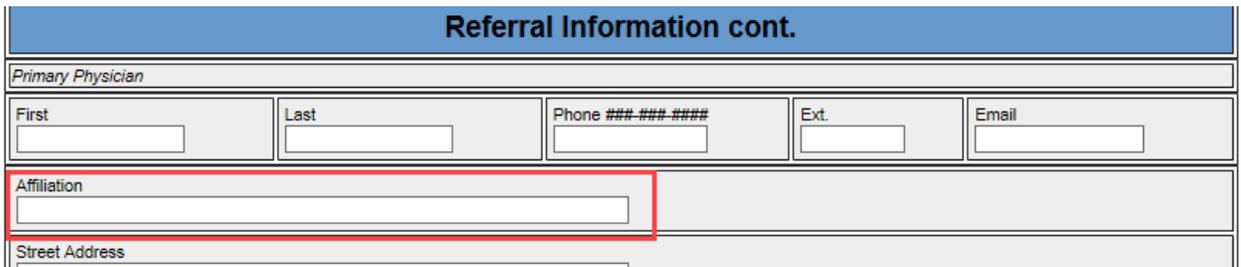


Investigation Information

Syphilis Stage:(excluding congenital)

710 (Primary) 720 (Secondary) 730 (Early non-primary, non-secondary) 755 (Unknown Duration or Late) 999 (To be determined)

Physician affiliation has been added to the Referral information in the Syphilis form. This is linked to the Affiliation information in the Referrer Tab as well.



Referral Information cont.

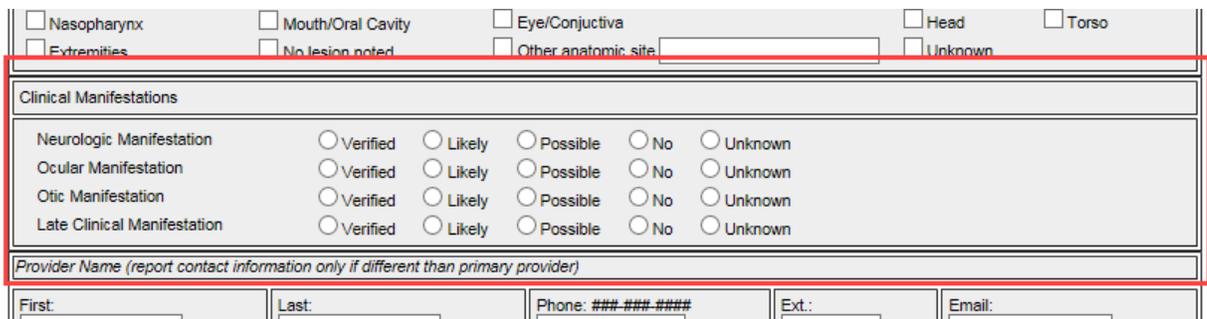
Primary Physician

First Last Phone ### ### #### Ext. Email

Affiliation

Street Address

A Clinical Manifestations section was added to the Specimen Information section. The Syphilis Interview Record were also updated with Neurosyphilis, Ocular Syphilis, and Otic Syphilis added to the Signs and Symptoms and CSF, Eye and Ear added to Anatomic Sites lists.



Nasopharynx Mouth/Oral Cavity Eye/Conjunctiva Head Torso

Extremities No lesion noted Other anatomic site Unknown

Clinical Manifestations

Neurologic Manifestation Verified Likely Possible No Unknown

Ocular Manifestation Verified Likely Possible No Unknown

Otic Manifestation Verified Likely Possible No Unknown

Late Clinical Manifestation Verified Likely Possible No Unknown

Provider Name (report contact information only if different than primary provider)

First: Last: Phone: ### ### #### Ext.: Email:

Neurosyphilis was deleted from the case management section as neurological manifestations is now part of the clinical manifestations section. Also the eHARS number was moved closer to the HIV Status area.

Field Records

Update Field Records Exports to include Case Status and Investigation Status columns. These columns would only be populated when the Field Record is for the patient and not for partner field records. An option in the Partner field dropdown for “OP – Original Patient” was added as well.

Manual Condition Assignment Audit Action

An additional action will be logged in the Audit tab on a case, Manual Condition Assign. If an electronic lab result is sent into the MDSS with an unknown or generic coding, the results must be manually reviewed and the condition assigned by a user. This action will now be noted in the Audit tab of a case.

Case Export Error Handling

If a data error persisted in the MDSS and the case was selected as part of an export, often the MDSS would give the user an error and not be able to complete the export until the error was corrected. MDSS 4.7 will now make note of the error in the export and continue to export the records that do not have errors.

The errors will be handled differently depending on the export. Disease Specific Exports will include “An error occurred while exporting this case” in the field of the record where the error has occurred. Data after that point in the record cannot be exported and the export will resume with the next record. In an export from the Case Search, only the individual field containing the error will be blank with no other notice of the error.

Lab Driven Export

An additional option for System Administrator and Support Admins has been created that will export cases in a lab-centric format. Individual labs will be given records with their corresponding cases listed with them. The format is similar to the existing export, but having this option selected would mean that a case with 3 labs, would have 3 records that were identical until the lab area where each of the labs would be given their own line.



The screenshot shows the 'Case Listings' interface. At the top, there are search and filter options: 'Referral Date' (dropdown), 'Sort', 'Blank Search' (dropdown), 'Search', 'Export', and 'Help'. Below these are two checkboxes: 'Include Labs in Export' and 'Lab Driven Export'. The 'Lab Driven Export' checkbox is highlighted with a red rectangle. Below the checkboxes is a table with the following columns: Investigation Status, Case Status, Investigation ID, Referral Date, Patient Name, Date of Birth, Disease, Investigator, and County.

Bug Fixes

- Bug was fixed where if no selection is made on a Geocode deduplication, an error asking the user to make a selection will appear, however, after that selection is made and submitted, the system will give a 500 error.
- Fixed formatting in Syphilis Interview Record where text was inappropriately wrapped on a question.

- Missing text box for “Other” under “Symptom Presentation” was added back in to Aggregate Case Form.
- The “Within City Limits” variable was re-enabled after a previous update disabled it.
- Removed items from Hepatitis B and C forms that were mistakenly updated with items specific to a Hepatitis A form change in previous version.
- In Rabies Animal form, date validation for Vaccine Expiration Date is removed, allowing future dates to be set.
- Investigation Status in Q Fever* form was updated to a radio button to match other forms.
- Added missing “Other” and “Lab Results” fields from LTBI and TB forms.
- Fixed bug where Hepatitis C Perinatal rules were being applied to cases before Jan 1, 2018.
- Fixed instance where submitting a blank STD Interview Record would remove the treatment information in the case report form.
- Fixed bug where some Investigation IDs were being left off of alert emails when multiple investigations were involving in triggering the alert.
- Fixed bug where OMS permissions could be assigned by someone who didn’t have OMS access.

System Administration Items

- Update condition groups in Lab Status Report.
- Perinatal Hepatitis C cases reported in Hepatitis NMI Reports.
- Extended HL7 Parse Error message to include entire message header.
- Updated condition coding rules to include SN, SNM, and SCT code sets.
- Removed 3D effect from Report 8 PDF.
- Added ability to setup eCR sender in Lab Table.