

Case Reporting Module User Guide



Revision History

Date	Description	Author
July 27, 2016	Initial version	Ada Yeung (adakeung@gmail.com)
August 3, 2016	Ongoing changes to the version	

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Purpose

This manual is designed to provide OpenMRS users (for this module, a user is the person who is setting up the module for use, and could include an implementer) the needed information to install and use the OpenMRS Case Reporting Module. This manual provides a listing of what is needed to run the OpenMRS Module, as well as specific installation documentation. Please address questions, comments and feedback to jthomas@openmrs.org.

Assumptions

- The HIV Case Reporting Module is a proof of concept and it should *not* be used in production.
- New implementation sites that are running OpenMRS Ref App 2.4 or above, CIEL dictionary, and have installed the OpenMRS Case reporting module.
 - For existing implementation sites, they will need to use Metadata Sharing Module with importing HIV Case Reporting Concepts. Metadata Sharing Module works for OpenMRS Platform 1.11.7.
- The implementation running the module has an assigned person monitoring and working through the queue of potential case reports.
 - This assigned person can be a Surveillance officer that is available at the implementation site
- Sites will either be able to use the metadata/concepts or have the capability to adapt queries to meet their specific needs, given the limitation that queries provided are examples. Queries will need to be tailored to work properly in the local installation site.
- Each site will define the list of simple case reports that will be sent to the Ministry
- Triggers get patients on work queue. If a trigger fires the patient multiple times, only the first trigger is recorded.
- When submitting a case report, a surveillance officer has the ability to remove trigger(s) before submitting the final case report form.
- A surveillance officer will work with a queue of potential case reports and decide, based upon local and national guidance, when queue entries should be dismissed or used to generate electronic case reports for the Ministry.

Requirements

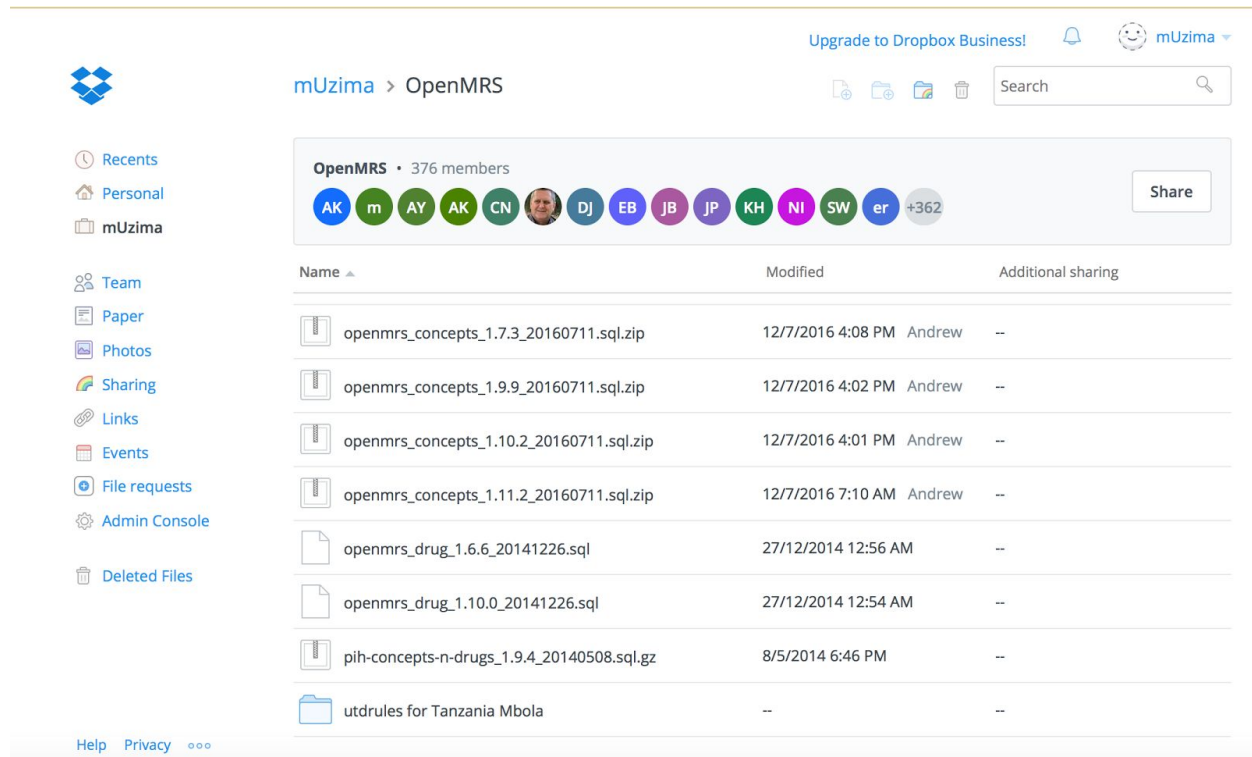
- OpenMRS Ref App 2.4 or above
- Case Report Module 1.0
- Case Report Concepts
- Set Implementation ID
- Set reporting.defaultDateFormat = yyyy/mm/dd or yyyy-mm-dd in Global Property

Limitations

- In the current version, there is a linear and simple workflow (one surveillance officer, one list); there is NO notification if another user is revising the same potential case report (avoid conflicting data/review) at the same time
- This version is designed to support simple queries as defined by the referenced logic (queries assume no gaps in time range & should not be run twice over the same time range; there is no handling of edge cases,)
- Current version assumes a database that is only HIV patients (e.g. not filtering to patients in a program). All data in the database is HIV patient data. If an implementation wants to install the Case Reporting Module, they will need to create HIV Program to filter out the patient data first.

Import CIEL Dictionary

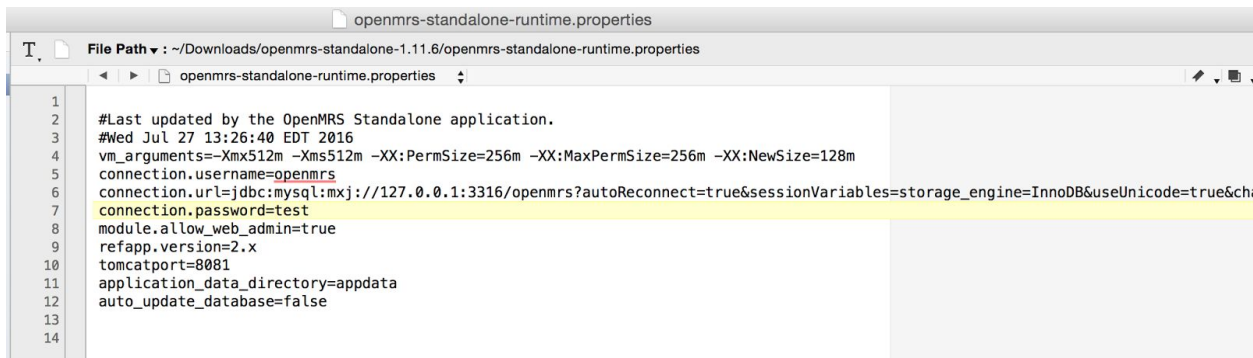
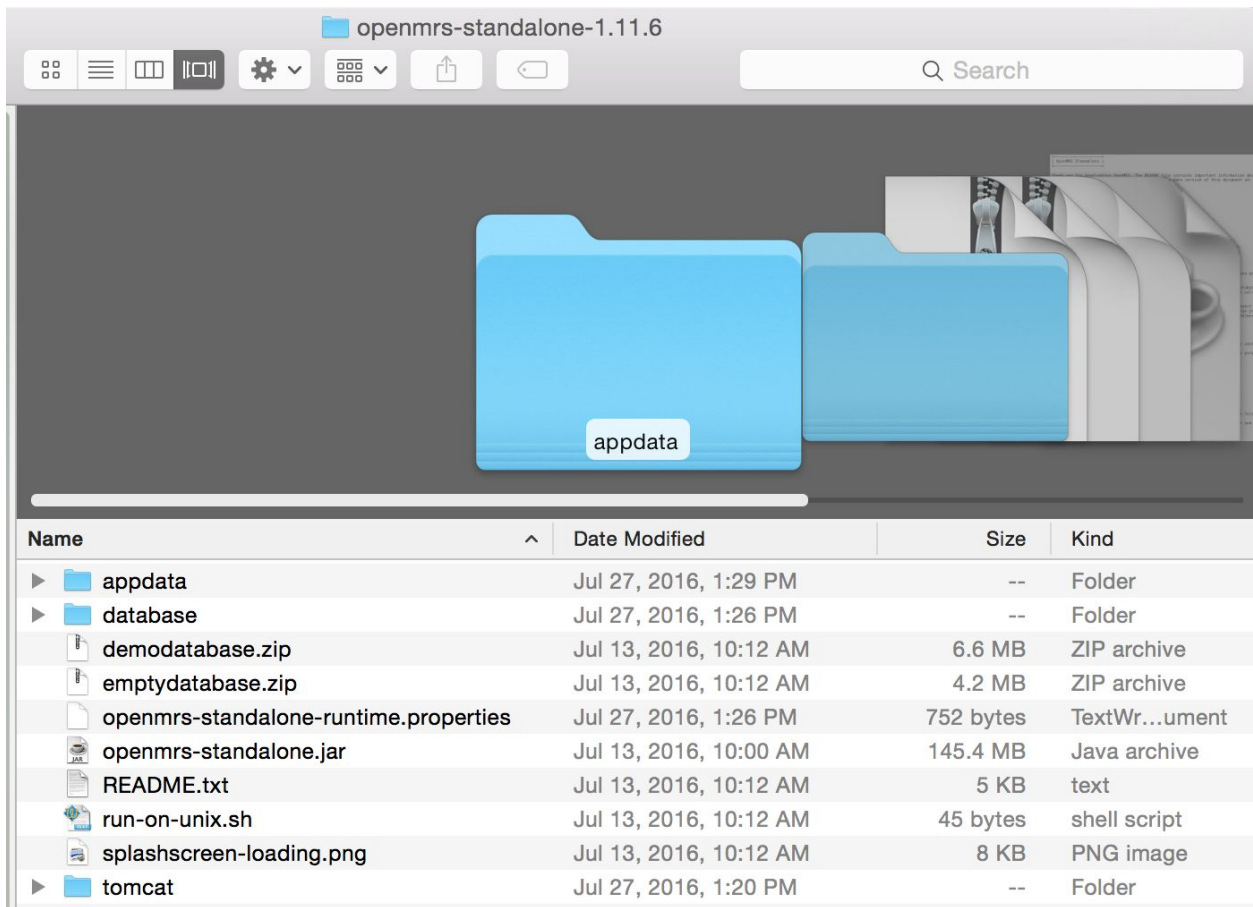
For CIEL Dictionary Subscription, please contact Andy Kanter (akanter@openmrs.org).
Download the latest CIEL Dictionary from <https://www.dropbox.com/work/OpenMRS> and unzip it.



The screenshot shows a Dropbox interface for a team folder named "OpenMRS". The interface includes a navigation sidebar on the left with options like Recents, Personal, mUzima, Team, Paper, Photos, Sharing, Links, Events, File requests, Admin Console, and Deleted Files. The main content area displays the "OpenMRS" team folder with 376 members and a "Share" button. Below this, a table lists the files and folders within the folder:

Name	Modified	Additional sharing
openmrs_concepts_1.7.3_20160711.sql.zip	12/7/2016 4:08 PM	Andrew --
openmrs_concepts_1.9.9_20160711.sql.zip	12/7/2016 4:02 PM	Andrew --
openmrs_concepts_1.10.2_20160711.sql.zip	12/7/2016 4:01 PM	Andrew --
openmrs_concepts_1.11.2_20160711.sql.zip	12/7/2016 7:10 AM	Andrew --
openmrs_drug_1.6.6_20141226.sql	27/12/2014 12:56 AM	--
openmrs_drug_1.10.0_20141226.sql	27/12/2014 12:54 AM	--
pih-concepts-n-drugs_1.9.4_20140508.sql.gz	8/5/2014 6:46 PM	--
utdrules for Tanzania Mbola	--	--

On OpenMRS Standalone, obtain the username and password from the openmrs-standalone-runtime.properties.



Using the credentials from openmrs-standalone-runtime.properties to connect to mysql server for the standalone. Using the command below:

```
mysql -u openmrs -h 127.0.0.1 -P 3316 -p openmrs
```

Load CIEL mysql dump by running the command below.

```
source <full path to CIEL file>
```

On Landing page, click on **System Administration**, click on **Advanced Administration**, and then click on **Search Index**.

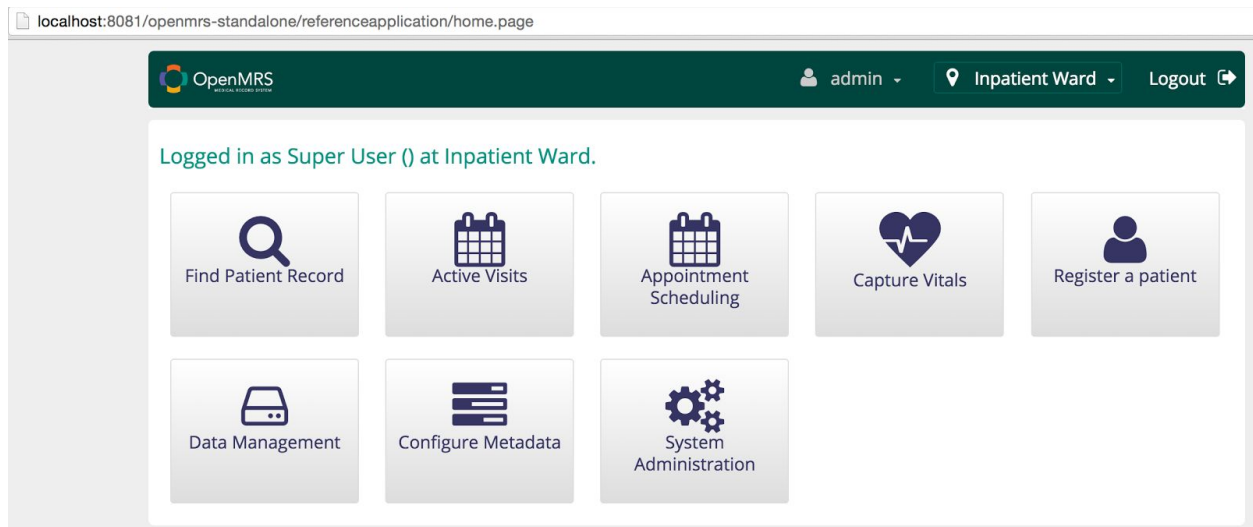
The screenshot shows the OpenMRS admin interface at the URL 107.170.42.67:8081/openmrs-standalone/admin/index.htm. The page is organized into several columns of links. The left column contains links for 'Manage Users', 'Manage Roles', 'Manage Privileges', 'Manage Alerts', 'Patients', 'Person', 'Visits', 'Encounters', and 'Locations'. The middle column contains links for 'View Concept Dictionary', 'Manage Concept Drugs', 'Manage Proposed Concepts', 'Manage Concept Classes', 'Manage Concept Datatypes', 'Manage Concept Sources', 'Manage Concept Stop Word', 'Manage Reference Terms', 'Forms', 'HL7 Messages', and 'Maintenance'. The right column contains links for 'Manage Modules', 'Module Properties', 'OpenMRS Atlas', 'ID Generation', 'Metadata Mapping', 'Metadata Sharing', 'Data Exchange Module', 'Calculation Module', and 'Manage Report Definitions'. The 'Search Index' link is located at the bottom of the middle column.

Click on **Rebuild Search Index**.

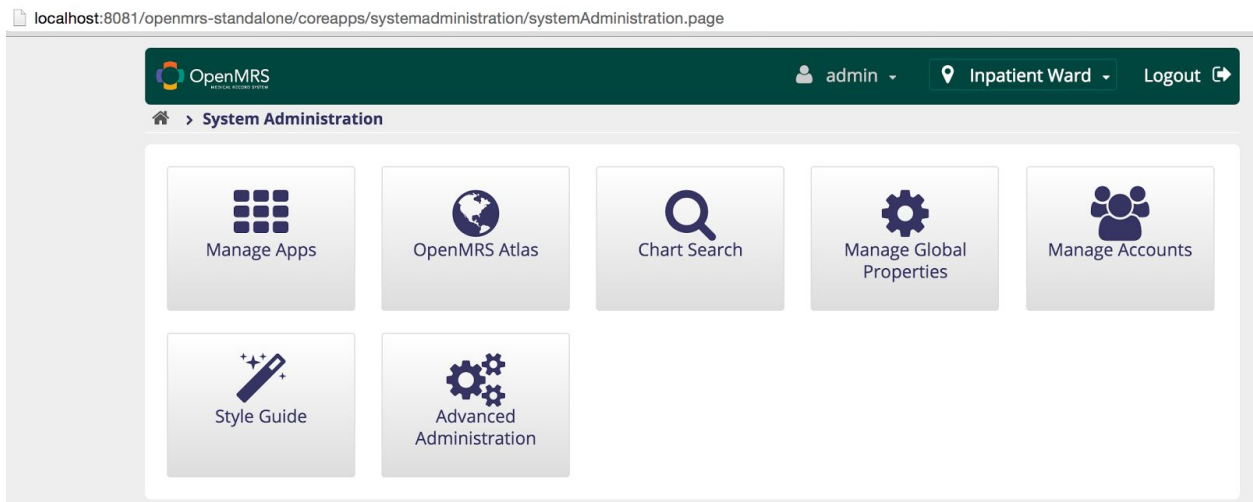
The screenshot shows the OpenMRS Search Index page at the URL 107.170.42.67:8081/openmrs-standalone/admin/maintenance/searchIndex.htm. The page has a green header with the OpenMRS logo and navigation links: Home, Find/Create Patient, Dictionary, Reporting, Appointments, and Administration. Below the header, there is a navigation bar with links: Admin, Set Implementation Id, System Information, View Quick Reports, Settings, Advanced Settings, View Server Log, View Database Changes, Manage Locales And Themes, View Logged In Users, and Search Index. The main content area has a yellow background with a warning message: 'Do not rebuild the index during data entry hours since most likely some results will be missing when the operation is in progress and a search is performed by the user.' Below the warning message, there is a button labeled 'Rebuild Search Index'.

Installation of Case Report Module

After login to OpenMRS, click on **System Administration** on landing page.



On System Administration page, click on **Advanced Administration**.



On Administration page, click on **Manage Modules**.

localhost:8081/openmrs-standalone/admin/index.htm

OpenMRS Currently logged

Home | Find/Create Patient | Dictionary | Reporting | Appointments | Administration

Administration

- Users**
 - [Manage Users](#)
 - [Manage Roles](#)
 - [Manage Privileges](#)
 - [Manage Alerts](#)
- Patients**
 - [Manage Patients](#)
 - [Find Patients to Merge](#)
 - [Manage Identifier Types](#)
 - [Manage Patient Identifier Sources](#)
 - [Auto-Generation Options](#)
 - [View Log Entries](#)
- Person**
 - [Manage Persons](#)
 - [Manage Relationship Types](#)
 - [Manage Person Attribute Types](#)
- Visits**
- Concepts**
 - [View Concept Dictionary](#)
 - [Manage Concept Drugs](#)
 - [Manage Proposed Concepts](#)
 - [Manage Concept Classes](#)
 - [Manage Concept Datatypes](#)
 - [Manage Concept Sources](#)
 - [Manage Concept Stop Word](#)
 - [Manage Reference Terms](#)
- Forms**
 - [Manage Forms](#)
 - [Manage Fields](#)
 - [Manage Field Types](#)
 - [Merge Duplicate Fields](#)
- HL7 Messages**
 - [Manage HL7 Sources](#)
 - [Manage Queued Messages](#)
 - [Manage Held Messages](#)
- Modules**
 - [Manage Modules](#)
 - [Module Properties](#)
- OpenMRS Atlas**
 - [Manage Atlas Marker](#)
- Metadata Mapping**
 - [Configure](#)
- Metadata Sharing**
 - [Export Metadata](#)
 - [Import Metadata](#)
 - [Manage Tasks](#)
 - [Configure](#)
- Data Exchange Module**
 - [Export](#)
 - [Import](#)

On Manage Module page, click on **Add or Upgrade Module**.

localhost:8081/openmrs-standalone/admin/modules/module.list

OpenMRS Currently logged









[Home](#) | [Find/Create Patient](#) | [Dictionary](#) | [Reporting](#) | [Appointments](#) | [Administration](#)

[Admin](#) | [Manage Modules](#) | [Module Properties](#)

Modules

NOTE: Adding, removing, or starting modules will restart OpenMRS, meaning that all scheduled tasks and background processes will be interrupted.

[Add or Upgrade Module](#) [Check for Upgrades](#)

Manage Modules				
Action	Name	Version	Author	Description
 	Atlas Module	2.2	Victor Chircu	The Atlas Module provides a mechanism for an implementation to create and manage a (https://atlas.openmrs.org) directly from their OpenMRS server....
 	Form Entry App Module	1.2	OpenMRS	Adds forms to OpenMRS 2.x...
 	Reporting	0.10.0	Partners In Health	The Reporting Module provides a user interface for defining and managing core objects indicators, dimensions, and report designs. The module also provid...
 	Metadata Sharing	1.2	Rafal Korytkowski	Allows all kinds of metadata (concepts, locations, roles etc.) to be exchanged between

A pop-up of Add or Upgrade Module will be displayed. Click on **Choose File** under **Add Module**. Find the **casereport-1.0-SNAPSHOT.omod** from your local directory and click **Upload**.

Add or Upgrade Module ✕

Add Module

No file chosen

Upgrade An Existing Module

No file chosen

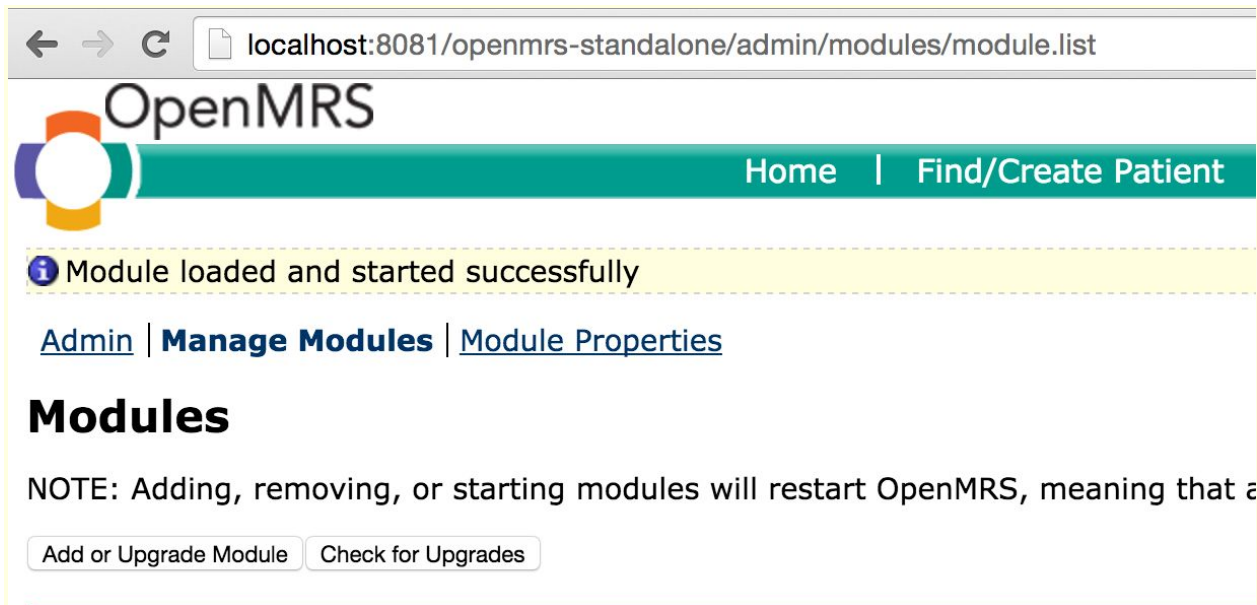
Install from Module Repository (<https://modules.openmrs.org/modules>)

Search:

Action	Name	Version	Author	Description
No matching records found				










Showing 0 to 0 of 0 entries (filtered from 222 total entries) ◀ ▶

A message of “**Module loaded and started successfully**” is displayed.

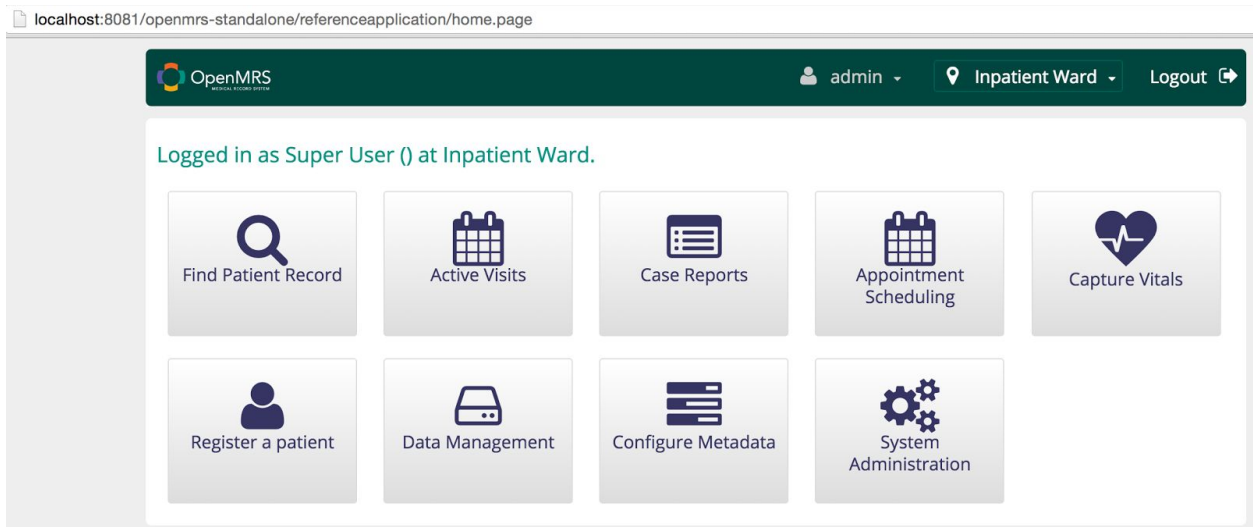


The screenshot shows a web browser window with the URL `localhost:8081/openmrs-standalone/admin/modules/module.list`. The page header features the OpenMRS logo and navigation links for [Home](#) and [Find/Create Patient](#). A yellow dashed-bordered message box displays the text: **Module loaded and started successfully**. Below the message, there are navigation links: [Admin](#) | **Manage Modules** | [Module Properties](#). The main heading is **Modules**. A note states: "NOTE: Adding, removing, or starting modules will restart OpenMRS, meaning that a". At the bottom, there are two buttons: [Add or Upgrade Module](#) and [Check for Upgrades](#).

Case Report Module is listed.

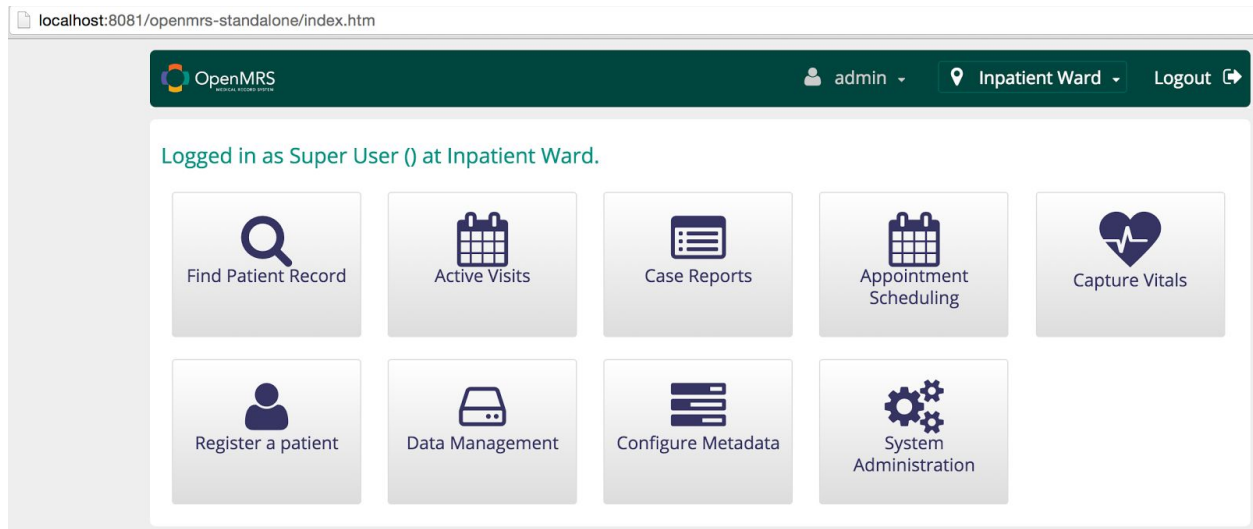
 Reference Application Module	1.5	OpenMRS Developers	Provides basic user interaction...
 App UI Module	1.5.1	OpenMRS	Support for using the App Framework's context in the UI Framework...
 Metadata Deploy	1.5	I-TECH	Metadata deployment support...
 HTML Widgets	1.7.0	Partners In Health	HTML Form widget library...
 Case Report Module	1.0- SNAPSHOT	Wyclif	Provides functionality for generating and submitting case reports for patients...
 Serialization Xstream	0.2.10	luzhuangwei	Core (de)serialize API and services supported by xstream library...
 Registration Core Module	1.4	OpenMRS Developers	Provides core utilities and services for patient registration....
 HTML Form Entry Extensions for OpenMRS 1.9 Module	1.6.1	OpenMRS	Provides access to OpenMRS 1.9 functionality (e.g. Providers) in HTML Form Entry...
 Event Module	2.4	OpenMRS	Provides a dev friendly event notifying mechanism...

Case Reports is now displayed on landing page.

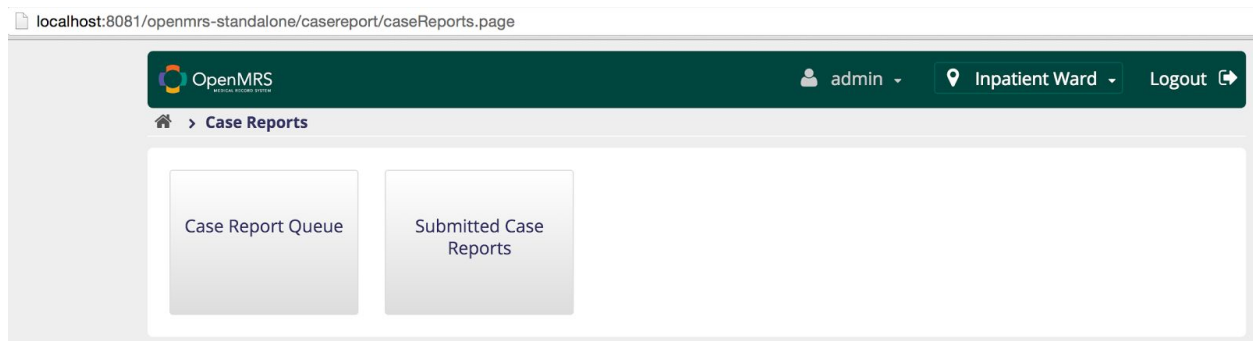


How to start scheduled tasks for triggers for the first time?

On landing page, click on **Case Reports**.



On Case Report page, click on **Case Report Queue**.



On Case Report Queue page, it has zero case case report as the scheduled tasks for case reporting triggers haven't been started yet.

localhost:8081/openmrs-standalone/casereport/caseReportQueue.page#/list

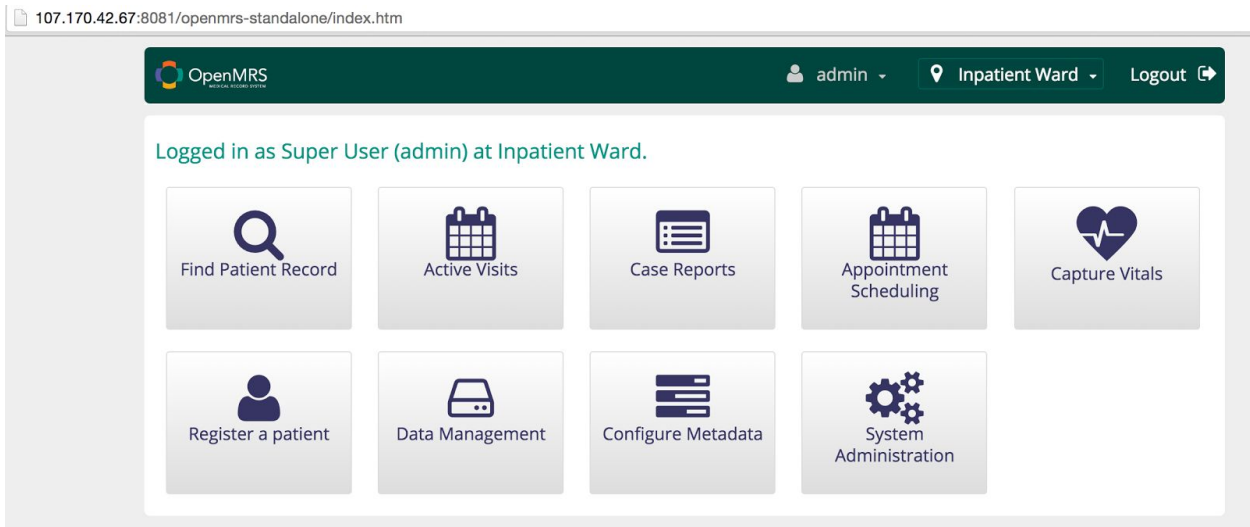
OpenMRS admin Inpatient Ward Logout

[Home](#) > [Case Reports](#) > **Case Report Queue**

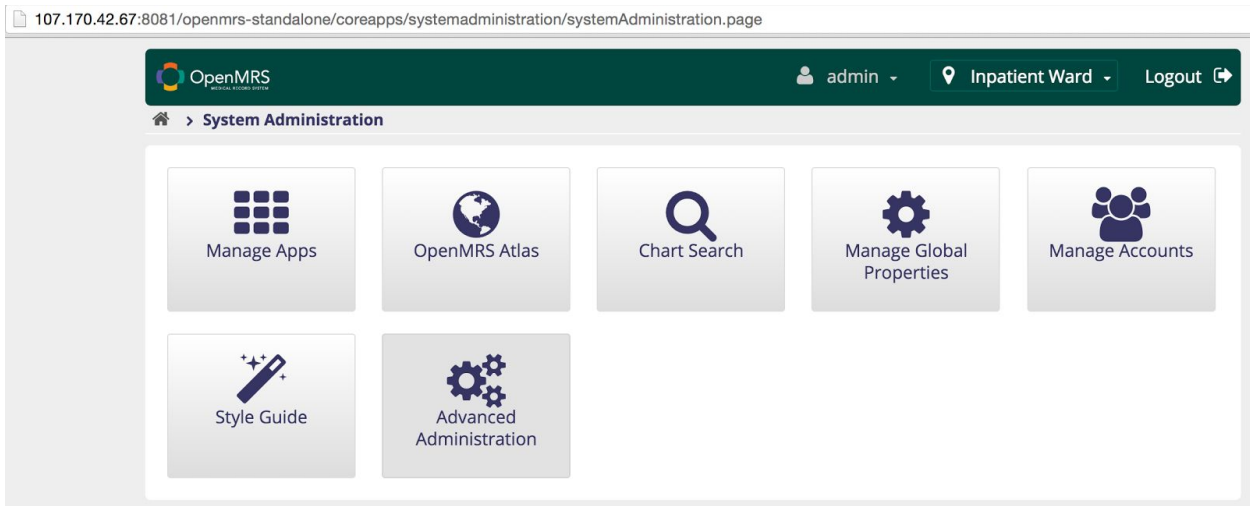
Case Report Queue

Date Added	Identifier	Name	Gender	Age	Trigger(s)	Actions
------------	------------	------	--------	-----	------------	---------

In order for case reporting triggers to run, scheduled tasks need to be turned on. On landing page, click on **System Administration**.



On System Administration page, click on **Advanced Administration**.



On Advanced Administration page, click on **Manage Scheduler**.

The screenshot shows a web browser window with the address bar displaying "107.170.42.67:8081/openmrs-standalone/admin/index.htm". The main content area is organized into several sections:

- Locations**
 - [Manage Locations](#)
 - [Manage Location Tags](#)
 - [View Location Hierarchy](#)
 - [Manage Location Attribute Types](#)
 - [Manage Address Template](#)
- Observations**
 - [Manage Observations](#)
- Scheduler**
 - [Manage Scheduler](#)
- Programs**
 - [Manage Programs](#)
 - [Manage Triggered State Conversions](#)

Additional navigation links are located at the top right of the page:

- [Manage Locales And Themes](#)
- [View Logged In Users](#)
- [Search Index](#)
- [Cohort Queries](#)
- [Data Definitions](#)
- [Report Designs](#)
- [Report Processors](#)

Further down on the right side, there are sections for:

- Analysis & Reporting**
 - [Report Dashboard](#)
 - [Report Queue](#)
 - [Report History](#)
 - [Scheduled Reports](#)
 - [Report Administration](#)
- REST Web Services**
 - [Settings](#)
 - [Test](#)
 - [API Documentation](#)

On **Scheduler** page, it lists out all the scheduled tasks.

localhost:8081/openmrs-standalone/admin/scheduler/scheduler.list

OpenMRS Currently logged in as Super User | [Log out](#) | [My Profile](#) | [Help](#)

Home | Find/Create Patient | Dictionary | Reporting | Appointments | Administration

Admin | **Manage Scheduler**

Scheduler

[Add Task](#) | [Refresh Tasks](#)

Available Tasks				
Status	Task / Class	Schedule	Last Execution Time	On Startup
<input type="checkbox"/> Stopped	Auto Close Visits Task org.openmrs.scheduler.tasks.AutoCloseVisitsTask	Runs every 1 days From 11:59:59PM , Starting on Nov 28 2011		No (manual)
<input type="checkbox"/> Started <i>Runs again in 3s</i>	Process HL7 Task org.openmrs.schedule.tasks.ProcessHL7InQueueTask	Runs every 5 seconds From 10:12:02AM , Starting on Jul 13 2016	05 August 2016 13:58:32 EDT	Yes (automatic)
<input type="checkbox"/> Stopped	HIV Virus Not Suppressed org.openmrs.module.casereport.CaseReportTask	Runs every 2 minutes From 01:29:33PM , Starting on Jul 27 2016		No (manual)
<input type="checkbox"/> Stopped	HIV Patient Died org.openmrs.module.casereport.CaseReportTask	Runs every 1 minutes From 01:29:33PM , Starting on Jul 27 2016		No (manual)
<input type="checkbox"/> Stopped	HIV Lost To Follow Up org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input type="checkbox"/> Stopped	HIV Patient Not Tested org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input type="checkbox"/> Stopped	HIV Switched To Second Line org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input type="checkbox"/> Stopped	HIV Treatment Failure org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input type="checkbox"/> Stopped	HIV Treatment Stopped org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input type="checkbox"/> Stopped	New HIV Case org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input type="checkbox"/> Stopped	New HIV Disease org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input type="checkbox"/> Stopped	New HIV Treatment org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)

Start Stop Delete

Scheduled tasks for HIV Case Reporting Module triggers are:

- **HIV Lost To Follow Up**
- **HIV Patient Died**
- **HIV Patient Not Tested**
- **HIV Switched To Second Line**
- **HIV Treatment Failure**
- **HIV Treatment Stopped**
- **HIV Virus Not Suppressed** (this is a placeholder for next version)
- **New HIV Case**
- **New HIV Disease**
- **New HIV Treatment**

The default setting of scheduled tasks for HIV Case Reporting Module triggers is set to “No” for Start on Startup (see last column of On Startup is set “No” (manual)).

Tick on the scheduled tasks for HIV Case Reporting Module triggers and click **Start**.

The screenshot shows the OpenMRS Scheduler interface. The browser address bar is localhost:8081/openmrs-standalone/admin/scheduler/scheduler.list. The page title is "Scheduler" and it includes navigation links like Home, Find/Create Patient, Dictionary, Reporting, Appointments, and Administration. Below the navigation is a "Manage Scheduler" link and "Add Task" / "Refresh Tasks" options. The main content is a table of "Available Tasks" with columns for Status, Task / Class, Schedule, Last Execution Time, and On Startup. At the bottom of the table are "Start", "Stop", and "Delete" buttons.

Status	Task / Class	Schedule	Last Execution Time	On Startup
<input type="checkbox"/>	Stopped Auto Close Visits Task org.openmrs.scheduler.tasks.AutoCloseVisitsTask	Runs every 1 days From 11:59:59PM , Starting on Nov 28 2011		No (manual)
<input type="checkbox"/>	Started Runs again in 3s Process HL7 Task org.openmrs.scheduler.tasks.ProcessHL7InQueueTask	Runs every 5 seconds From 10:12:02AM , Starting on Jul 13 2016	05 August 2016 13:58:32 EDT	Yes (automatic)
<input checked="" type="checkbox"/>	Stopped HIV Virus Not Suppressed org.openmrs.module.casereport.CaseReportTask	Runs every 2 minutes From 01:29:33PM , Starting on Jul 27 2016		No (manual)
<input checked="" type="checkbox"/>	Stopped HIV Patient Died org.openmrs.module.casereport.CaseReportTask	Runs every 1 minutes From 01:29:33PM , Starting on Jul 27 2016		No (manual)
<input checked="" type="checkbox"/>	Stopped HIV Lost To Follow Up org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input checked="" type="checkbox"/>	Stopped HIV Patient Not Tested org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input checked="" type="checkbox"/>	Stopped HIV Switched To Second Line org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input type="checkbox"/>	Stopped HIV Treatment Failure org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input checked="" type="checkbox"/>	Stopped HIV Treatment Stopped org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input checked="" type="checkbox"/>	Stopped New HIV Case org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input checked="" type="checkbox"/>	Stopped New HIV Disease org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input checked="" type="checkbox"/>	Stopped New HIV Treatment org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)

Yellow-highlighted messages are listed on the top to indicate the scheduled tasks have started successfully.

localhost:8081/openmrs-standalone/admin/scheduler/scheduler.list

OpenMRS Currently logged in as Super User | [Log out](#) | [My Profile](#) | [Help](#)

[Home](#) | [Find/Create Patient](#) | [Dictionary](#) | [Reporting](#) | [Appointments](#) | [Administration](#)

Task HIV Virus Not Suppressed has been started
 Task HIV Patient Died has been started
 Task HIV Lost To Follow Up has been started
 Task HIV Patient Not Tested has been started
 Task HIV Switched To Second Line has been started
 Task HIV Treatment Stopped has been started
 Task New HIV Case has been started
 Task New HIV Disease has been started
 Task New HIV Treatment has been started

[Admin](#) | [Manage Scheduler](#)

Scheduler

[Add Task](#) | [Refresh Tasks](#)

Available Tasks					
	Status	Task / Class	Schedule	Last Execution Time	On Startup
<input type="checkbox"/>	Stopped	Auto Close Visits Task org.openmrs.scheduler.tasks.AutoCloseVisitsTask	Runs every 1 days From 11:59:59PM , Starting on Nov 28 2011		No (manual)
<input type="checkbox"/>	Started <i>Runs again in 1s</i>	Process HL7 Task org.openmrs.scheduler.tasks.ProcessHL7InQueueTask	Runs every 5 seconds From 10:12:02AM , Starting on Jul 13 2016	05 August 2016 14:05:12 EDT	Yes (automatic)
<input type="checkbox"/>	Started <i>Runs again in 17s</i>	HIV Virus Not Suppressed org.openmrs.module.casereport.CaseReportTask	Runs every 2 minutes From 01:29:33PM , Starting on Jul 27 2016		No (manual)
<input type="checkbox"/>	Started <i>Runs again in 17s</i>	HIV Patient Died org.openmrs.module.casereport.CaseReportTask	Runs every 1 minutes From 01:29:33PM , Starting on Jul 27 2016		No (manual)
<input type="checkbox"/>	Started <i>Runs again in 603,035s</i>	HIV Lost To Follow Up org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input type="checkbox"/>	Started <i>Runs again in 603,035s</i>	HIV Patient Not Tested org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input type="checkbox"/>	Started <i>Runs again in 603,035s</i>	HIV Switched To Second Line org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input type="checkbox"/>	Stopped	HIV Treatment Failure org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input type="checkbox"/>	Started <i>Runs again in 603,035s</i>	HIV Treatment Stopped org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input type="checkbox"/>	Started <i>Runs again in 603,035s</i>	New HIV Case org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input type="checkbox"/>	Started <i>Runs again in 603,035s</i>	New HIV Disease org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)
<input type="checkbox"/>	Started <i>Runs again in 603,035s</i>	New HIV Treatment org.openmrs.module.casereport.CaseReportTask	Runs every 7 days From 01:35:51PM , Starting on Aug 05 2016		No (manual)

How were the triggers defined? How were they mapped to CIEL?

- CDC shared a list of triggers that were considered sentinel case reports. These triggers were used to define the numerator and denominator definitions and values; the numerator and denominator values were then used to identify the appropriate data elements.
- Mapping for the [minimum dataset](#)
 - CDC triggers were used to identify the [minimum dataset](#) that needed to be mapped to CIEL dictionary and OpenMRS variables.
 - Dictionary manager searched CIEL dictionary and recorded the Concept IDs for clinical variables and searched/recorded the OpenMRS variables for demographic as well as disease variables.

How to define your own triggers?

This current user manual includes guidance on how to develop specific site triggers, including the technical as well as the definitions of site specific numerator and denominators. The option to define site specific triggers, as well as generating the pre-defined triggers and making the results available for the surveillance officer, will help illustrate the value of the case reporting module.

Assumptions about developing site specific triggers:

- **The local implementers will need to map to CIEL**
- **Query results may not be comparable for sites based on the ways that sites elect to do specific CIEL mappings and time frames**
- **Currently, there is no way to QA the current logic and/or the outcomes**
- **Requires Advanced Administration Roles**
 - **Create a SQL Cohort Query for trigger**
 - Manage Report Definitions > Cohort Queries
 - Add SQL Cohort Query (click on [+] link next to SQL Cohort Query)
 - Enter name & description, save (remember the precise name, you'll need it when creating a scheduled task to run the trigger)

- Add parameter last ExecutionTime with label "Last execution time" of type Date
- Enter SQL to select person_id of any patient who meets criteria for trigger, using the parameter reference ":lastExecutionTime" to filter by date to only those cases that occur between the lastExecution time and now.
- Save
- **Create a scheduled task (and interval time) for trigger**
 - Scheduler > Manage Scheduler
 - Click on "Add Task" link
 - Enter descriptive name
 - Set Schedulable Class to "org.openmrs.module.casereport.CaseReportTask"
 - Provide description
 - Under "Schedule" tab, set Repeat Interval (e.g., to 7 days)
 - Under Properties tab, add property named "Trigger Name" with value set to exact name of SQL Cohort Query created above