

i2iTracks
Population Health Analytics
(iPHA)
Custom Reports &
Dashboards



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Creating iPHA Custom Reports Overview

Creating an iPHA Custom Report is a multi-step process that involves the report definition and a report design. The following is a brief overview of the steps you will take to create a new custom report. Each step is explained in detail in the sections that follow:

1. Understand how a report is structured and develop a custom report template. This will help you create and define the requirements for the report and design the layout.
2. Select the data elements (fields and filters) you want to use in the report from the Data Element Manager.
3. Design your Report.
 - a. Assign your report a title.
 - b. Select the data elements from the library and define their parameters.
 - c. Identify the main Patient Population and any Sub-Populations you want to use in your report.
 - d. Select the audit fields (data/details) that you would like to display for each patient when printing an audit list.
 - e. Create the design/layout of the report – add sections, areas, and items.
4. Review and audit your printed report for accuracy.
5. Enable the report for use by other users so they will see the report in their **Select a Report** menu when running reports.

Report Design Tips

Before you begin to create a custom report, you should have a good understanding of the report you want to create. Take some time to think about:

- How do you want to title your report?
- Define each of your report denominators. What group (or groups) of patients do you want to include in your report? Be specific. For example:

Active patients in the diabetes tracking type who have had at least one visit in the past year

Female patients between the ages of 18-64

All active patients

- The percentages in the report are calculated using these groups as the denominator.
- Define all of your numerators. What statistics do you want to include on your report? For example:

How many patients received diabetes education, a flu shot, an HbA1c test, a foot check, etc.

How many women received a mammogram, a pap, etc.

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- How do you want the statistic to be broken down? (by age or age ranges, gender, race, by value ranges, etc.)
- What audit data do you want to include? (patient’s age, LDL value, smoking status value, received date, etc.)
- The percentages in the report are calculated using these items as the numerators.
- What are the data elements you will need to use when creating your denominators, numerators, and audits? For example:

Diabetes Tracking Type; HbA1c value; had at least 1 visit; Smoking Status; Had a pap; Had a Mammogram

- What filters will you need to use to narrow down your line items? For example:

*Active AND Have Diabetes Tracking Type AND have 1 visit in last 1 year
Female AND Age between 18-64*

Helpful hints when creating your first reports

When creating your first few reports, start with an easy report – for one population. You may want to start with a report that you have already created, perhaps a section of a health registry report. (Make sure it is a health registry report that you thoroughly understand how it is configured.)

As you begin, it is wise to save and run the report often to make sure the report is coming out the way you want to see the data. For example, after creating your first section, save the report and run it – you’ll see how the report is taking shape each time it is run. Then add an area, save the report and run it again. Each time verify the data looks the way you expect it to look. Now add an item and repeat the print. Add a sub-item and repeat the print again. Repeat this process until you feel really comfortable with how your report looks and the data is coming out the way you expect. You may want to create a Patient Search in i2iTracks to verify the data from the search matches the data on your iPHA report.

On your second report, it is a good idea to save and run the report repeatedly, but not as often. Make it a rule of thumb to save and run it after finishing each section.

Develop a Custom Report Template

As you begin to use the iPHA Custom Report Writer, it is important to write out exactly what type of report you would like to create and how you want it to be designed. If you use a template like the one below, it will be easier to create the layout/format of your report, as it follows the way the report will be organized and designed in the iPHA Custom Report Writer. This template has all of the pieces of data and information you will need to access while building the report. Let’s draft an easy report using a template:

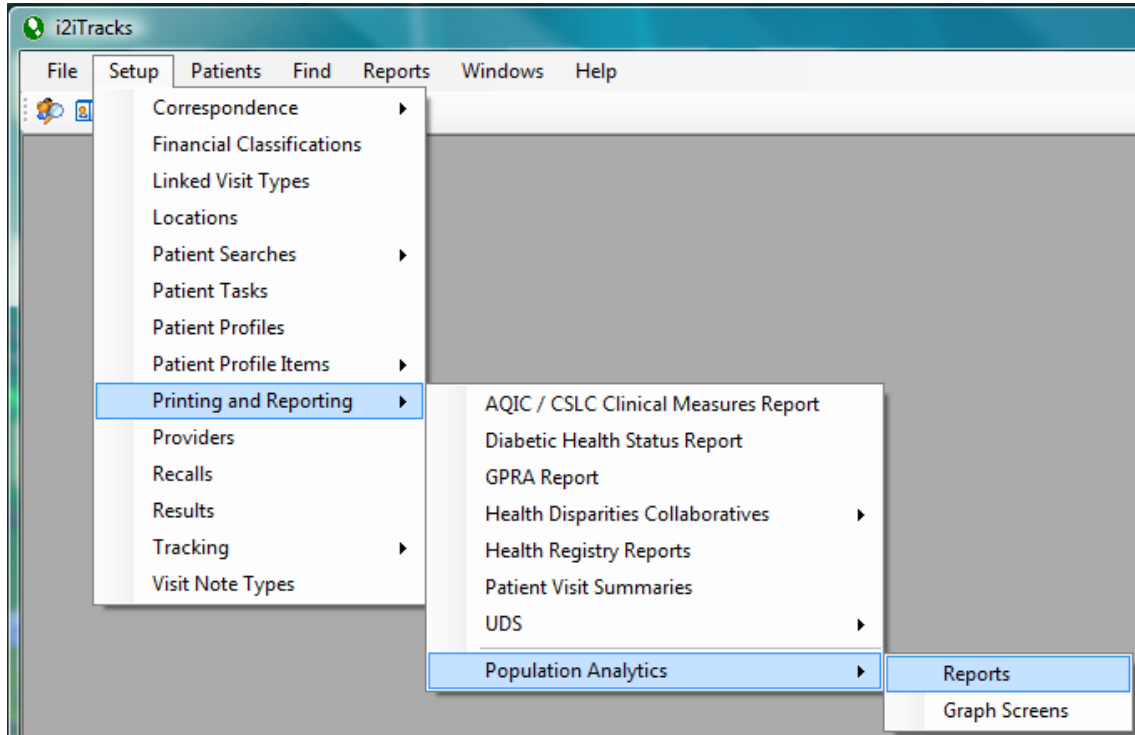
| Report Title | | <i>Diabetes Grant Report</i> | <i>Item Type</i> |
|-----------------------------------|-------------------------|--|------------------|
| Report Description | | <i>Report of active patients in diabetes tracking type for grant</i> | |
| Section | | <i>Active Diabetic Statistics</i> | |
| Area #1 (Denominator) | | <i>Active AND assigned to Diabetes Tracking Type AND had at least one visit in the last one year</i> | |
| | Item #1 (Numerator) | <i>Patients who had an HbA1c test in the past one year</i> | <i>Count</i> |
| | Sub Item #1 (Numerator) | <i>HbA1c value <7</i> | <i>Count</i> |
| | Sub Item #2 (Numerator) | <i>HbA1c value <=7 - >=9</i> | <i>Count</i> |
| | Sub Item #3 (Numerator) | <i>HbA1c value >9</i> | <i>Count</i> |
| | Sub Item #4 (Numerator) | <i>No HbA1c value in the past 1 year</i> | <i>Count</i> |
| | Sub Item #5 (Numerator) | <i>Average HbA1c value</i> | <i>Value</i> |
| | Item #2 (Numerator) | <i>Patients who received a flu vaccine</i> | <i>Count</i> |
| | Sub Item #1 (Numerator) | <i>Age <60</i> | <i>Count</i> |
| | Sub Item #2 (Numerator) | <i>Age >=60</i> | <i>Count</i> |
| | Item #3 (Numerator) | <i>Patients who had an LDL test in the past one year</i> | <i>Count</i> |
| | Sub Item #1 (Numerator) | <i>LDL value <100</i> | <i>Count</i> |
| | Sub Item #2 (Numerator) | <i>LDL value >=100</i> | <i>Count</i> |
| | Sub Item #3 (Numerator) | <i>No LDL test in the past one year</i> | <i>Count</i> |
| | Sub Item #4 (Numerator) | <i>Average LDL</i> | <i>Value</i> |
| | Item #4(Numerator) | <i>Patients that received, referred, or refused Diabetes Education</i> | <i>Count</i> |
| | Sub Item #1 (Numerator) | <i>Number of patients that received Diabetes Education</i> | <i>Count</i> |
| | Sub Item #2 (Numerator) | <i>Number of patients that refused Diabetes Education</i> | <i>Count</i> |
| | Sub Item #3 (Numerator) | <i>Number of patients referred for Diabetes Education</i> | <i>Count</i> |
| Data Elements Needed | | | |
| <i>Diabetes Tracking Type</i> | | <i>Age</i> | |
| <i>Active patient status</i> | | <i>Had an LDL test</i> | |
| <i>1 visit in the past 1 year</i> | | <i>LDL Value</i> | |
| <i>Had an HbA1c</i> | | <i>Received Diabetes Education</i> | |
| <i>HbA1c value</i> | | <i>Refused Diabetes Education</i> | |
| <i>Received a flu shot</i> | | <i>Referred for Diabetes Education</i> | |

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How to access iPHA Custom Reports

Follow these steps to access iPHA Custom Reports:

1. **Setup > Printing and Reporting > Population Analytics > Reports.**



2. The **Population Analytics (Reports)** screen displays, showing you a list of all previously created Reports.

The screenshot shows the 'Population Analytics (Reports)' screen. It features a table with columns for Name, Author, Mapped, Enabled, Imported, and Version. To the right of the table is a sidebar with buttons for Add, Edit, Remove, Copy, Enable, Map Report, Run Report, Import Report, and Export Report.

| Name | Author | Mapped | Enabled | Imported | Version |
|---|------------------|--------|---------|----------|---------|
| *Patient Centered Medical Home Activ... | Janice Nicholson | No | Yes | No | 28 |
| _Counting Visits | | Yes | No | Yes | 9 |
| 2014 i2i PCMH 2C | i2i Systems | Yes | Yes | Yes | 4 |
| 2014 i2i PCMH 3A | i2i Systems | Yes | Yes | Yes | 2 |
| 2014 i2i PCMH 3B | i2i Systems | Yes | Yes | Yes | 10 |
| 2014 i2i PCMH 3D | i2i Systems | Yes | Yes | Yes | 15 |
| 2014 i2i PCMH 4A | i2i Systems | No | Yes | Yes | 24 |
| 2014 i2i PCMH 6A | i2i Systems | Yes | Yes | Yes | 4 |
| ACO 2016/2017 - Selected Quality Meas... | UC 2016 | Yes | No | Yes | 9 |
| Active Diabetes Statistics with Payers | Nancy Thompson | Yes | Yes | No | 12 |
| ALL HEART (v2.3)2 | i2i Systems | Yes | No | No | 1 |
| Carl's Reseach Project | Janice Nicholson | Yes | No | No | 8 |
| CCALAC Adult Preventative Care Measu... | Janice Nicholson | Yes | No | No | 10 |
| CCALAC Diabetes Performance Measures | Janice Nicholson | No | No | No | 3 |
| CCALAC Hypertension Measures | Janice Nicholson | Yes | No | No | 7 |
| CEI/ Quality Network Performance Scor... | Loretta Khangura | No | Yes | Yes | 5 |
| Comprehensive Healthcare Maintenance... | Janice Nicholson | Yes | Yes | No | 15 |
| Counting Visits | | Yes | No | No | 3 |
| Healthy People 2020 | Janice Nicholson | No | No | No | 3 |
| i2i Data Toolkit: Validation (Labs) | i2i Systems | Yes | No | Yes | 5 |
| i2i Data Toolkit: Validation (Medications) | i2i Systems | No | No | Yes | 6 |
| i2i Data Toolkit: Validation (NQF Measur... | i2i Systems | No | No | Yes | 10 |

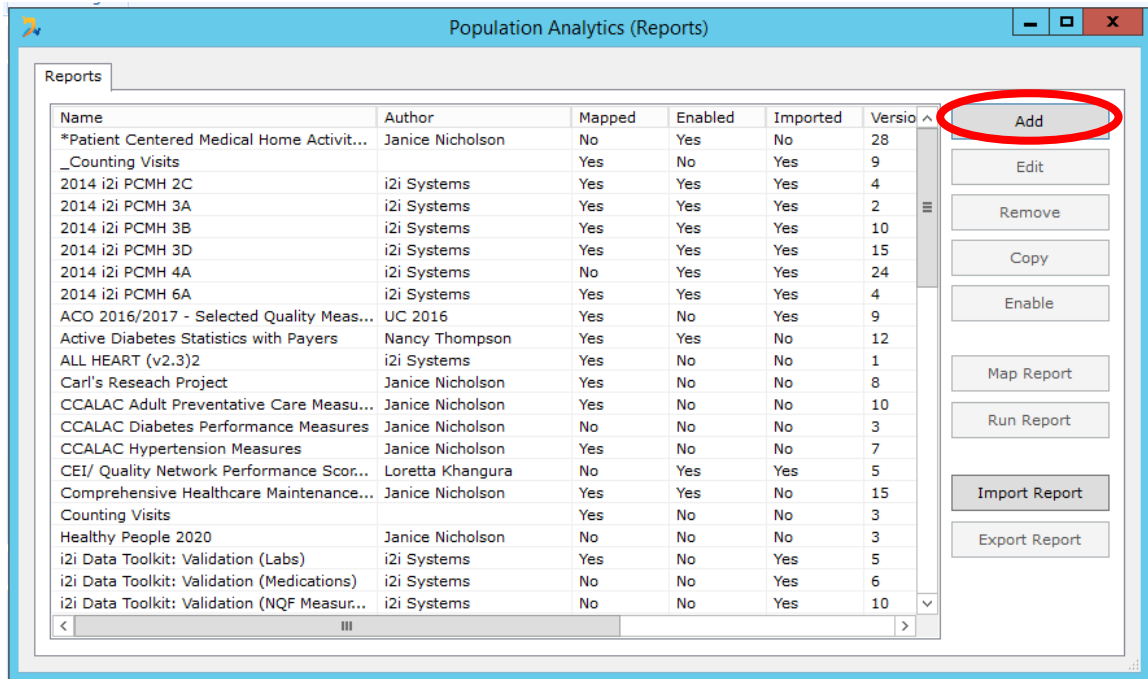
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3. There is a tab at the top of the screen: **Reports**
 - **Reports:** (The default tab) This option shows you the list of the various reports that have already been created. This is where you will create, edit, delete, and copy reports. You can also enable the report for use and import and export report files.

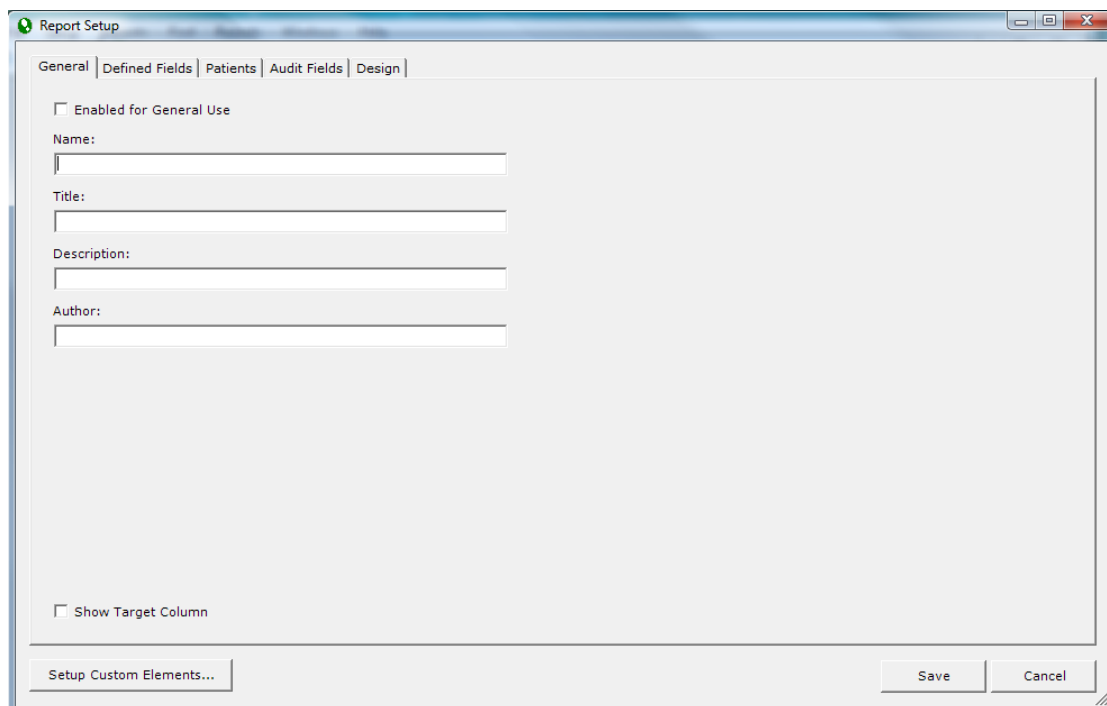
How to Create and Design a Report

Follow these steps to create a new report:

1. From the **Population Analytics (Reports)** screen, select **Add** on the **Reports** tab.



2. The **Report Setup** screen will display. Across the top there are five tabs, with action buttons at the bottom of the screen:



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- **General Tab:** The name and general information about the report.
- **Defined Fields Tab:** This tab is used to identify each data element that you want to include in the report and to assign the parameters of how the data element will be used in the report (the ‘rules’ for when you count a patient – For example, patients that had 2 visits in 2 years).
- **Patients Tab:** The **Patients** tab is used to define the global denominator for the entire report. For example, you may want your report to include only Active Patients, or only Active Patients assigned to Diabetes Tracking, etc.
- **Audit Fields Tab:** This tab is used to choose the data fields you want to print when you do an audit report of a line item.
- **Design Tab:** In the **Design** tab, you will format the layout of the report – define the data and statistics you want to see in your report and how you want the printed report to look.
- **Setup Custom Elements Action Button:** Click this button if you find that you need to add a new Custom Data Element to the library.

Each of the tabs is described in detail in the sections below.

General Tab

On the **General** tab, complete the following fields:

Enabled for General Use: Check this box AFTER you are completely finished designing the report and you have validated the report is accurate. When this box is checked, other users will see the report in their Select a Report menu when printing reports.

Name: Enter a name for your new custom report for the reports menu. Remember to be specific.

Title: Enter a title for your report. This title will appear on the printed report.

Description: Enter a description for your new custom report. Be descriptive – the more you document about your report, the less time you will have to review the setup when you need to print it, update it, or even export the report.

Author: Enter your name in this field.

Report Setup (Read Only)

General | Defined Fields | Patients | Audit Fields | Design

Enabled for General Use

Name:
Diabetes Report

Title:
Diabetes Report - United Way Grant

Description:
Diabetes Statistics for the United Way Grant

Author:
Nancy Thompson

Details:

| | |
|--------------|----------------------|
| Version: | 44 |
| Created On: | 1/1/1900 |
| Created By: | |
| Modified On: | 9/22/2010 9:38:49 AM |
| Modified By: | i2iadmin |
| Imported: | Yes |
| Imported On: | 9/29/2010 8:44:30 AM |
| Imported By: | i2iadmin |
| | |
| | |
| | |

Show Target Column

Setup Custom Elements... Save Cancel

Details: The details box provides you with information about the report - including version, creation date, user name of creator, modification date and user, import information. This information is automatically updated and is for viewing purposes only.

Show Target Column: Check this box to include a column in the report showing your target percentages for your goals.

Defined Fields Tab

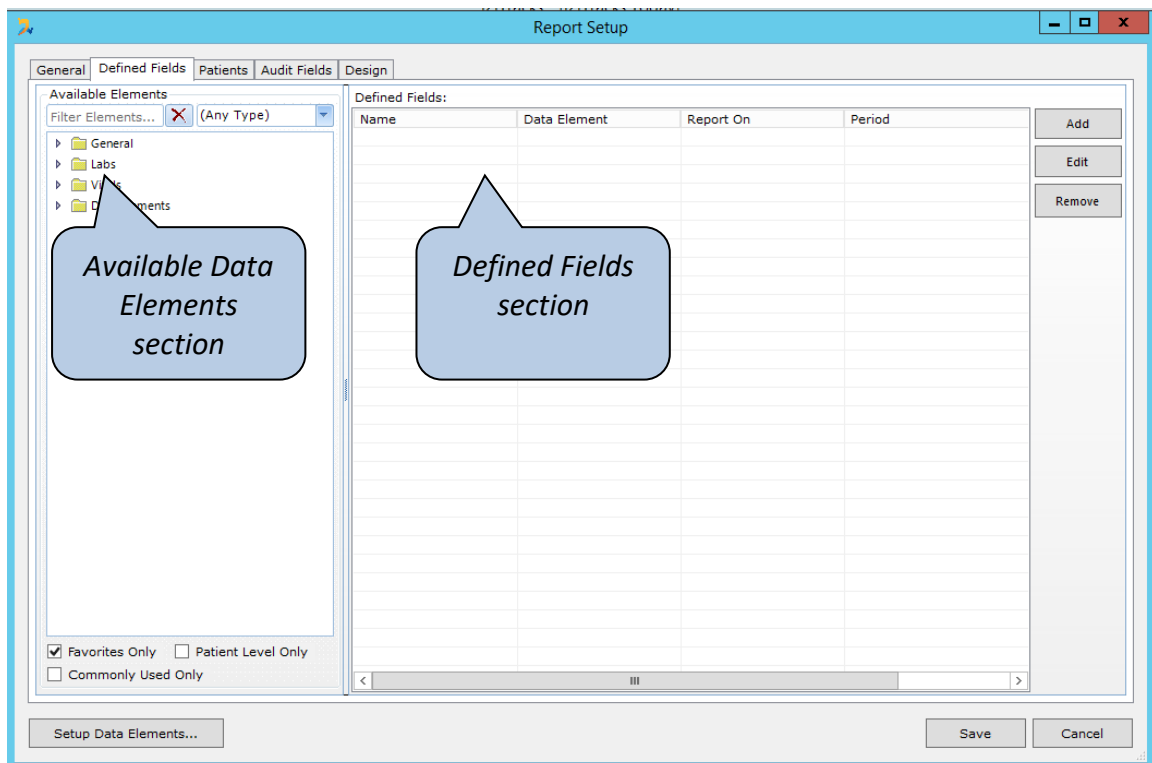
Next, click the **Defined Fields** tab at the top of the screen. This tab is used to identify each data element that you want to use in the report and to assign the parameters (rules) of how the data element will be utilized in the report. These elements will be



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used to define the patient population and used when selecting the data you want to filter and the data you want to print on your report.

Let's use the Diabetes Grant report as an example. The data elements we will need to use in the report include the following:

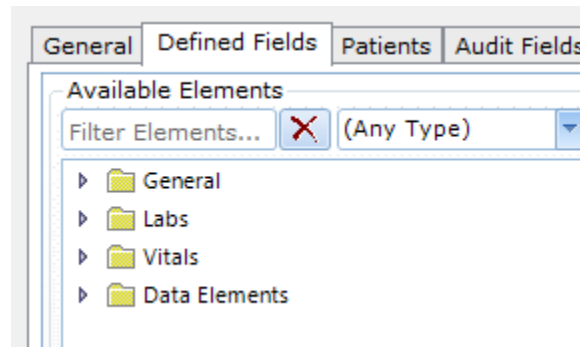
- Diabetes Tracking Type
- Active
- Have had at least 1 visit in the past 1 year
- HbA1c status
- HbA1c value
- LDL status
- LDL value
- Flu Vaccine – received
- Diabetes Education – received, refused, or referred
- Diabetes Education – received
- Diabetes Education – refused
- Diabetes Education - referred



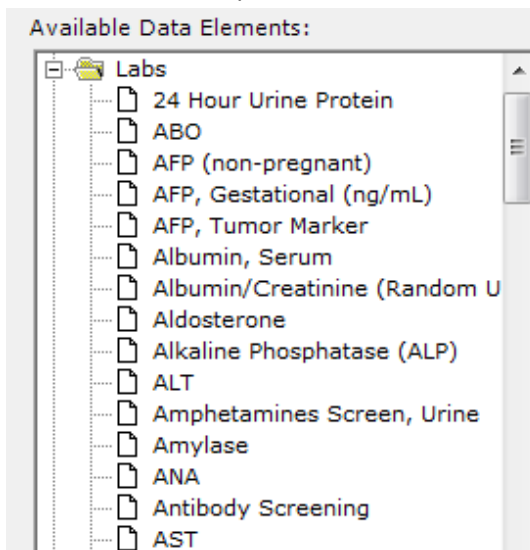
1. The **Defined Fields** screen is broken up into two sections: **Available Data Elements** and **Defined Fields**. The first step is to select your data elements from the “Available Data Elements” list. This list is in a directory tree format. There are four categories of Available Data Elements: General, Labs, Vitals, Data Elements. Use the  and  options next to each category to expand and collapse the lists for each category.

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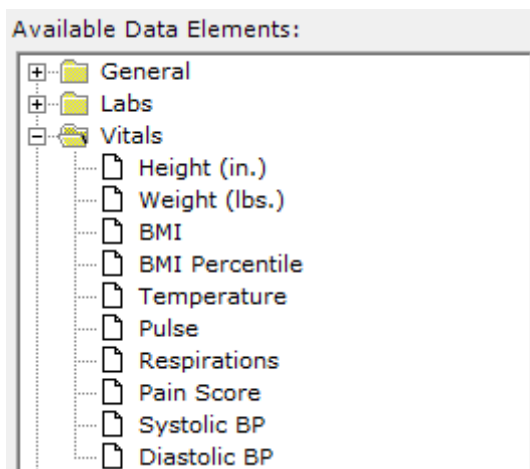
- The **General** list includes Age by Days, Weeks, Months, Years, and the Deceased Status.



- The **Labs** list includes all i2iTracks Lab tests. Just as with Patient Searches, the only labs that can be used in the reports are the labs that have been mapped.

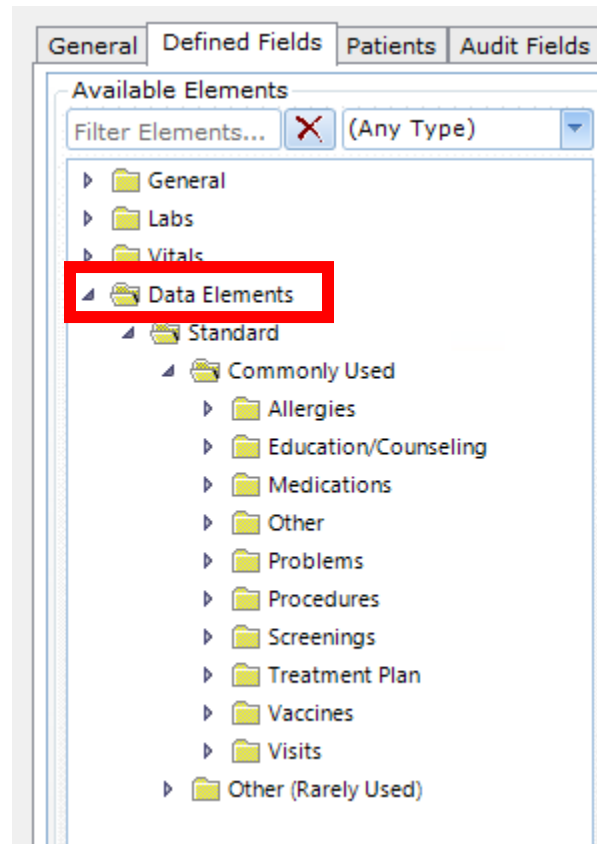


- The **Vitals** list includes the following patient vitals: Height, Weight, BMI, BMI Percentile, Temperature, BP Systolic, BP Diastolic, Pulse, Respirations, Pain Score, and PHQ.



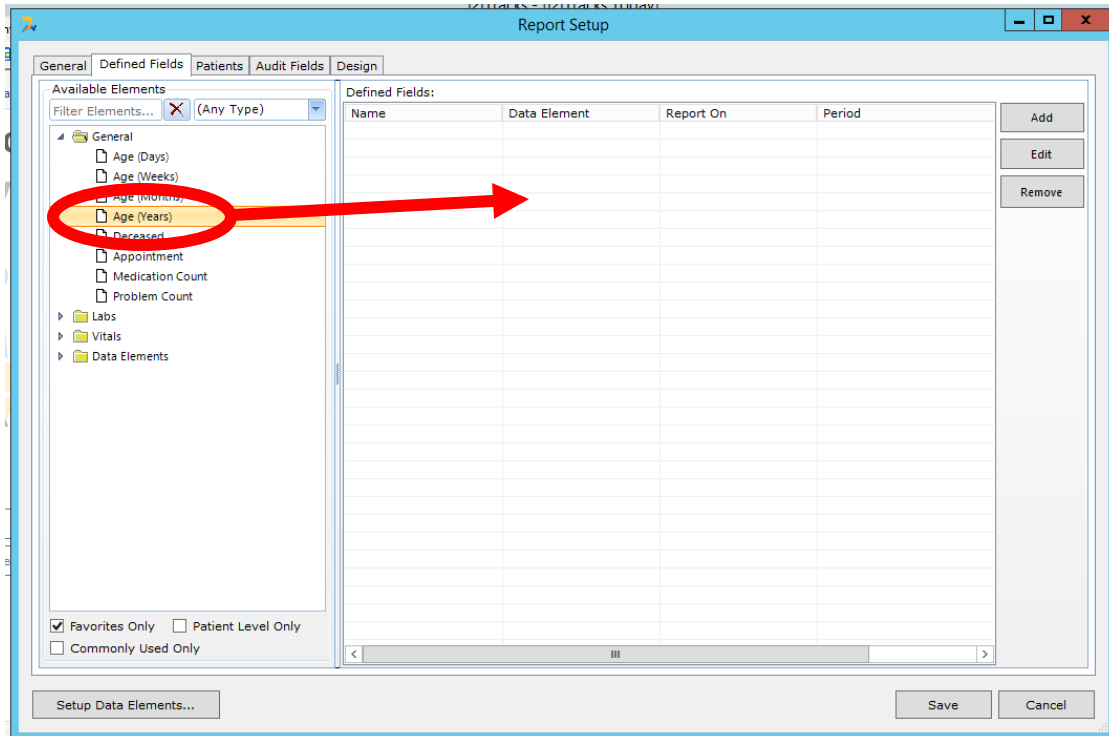
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- The **Data Elements** includes all of the elements that are stored in Data Element Manager (DEM). Click the + to expand the list of elements for the category.



2. Locate the data element on the list. Click the element and drag it over to the **Defined Fields** window.

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Note: You can also locate an element by clicking the Add button located on the right side of the Defined Fields screen, choose the category, and then select the element from the

Once you select an element, a window will open titled Setup Field. The Setup Field options will vary based on the type of element that you have selected. For example, if you chose the Diabetes Tracking Type, you would see a screen that applies to Tracking Types, or if you chose a lab element, you would see a screen to make selections about the lab test. In the example below is the **Setup Field** screen for the 'HbA1c received' lab test.

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Setup Field

Field Name:

Data Element:

Report On:

Period:

Minimum Count:

Must have occurred at least days apart

Must have occurred on the same day

Below is a sample list of defined fields that are needed for a Diabetes report.

Report Setup

General Defined Fields Patients Audit Fields Design

Available Elements: Filter Elements... (Any Type)

- General
- Labs
- Vitals
- Data Elements

Defined Fields:

| Name | Data Element | Report On | Period |
|--------------------------------|-------------------------------|------------------------|----------------------------------|
| Age (Years) | Age (Years) | Value At End Of Period | |
| BMI | Vital: BMI | Occurred | During the reporting period |
| BMI Value | Vital: BMI | Last Value | During the reporting period |
| BP Diastolic | Vital: Diastolic BP | Occurred | During the reporting period |
| Bp Diastolic Value | Vital: Diastolic BP | Last Value | During the reporting period |
| BP Systolic | Vital: Systolic BP | Occurred | During the reporting period |
| BP Systolic Value | Vital: Systolic BP | Last Value | During the reporting period |
| CVD Disease | Visit: CVD Disease | Occurred | Prior to the reporting period |
| Dental Visit - Received or ... | Dental Visit - Received or... | Occurred | During the reporting period |
| Dental Visit - Received or ... | Dental Visit - Received or... | Occurred | During the reporting period |
| Diabetes Education | Diabetes Education | Occurred | During the reporting period |
| Diabetes Tracking Type | Diabetes Tracking Type | Has Tracking Type | |
| Diet Education | Diet Education | Occurred | During the reporting period |
| Eye Exam Received or Ref... | Eye Exam Received or Ref... | Occurred | During the reporting period |
| Foot Screening received | Foot Screening received | Occurred | During the reporting period |
| Had 2 visits in past 2 years | Had a Visit | Occurred | During the 2 years prior to t... |
| Had a Visit (# of occurren... | Had a Visit | Number of Occurrences | During the reporting period |
| Had Flu Vaccine | Flu Vaccine | Occurred | During the reporting period |
| Had Pap | Had Pap | Number of Occurrences | During the reporting period |
| Had Pneumovax in last 10... | Pneumovax | Occurred | During the 10 years prior to |
| HbA1c | Lab: HbA1c | Occurred | During the reporting period |
| HbA1c 2 tests 90 days apart | Lab: HbA1c | Occurred | During the reporting period |
| HbA1c Value | Lab: HbA1c | Last Value | During the reporting period |
| Height (in.) | Vital: Height (in.) | Last Value | During the reporting period |
| LDL | Lab: LDL | Occurred | During the reporting period |
| LDL Value | Lab: LDL | Last Value | During the reporting period |
| Med Management Educat... | Med Management Educa... | Occurred | During or prior to the report |
| Pain Score | Vital: Pain Score | Occurred | During the reporting period |
| Podiatry Visit - Received o... | Podiatry Visit - Received ... | Occurred | During the reporting period |

Favorites Only Patient Level Only
 Commonly Used Only

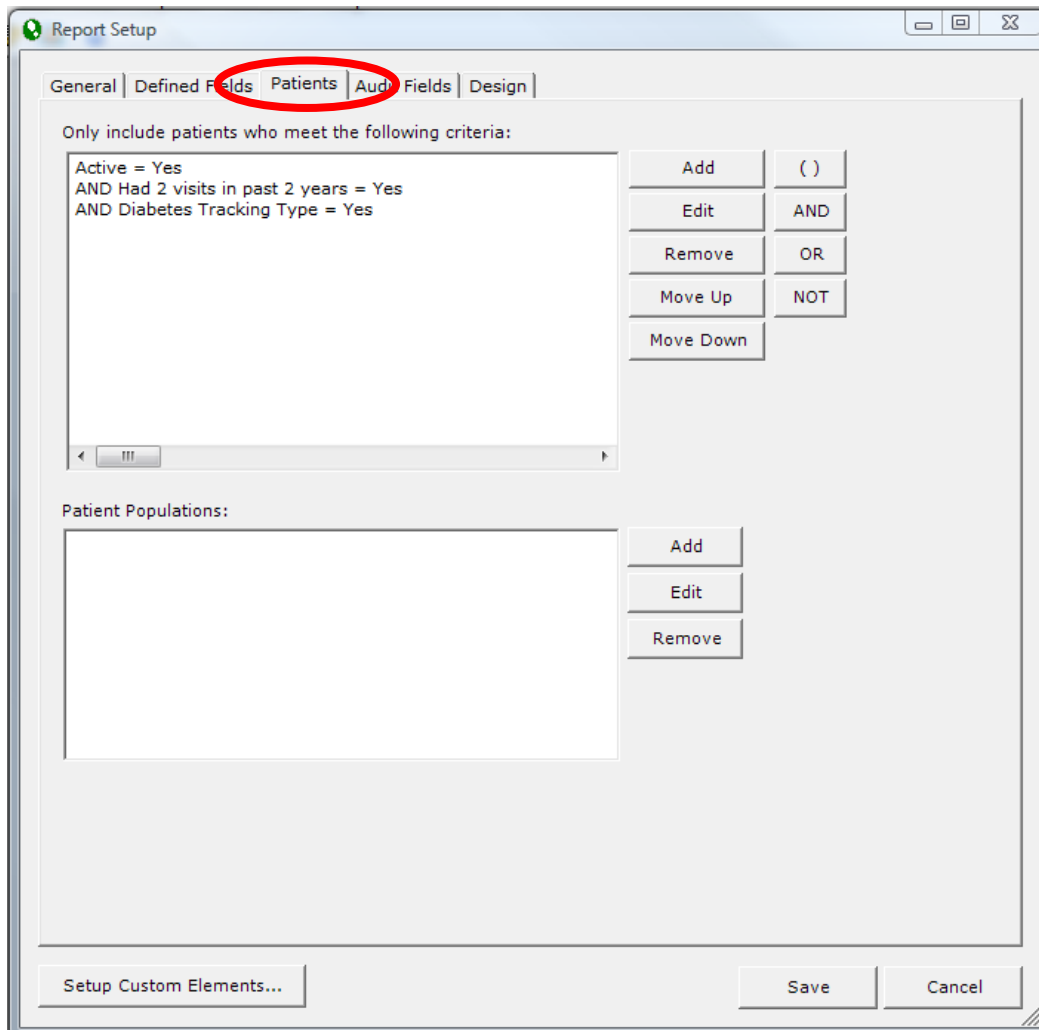
Buttons: Setup Data Elements..., Save, Cancel

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- Continue adding your data elements until you have them all in the Defined Fields window. You can return to this screen at any time to make more data elements available in your report. To check that you have created all the elements you need, you can click on the Defined Fields headings to sort the items.

Patients Tab

Once your data elements are attached to the report, click the **Patients** tab.



The **Patients** tab is used to identify the groups of patients that you want as your denominators in your report. In other words, **WHO** do you want this report to be about? In our example, our main denominator includes all active patients assigned to the Diabetes Tracking Type who have had two visits in the last two years. The top part of your screen defines the **MAIN** denominator for the entire report. To be included in this report all patients must meet the requirements in the top window. The bottom window, Patient Populations, can be used to create sub-populations that can be used throughout the report.

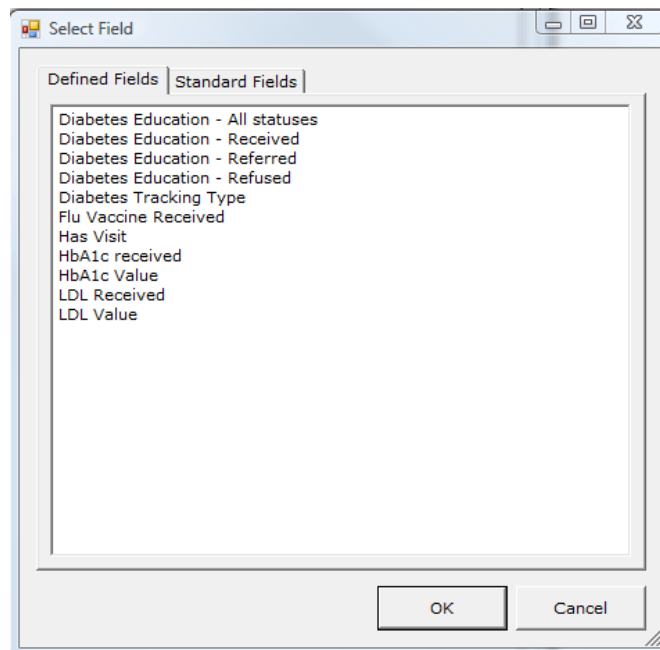
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Complete the options as follows:

- Top window:** “Only include patients who meet the following criteria:” In this area, you will add your selection criteria (‘filters’) for identifying your main denominator (patient group). ALL sections of your report will use this group as the starting point – eliminating all other patients that do not meet all of the main selection criteria. If your report has many different populations and sub-populations, it is best to make the main population all of your active patients, and then create sub-populations for the various groups. If your report is just for one population (i.e. diabetics), you can narrow down your main populations to active patients that are diabetics.



The first filter listed is the default filter - include only patients that have the status of “Active”. To specify additional filters, click **Add**.



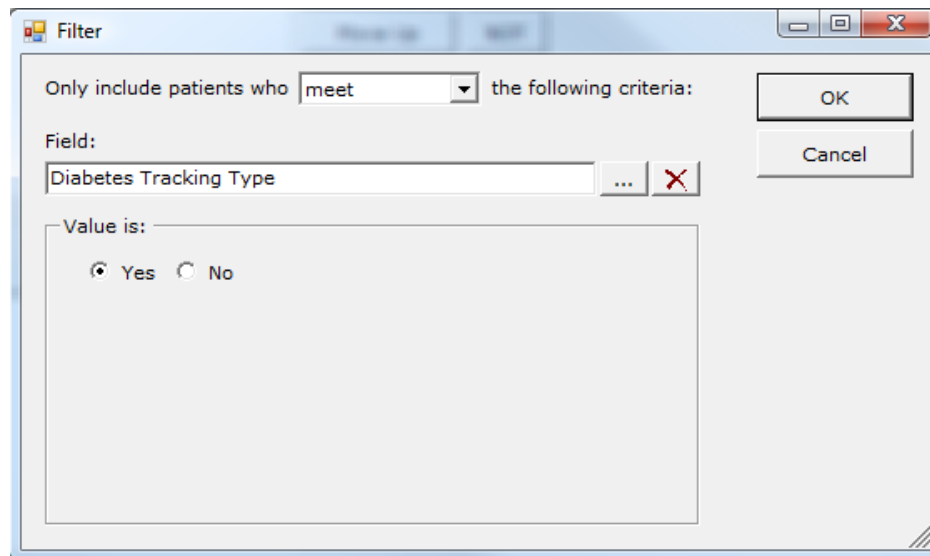
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The filters that are available for you to select are:

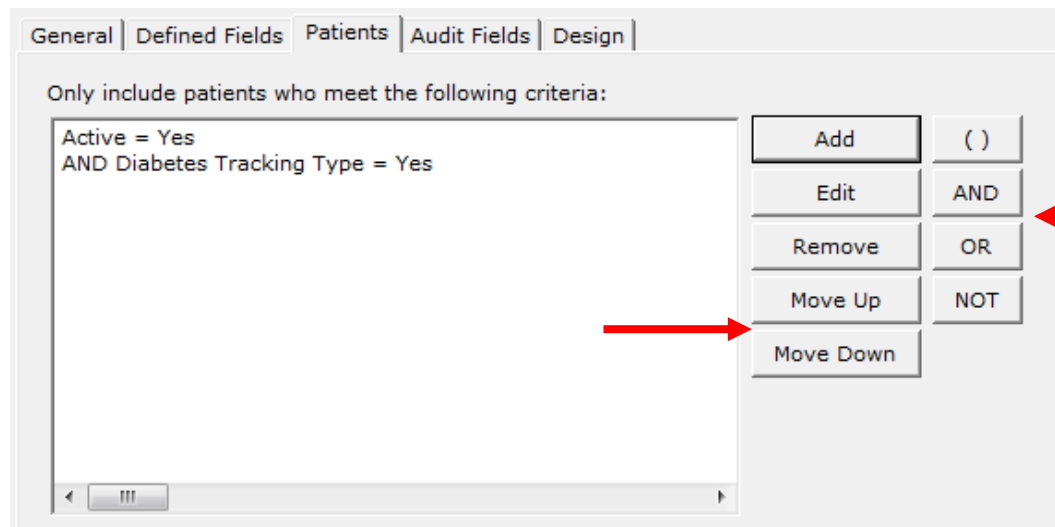
The **Defined Fields**: The list consists of the data elements you selected in the previous tab. If there are fields that you need to filter that are not listed, then you will need to go back the **Defined Fields** tab and add them there.

The **Standard Fields**: The list consists of data elements that you can select in any iPHA report. These include: Active, Age, Can Be Contacted, DOB, Gender.

Select the field you wish to use as a filter, and complete the filter criteria screen. You will notice that depending on what type of field you select, that the filter criteria screen that displays will prompt you to enter different types of information.



Once you add each of your filters, use the control buttons - Move Up, Move Down, (), AND, OR, NOT- to narrow down your population correctly.



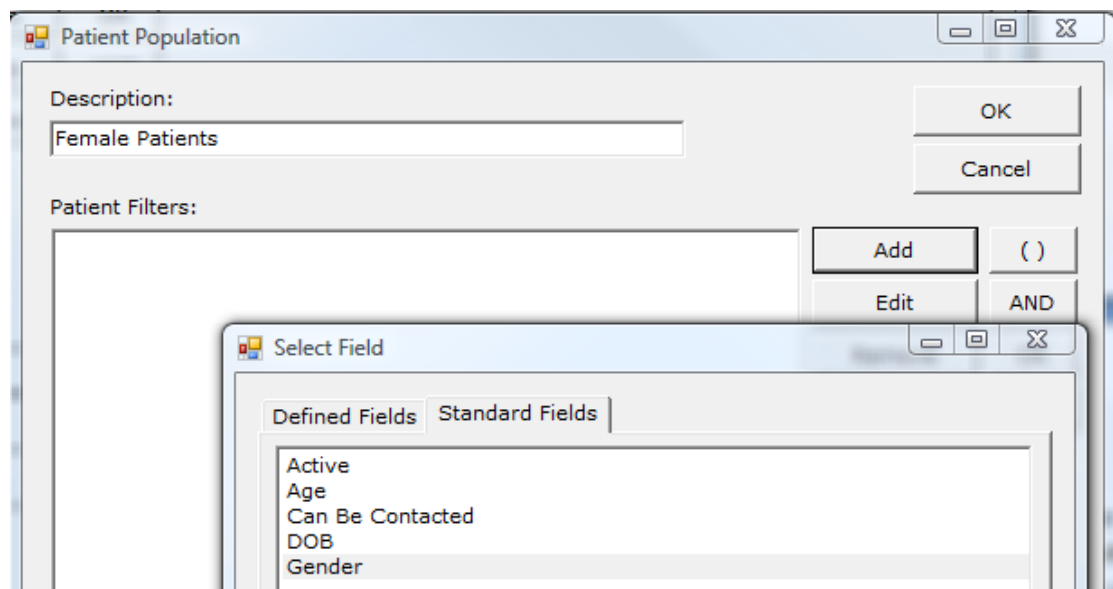
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- Bottom window:** The bottom section of the **Patients** tab is the “Patient Populations” window. In this window you can set up multiple sub-populations to use in your report. For example, you may want one section to just include patients over 50 years old, or another that is only for female patients. If you set the sub-populations in this window, the same group can be used in multiple sections of your report.

Note: You can also set up the sub-populations as you create the design of your report. However, if you choose to configure it in the design, you will have to re-create the same filter for each of the sections. So creating sub-populations in the Patient Populations window saves time.

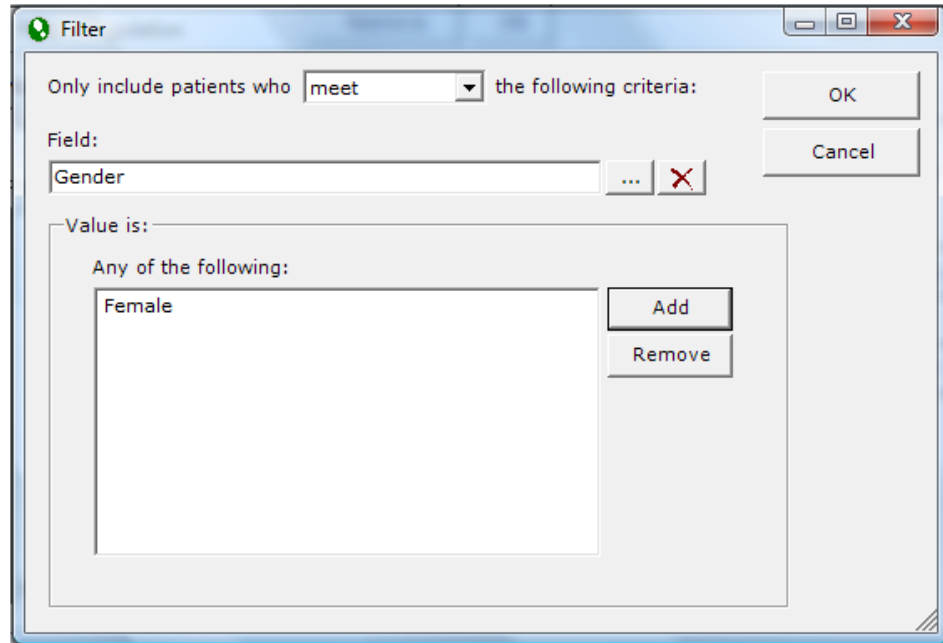
The Patient Populations window has the same control buttons as the top window. To add new sub-populations, click Add. Let’s use the example above and set up a sub-population—for female patients.

Enter a description for the patient population. Click **Add** to select the filters. In our example, we will choose the Standard Field of Gender as our filter.

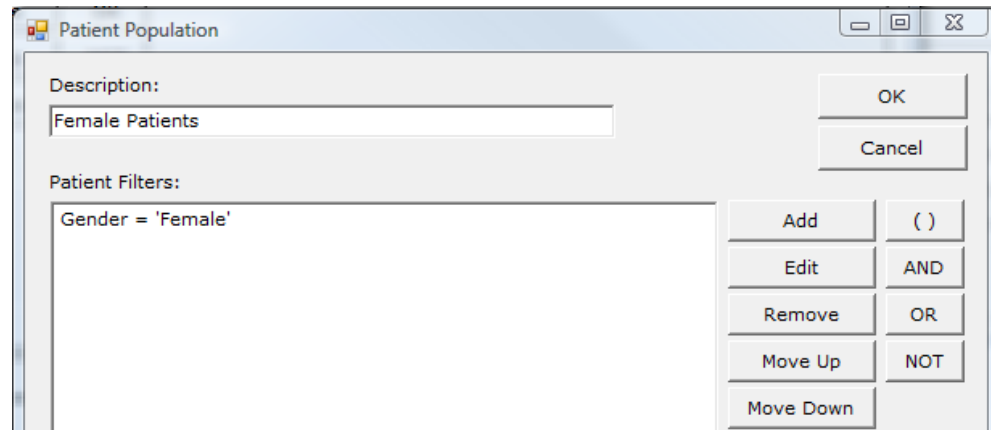


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The **Filter** box displays for you to select the gender for your patient population.



Click **Add**, then select the gender. Click **OK** to save the Gender information. You are returned to the Patient Population window. Double check your filter criteria. Use the control buttons – move up, move down, (), AND, OR, NOT – to narrow down your population correctly.

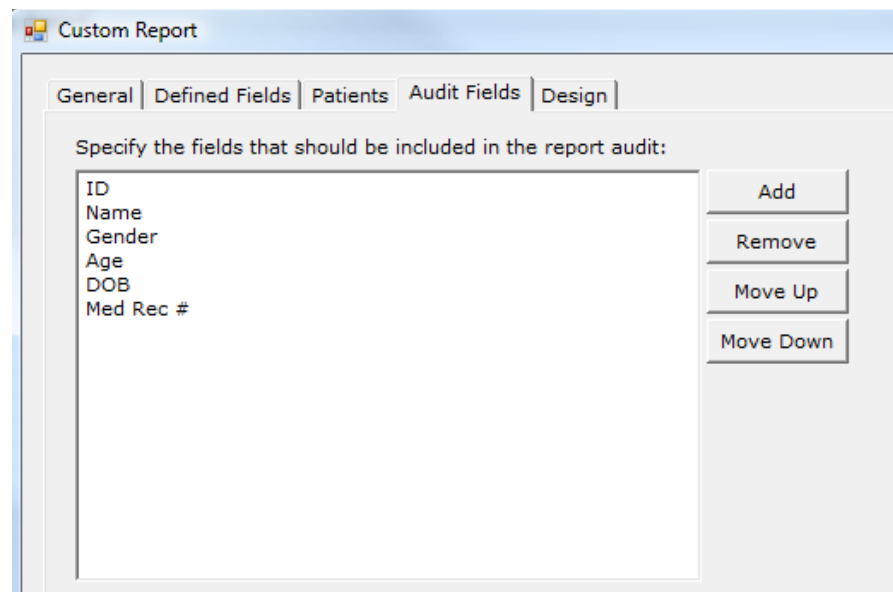


Audit Fields Tab

When you run a Custom Report and need to drill down and see a list of patients that make up the statistic, you can print an audit listing. The audit listing consists of patient information – Name, ID, DOB, Gender, Age, Med Rec #. However, you can define which fields you want to include in your audit list. To choose the default fields you want to show/print each time you are auditing line items in your report, select the **Audit Fields** tab.

For example, if you are auditing a report for your diabetic patients, you may want to see the default fields as well as date of their last visit, their most recent HbA1c value, and their last blood pressure. You can also see a more detailed audit for specific line items, by specifying additional audit fields at the time you are designing the body of the report.

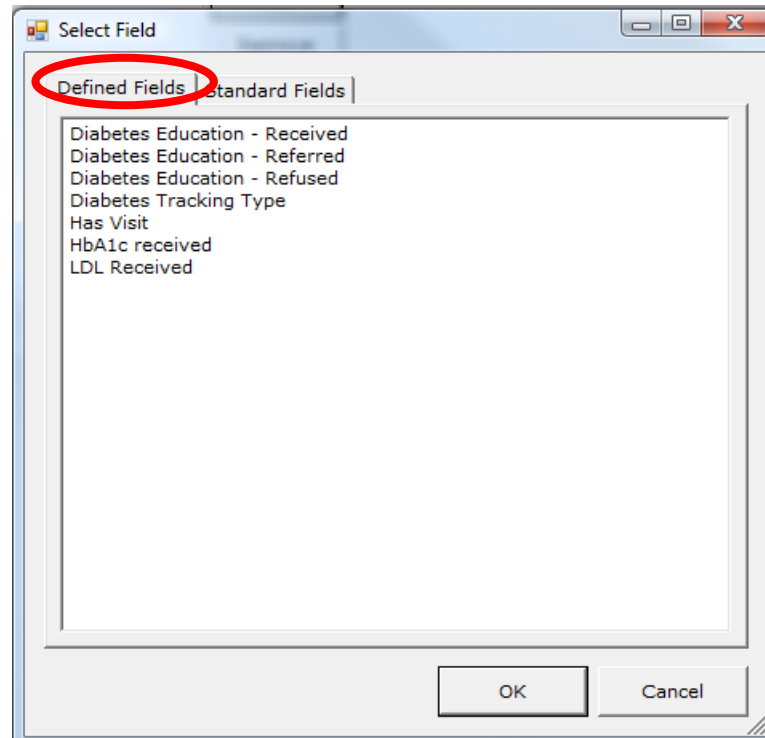
Click the **Audit Fields** tab.



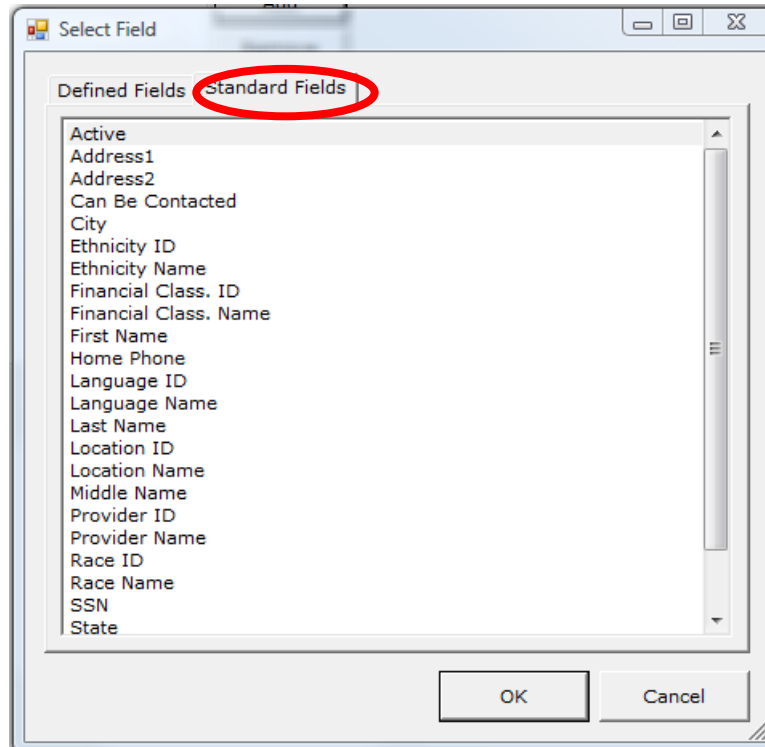
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The default items (Name, ID, DOB, Gender, Age, Med Rec #) will automatically be on the list. You can use the control buttons on the right side of the screen to remove items or arrange them in a different order. To add more audit fields, click **Add**.

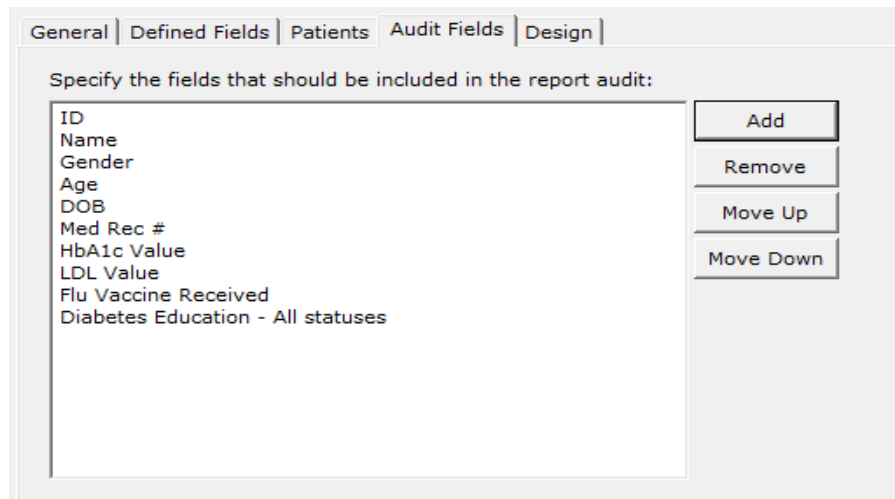
You can choose to include Defined Fields from your report, or choose any of the standard fields as shown below.



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Once you make your selections, the audit fields you chose will display in the listing.



Report Design Tab

Now that you have completed the setup of the first four tabs, you are ready to create the design of your report. Review the following “Report Structure” overview prior to beginning the design portion of the report.

Report Structure

If you have a solid understanding of how a Population Health Analytics (iPHA) report is structured, you will be successful in designing a report that meets your needs. The iPHA report structure is easier to understand when using a printed report as an example.

Report Name

The title of the report is listed at the top of the report. In this example the Report Name is “Report Structure”.

Report Sections

An iPHA report is divided into segments called **Sections**. A report can have numerous sections. Each section heading includes only a text field that describes each segment of the report. In the example of the printed report below there are two sections: Diabetics and Cardiovascular.

| REPORT NAME | | Report Structure | | |
|--|--|------------------|--------|--|
| REPORT SECTION | Item | Value | % | |
| REPORT SECTION | 1. "Report Section" Heading: Diabetics | | | |
| | A. "Area" Heading: Active Patients in Diabetes Tracking | | | |
| | 1. "Item" Heading: Number of diabetic patients with 2 visits in last 2 years | 68 | 8.16% | |
| | a. "Sub-Item" Heading: Most recent HbA1c <8 | 58 | 85.29% | |
| | b. "Sub-Item" Heading: Most recent HbA1c >=8 | 10 | 14.71% | |
| | 2. "Item" Heading: Number of female diabetic patients with 2 visits in the | 39 | 4.68% | |
| | a. "Sub-Item" Heading: Most recent HbA1c <8 | 33 | 84.62% | |
| | b. "Sub-Item" Heading: Most recent HbA1c >=8 | 39 | 100% | |
| REPORT SECTION | 2. "Report Section" Heading: Cardiovascular | | | |
| | A. "Area" Heading: Active patients in CVD Tracking | | | |
| | 1. "Item" Heading: Number of CVD patients with 2 visits in last 2 years | 7 | 100% | |
| | a. "Sub Item" Heading: Have a recorded BMI | 4 | 57.14% | |
| | 1. "Sub-Item" Heading: BMI < 25 | 3 | 75% | |
| | 2. "Sub-Item" Heading: BMI >=25 | 1 | 25% | |
| | B. "Area" Heading: Active Patients in Hypertension Tracking | | | |
| | 1. "Item" Heading: Number of HTN patients with 2 visits in last 2 years | 12 | 92.31% | |
| a. "Sub-Item" Heading: Number of patients with recorded BP | 4 | 33.33% | | |

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Report Areas

Each report Section is divided up into **Areas**. Each area contains the ‘denominator’ for the group of patients that are included in the detail items that display beneath the area name.

In the first area shown in the example, patients will be included in the area denominator if they meet the following “filter” criteria: Patient Status is ACTIVE, and they belong to the Tracking Type of Diabetes. Each section can have numerous areas.

| Item | Value | % |
|--|-------|--------|
| 1. "Report Section" Heading: Diabetics | | |
| A. "Area" Heading: Active Patients in Diabetes Tracking | | |
| 1. "Item" Heading: Number of diabetic patients with 2 visits in last 2 years | 68 | 8.16% |
| a. "Sub-Item" Heading: Most recent HbA1c <8 | 58 | 85.29% |
| b. "Sub-Item" Heading: Most recent HbA1c >=8 | 10 | 14.71% |
| 2. "Item" Heading: Number of female diabetic patients with 2 visits in the | 39 | 4.68% |
| a. "Sub-Item" Heading: Most recent HbA1c <8 | 33 | 84.62% |
| b. "Sub-Item" Heading: Most recent HbA1c >=8 | 39 | 100% |
| 2. "Report Section" Heading: Cardiovascular | | |
| A. "Area" Heading: Active patients in CVD Tracking | | |
| 1. "Item" Heading: Number of CVD patients with 2 visits in last 2 years | 7 | 100% |
| a. "Sub-Item" Heading: Have a recorded BMI | 4 | 57.14% |
| 1. "Sub-Item" Heading: BMI < 25 | 3 | 75% |
| 2. "Sub-Item" Heading: BMI >=25 | 1 | 25% |
| B. "Area" Heading: Active Patients in Hypertension Tracking | | |
| 1. "Item" Heading: Number of HTN patients with 2 visits in last 2 years | 12 | 92.31% |
| a. "Sub-Item" Heading: Number of patients with recorded BP | 4 | 33.33% |

The area defines the denominator for the percentage calculation for the *items* that follow. So, in the example above the denominator used for the percentage of diabetic patients with 2 visits in last 2 years, and number of female diabetic patients is “Active Patients in Diabetes Tracking.”

The AREA defines the denominator for the percentage calculation for the items that follow.

| Item | Value | % |
|--|-------|--------|
| 1. "Report Section" Heading: Diabetics | | |
| A. "Area" Heading: Active Patients in Diabetes Tracking | | |
| 1. "Item" Heading: Number of diabetic patients with 2 visits in last 2 years | 68 | 8.16% |
| a. "Sub-Item" Heading: Most recent HbA1c <8 | 58 | 85.29% |
| b. "Sub-Item" Heading: Most recent HbA1c >=8 | 10 | 14.71% |
| 2. "Item" Heading: Number of female diabetic patients with 2 visits in the | 39 | 4.68% |

Report Items

Report **Items** include the details and statistics you want to include about for each area (the value and percentage data). Patients that are included in the item must first meet the data requirements (“filters”) for the area, as well as any additional filters applied to that specific item.

Patients that are included in a line item are:

- Patients who meet the data filters for the area **AND**
- Patients who meet the data filters for the line item

For example, the first area (Active Patients in Diabetes Tracking) shown above includes the following filters: Patient Status is ACTIVE, and Tracking Type is DIABETES. The first item (Number of diabetic patients with 2 visits in the last 2 years) includes the following filters: Had 2 visits in last 2 years. So, patients included in this line item meet all of the area AND item filter criteria – active, have diabetes tracking, AND have 2 visits in the last 2 years. This is the “numerator” when calculating the percentage for the line item. Each area can have numerous items.

For the Item’s percentage calculation:
The **AREA** defines the denominator
The **ITEM** defines the numerator

| Item | | | |
|---|--|----|--------|
| 1. "Report Section" Heading: Diabetics | | | |
| A. "Area" Heading: Active Patients in Diabetes Tracking | | | |
| REPORT ITEMS | 1. "Item" Heading: Number of diabetic patients with 2 visits in last 2 years | 68 | 8.16% |
| | a. "Sub-Item" Heading: Most recent HbA1c <8 | 58 | 85.29% |
| | b. "Sub-Item" Heading: Most recent HbA1c >=8 | 10 | 14.71% |
| | 2. "Item" Heading: Number of female diabetic patients with 2 visits in the | 39 | 4.68% |
| | a. "Sub-Item" Heading: Most recent HbA1c <8 | 33 | 84.62% |
| | b. "Sub-Item" Heading: Most recent HbA1c >=8 | 39 | 100% |
| 2. "Report Section" Heading: Cardiovascular | | | |
| A. "Area" Heading: Active patients in CVD Tracking | | | |
| | 1. "Item" Heading: Number of CVD patients with 2 visits in last 2 years | 7 | 100% |
| | a. "Sub Item" Heading: Have a recorded BMI | 4 | 57.14% |
| | 1. "Sub-Item" Heading: BMI < 25 | 3 | 75% |
| | 2. "Sub-Item" Heading: BMI >=25 | 1 | 25% |
| B. "Area" Heading: Active Patients in Hypertension Tracking | | | |
| | 1. "Item" Heading: Number of HTN patients with 2 visits in last 2 years | 12 | 92.31% |
| | a. "Sub-Item" Heading: Number of patients with recorded BP | 4 | 33.33% |

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Item Types

For each item you will choose between the following item value types:

- **Count Item:** A Count item is the total number of patients that meet all filter requirements. (How many patients had an HbA1c test, How many patient have an HbA1c value <8).
- **Multi-Item:** A Multi-item is the number of patients broken down by any of the following:
 - Gender
 - Language
 - Race
 - Ethnicity
 - Financial Classification
 - Age Ranges
 - Other types of values (ie break down of HbA1c value by specified ranges)
- **Value Item:** A Value Item is the average of a value, or the minimum or the maximum value, or the sum.
- **Text Item:** A Text Item is a line of written text only. No value will print in the value column.

Report Sub-Items

Report **Sub-Items** provide detailed information about the patients from the preceding ITEM.

Patients that are included in a sub-item are:

- *Patients who meet the data filters for the area **AND***
- *Patients who meet the data filters for the ITEM **AND***
- *Patients who meet any new data filters for the sub-item*

For example, the first area shown above includes the following filters: Patient Status is ACTIVE, and Tracking Type is DIABETES. This item filters are: Had 2 visits in last 2 years. The sub-item filter is HbA1c Value (most recent) is <8. So, patients included in this line meet all of the filter criteria – active, have diabetes tracking, meet the visit criteria, **AND** their most recent HbA1c value is less than 8. You can have numerous sub-items.

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For the Sub-Item's percentage calculation:
The **ITEM** defines the denominator
The **SUB- ITEM** defines the numerator

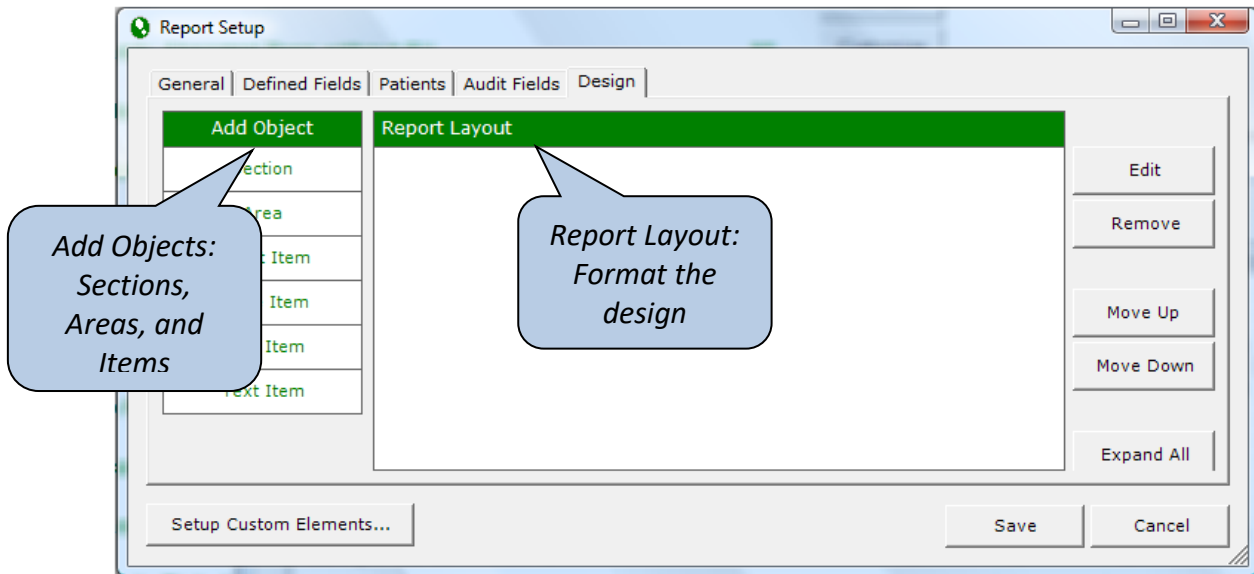
| Item | | |
|--|----|--------|
| 1. "Report Section" Heading: Diabetics | | |
| A. "Area" Heading: Active Patients in Diabetes Tracking | | |
| 1. "Item" Heading: Number of diabetic patients with 2 visits in last 2 years | 68 | 85.29% |
| REPORT SUB-ITEMS → "Sub-Item" Heading: Most recent HbA1c <8 | | |
| | 58 | 85.29% |
| REPORT SUB-ITEMS → "Sub-Item" Heading: Most recent HbA1c >=8 | | |
| | 10 | 14.71% |
| 2. "Item" Heading: Number of female diabetic patients with 2 visits in the | 39 | 4.68% |
| REPORT SUB-ITEMS → "Sub-Item" Heading: Most recent HbA1c <8 | | |
| | 33 | 84.62% |
| REPORT SUB-ITEMS → "Sub-Item" Heading: Most recent HbA1c >=8 | | |
| | 39 | 100% |
| 2. "Report Section" Heading: Cardiovascular | | |
| A. "Area" Heading: Active patients in CVD Tracking | | |
| 1. "Item" Heading: Number of CVD patients with 2 visits in last 2 years | 7 | 100% |
| REPORT SUB-ITEMS → "Sub Item" Heading: Have a recorded BMI | | |
| | 4 | 57.14% |
| 1. "Sub-Item" Heading: BMI < 25 | | |
| | 3 | 75% |
| 2. "Sub-Item" Heading: BMI >=25 | | |
| | 1 | 25% |
| B. "Area" Heading: Active Patients in Hypertension Tracking | | |
| 1. "Item" Heading: Number of HTN patients with 2 visits in last 2 years | 12 | 92.31% |
| REPORT SUB-ITEMS → "Sub-Item" Heading: Number of patients with recorded BP | | |
| | 4 | 33.33% |

You can even have sub-items under sub-items as shown below:

| | | |
|---|---|--------|
| 2. "Report Section" Heading: Cardiovascular | | |
| A. "Area" Heading: Active patients in CVD Tracking | | |
| 1. "Item" Heading: Number of CVD patients with 2 visits in last 2 years | 7 | 100% |
| a. "Sub Item" Heading: Have a recorded BMI | | |
| | 4 | 57.14% |
| 1. "Sub-Item" Heading: BMI < 25 | | |
| | 3 | 75% |
| 2. "Sub-Item" Heading: BMI >=25 | | |
| | 1 | 25% |

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Now that you have reviewed the parts of a printed report, you can continue with the design of your report. Click the **Design** tab. This is the screen where you format the layout of the report – how you want the report to look and all of the statistics you want to include.



The **Design** screen has two parts: the **Add Object** menu bar and the **Report Layout** window. The **Add Object** menu allows you to drag sections, areas, and items into your report. The Report Layout is where you will design how your report will look.

When creating a new report, make sure you refer back to the Report Structure section of the documentation and your report template form.

Remember the report layout will be broken into:

- Sections (The main heading or title for the section)

- Areas (Holds the denominator for the section)

- Items & Sub Items (The information and statistics you want for the area)

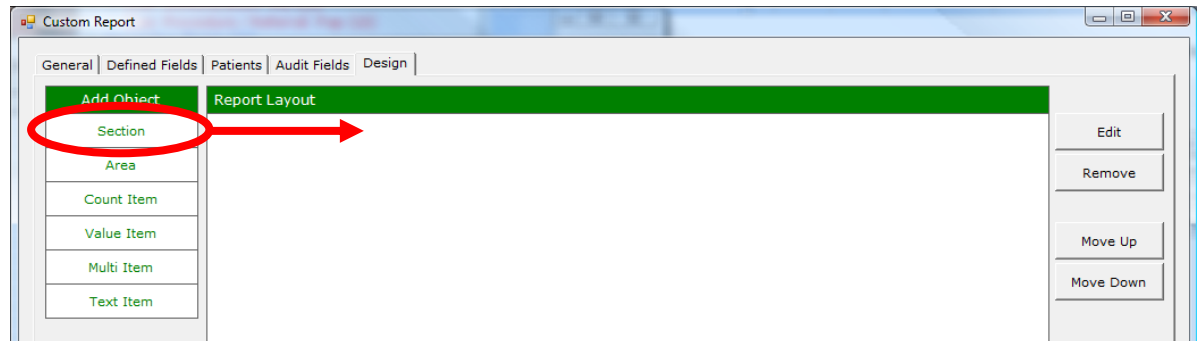
Let's use the first section of our report template form as a learning exercise.

| | | | |
|--------------------------------|--|--|--------------|
| Section | Active Diabetic Statistics | | |
| Area #1 (Denominator) | Active AND assigned to Diabetes Tracking Type AND had at least one visit in the last one year | | |
| Item #1 (Numerator) | Patients who had an HbA1c test in the past one year | | <i>Count</i> |
| Sub Item #1 (Numerator) | <i>HbA1c value <7</i> | | <i>Count</i> |
| Sub Item #2 (Numerator) | <i>HbA1c value <=7 - >=9</i> | | <i>Count</i> |
| Sub Item #3 (Numerator) | <i>HbA1c value >9</i> | | <i>Count</i> |
| Sub Item #4 (Numerator) | <i>No HbA1c value in the past 1 year</i> | | <i>Count</i> |
| Sub Item #5 (Numerator) | <i>Average HbA1c value</i> | | <i>Value</i> |

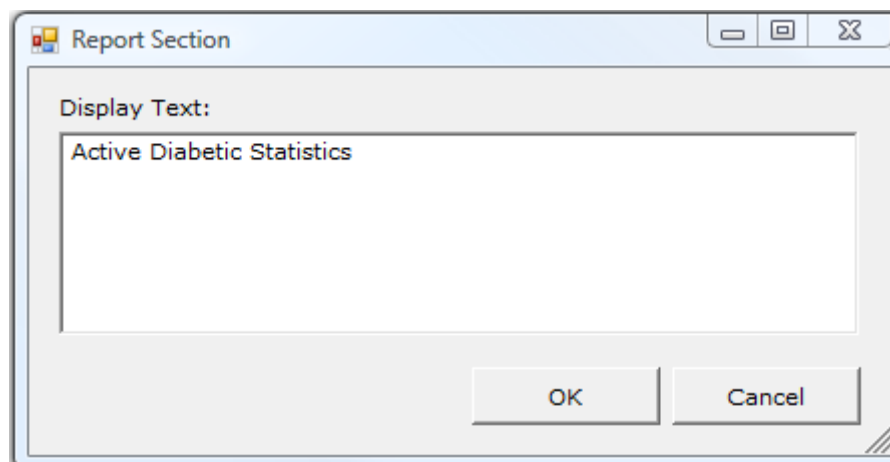
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Design: Report Sections

To add a SECTION, click the **Section** button and while holding your mouse button down, drag it into the **Report Layout** window.



The **Report Section** screen will come up for you to type in the description for the section.

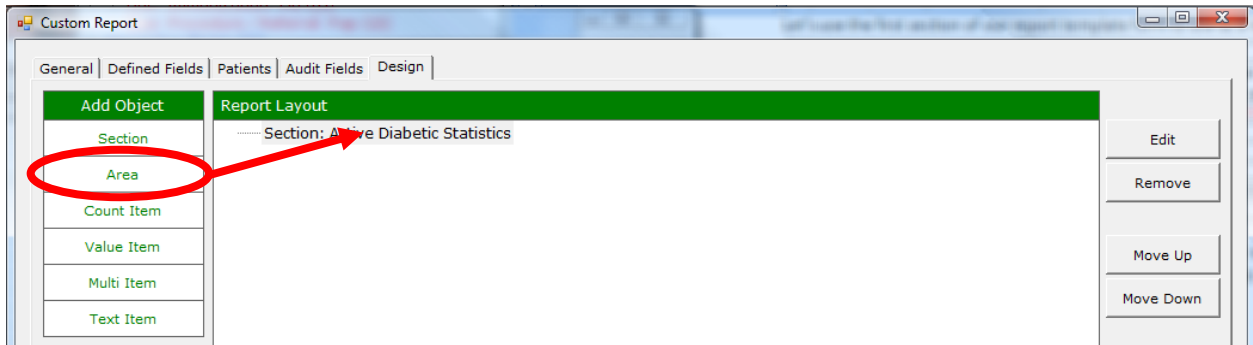


Once you enter the text for the section, click **OK** to save the section heading.

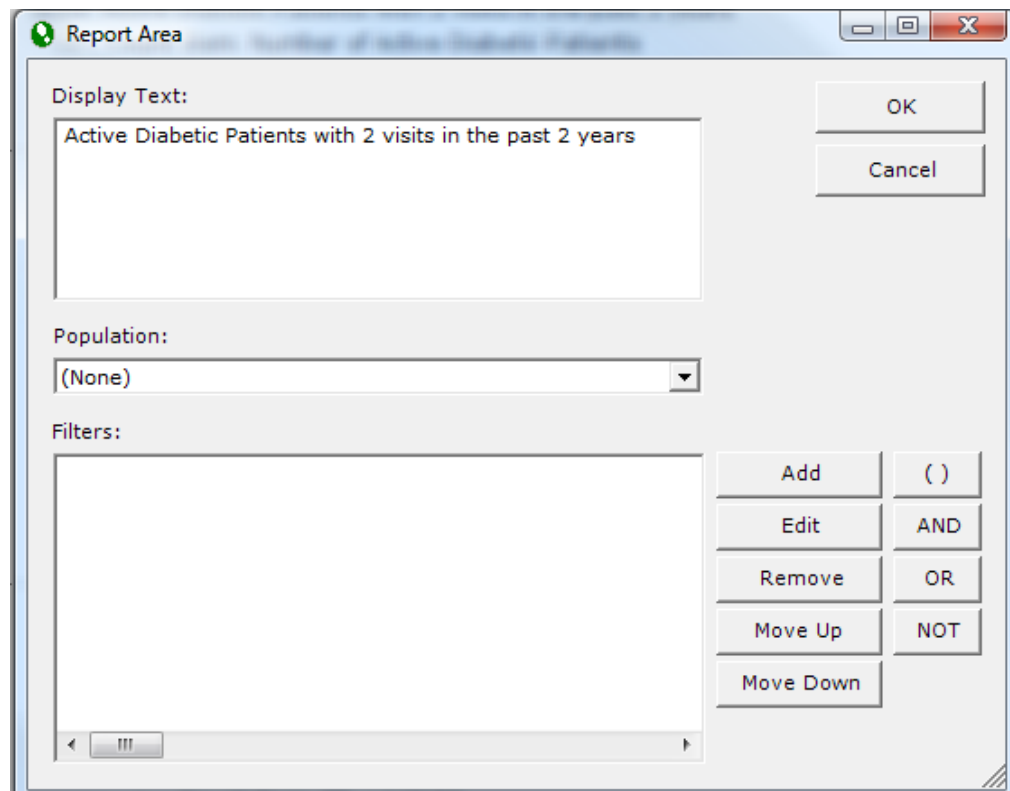
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Design: Report Areas

The next step is to add your report AREA. The AREA is the denominator for all of the items that fall beneath. Click the **Area** button and while holding your mouse button down, drag it into the **Report Layout** window to the title of the section where you want the area to go. This will create an AREA beneath the Active Diabetic Statistics SECTION.



The **Report Area** screen appears for you to enter your criteria for the AREA.



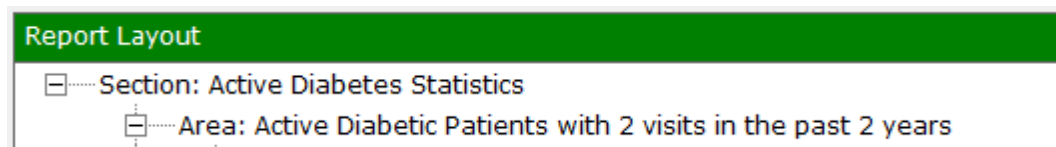
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Complete the fields as follows:

Display Text: Enter the description for the area title. This is an optional field. If you do decide to label the area, it is good to be detailed in your description.

Population: If you want to include the global report population (as defined in the top window in the **Patients** tab), select None. If you want to further narrow down the report population, select the 'population' for the area from the drop-down list. The 'populations' are defined in the bottom window in the **Patients** tab).

Filters: You can further narrow down your patient population by selecting additional filters in this window. Or, if you did not set up the 'population' in the **Patients** tab, you can use the filters to create the whole area population. Use the control buttons – move up, move down, (), AND, OR, NOT – to narrow down your population correctly.



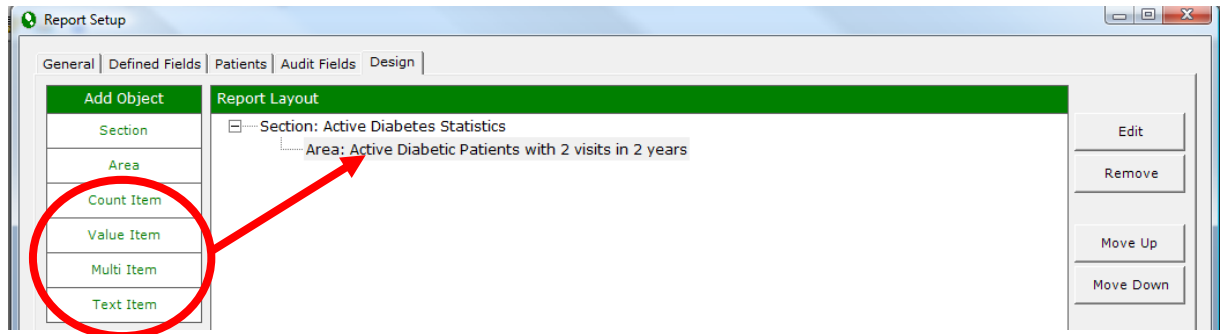
Design: Report Items

The next step is to create your report ITEMS. There are four types of Report Items: Count Items, Value Items, Multi-Items, and Text Items.

- **Count:** A Count item is the total number of patients that meet all filter requirements (How many patients had an HbA1c test, How many patient have an HbA1c value <8).
- **Multi-Item:** A Multi-item is the number of patients broken down by any of the following:
 - Gender
 - Language
 - Race
 - Ethnicity
 - Financial Classification
 - Other value types (i.e. age ranges)
- **Value Item:** A Value Item is the average of a value, or the minimum or the maximum value.
- **Text Item:** A Text Item is a line of written text only. Sometimes a Text item is just used to explain an item. Nothing will print in the value column for a text item.

To add an ITEM, click the type of item (Count, Value, Text, Multi) and while holding your mouse button down, drag it into the **Report Layout** window to the AREA title to create an item under the area, or when creating sub items, drag it to the ITEM title. If you misplace an item, click on the item and drag it to the desired location.

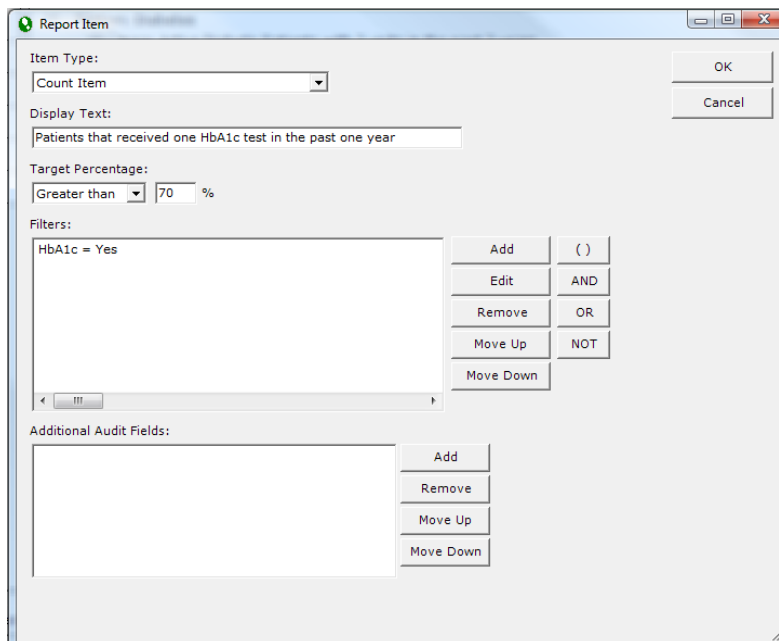
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The **Report Item** screen will appear for you to enter the criteria for the item. The fields that appear on this screen will vary depending on the type of item that you select.

Depending on your choice of the type of item you selected, you will have different fields to complete.

Count Items



- **Display Text:** Enter a description for the item. Be specific so you know exactly what patients are included in the item.
- **Target Percentage:** If you are interested in showing your goal or target for this item, enter the percentage in this field. The target percentage will display in your report. For a visual indicator to see if you reached your target, the report will display a green check if your target is met or a red arrow if your target has not been met as shown below.

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| | | | | |
|---|-------|-----|--------|---|
| B. Labs | | | | |
| 1. Patients that received one HbA1c test in the past one year | > 65% | 203 | 67.22% | ✓ |
| a. HbA1c <7 | > 50% | 96 | 47.29% | ↓ |
| b. HbA1c between 7-9 | | 61 | 30.05% | |
| c. HbA1c >9 | < 20% | 46 | 22.66% | ↑ |

*Note: If using targets, make sure to check the **Show Target Column** box on the **General** tab for the report.*

- Filters:** Add your selection criteria ('filters') for identifying the patients that will be included in the count item. Use the control buttons – move up, move down, (), AND, OR, NOT – to narrow down your population correctly. "Provider" and "Location" allow you to filter based on the user's default provider and primary location (for example, pap tests broken down by provider or flu shots broken down by location). Since these fields refer to internal libraries, report items that include them are not included when a report is exported.
- Additional Audit Fields:** In this window, you can select additional audit fields that will be printed only for audits of this specific line item.

Value Items

- Display Text:** Enter a description for the item. Be specific so you know exactly what patients are included in the item.
- Function:** Select Average, Maximum Value, Minimum Value, or Sum.

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- **Field:** Select the Data Element that you want to use for the average, maximum, minimum, or sum.
- **Filters:** Add your selection criteria ('filters') for identifying the patients that will be included in the value item. Use the control buttons – move up, move down, (), AND, OR, NOT – to narrow down your population correctly. Note: The filters box in this screen is used only if you want to select ADDITIONAL criteria to limit the value item further. In the example above, the filter of the HbA1c value has already been selected, and there is no additional selection criteria needed.
 "Provider" and "Location" allow you to filter based on the user's default provider and primary location. Since these fields refer to internal libraries, report items that include them are not included when a report is exported.
- **Additional Audit Fields:** In this window, you can select additional audit fields that will be printed only for audits of this specific line item.

The screenshot shows a 'Report Item' configuration window. At the top, 'Item Type' is set to 'Multi-Item'. Below this, the 'Breakdown By:' section has two radio buttons: 'Library' (unselected) and 'Custom' (selected). The 'Custom' section contains a list of three items: 'HbA1c <7', 'HbA1c 7-9', and 'HbA1c >9'. To the right of this list are buttons for 'Add', 'Edit', 'Remove', 'Move Up', and 'Move Down'. Below the 'Breakdown By:' section is the 'Additional Audit Fields:' section, which is currently empty and has its own set of 'Add', 'Remove', 'Move Up', and 'Move Down' buttons. 'OK' and 'Cancel' buttons are located in the top right corner.

Multi Items

- **Breakdown by:**
 - **Library:** Choose to breakdown the item by Ethnicity, Financial Classification, Gender, Language, or Race.

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- **Custom:** Choose to breakdown the item by a customized data element that has a value (like an HbA1c result value). Click Add to add the value breakdown.

Custom: HbA1c <7
HbA1c 7-9
HbA1c >9

Add
Edit
Remove
Move Up
Move Down

- **Additional Audit Fields:** In this window, you can select additional audit fields that will be printed only for audits of this specific line item.

Text Items

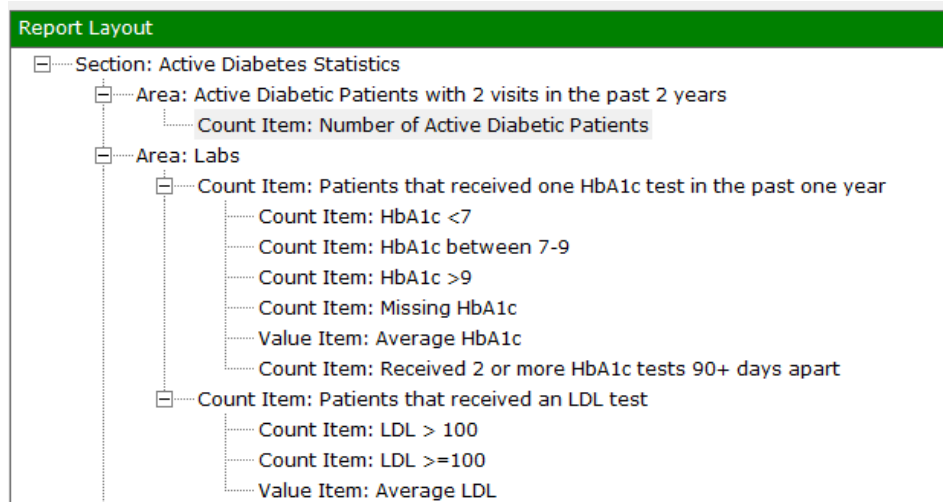
Report Item

Item Type:
Text Item

Display Text:

OK
Cancel

- **Display Text:** Enter the text you would like to display for the item. A text item contains only text – no filters or additional audit fields apply.

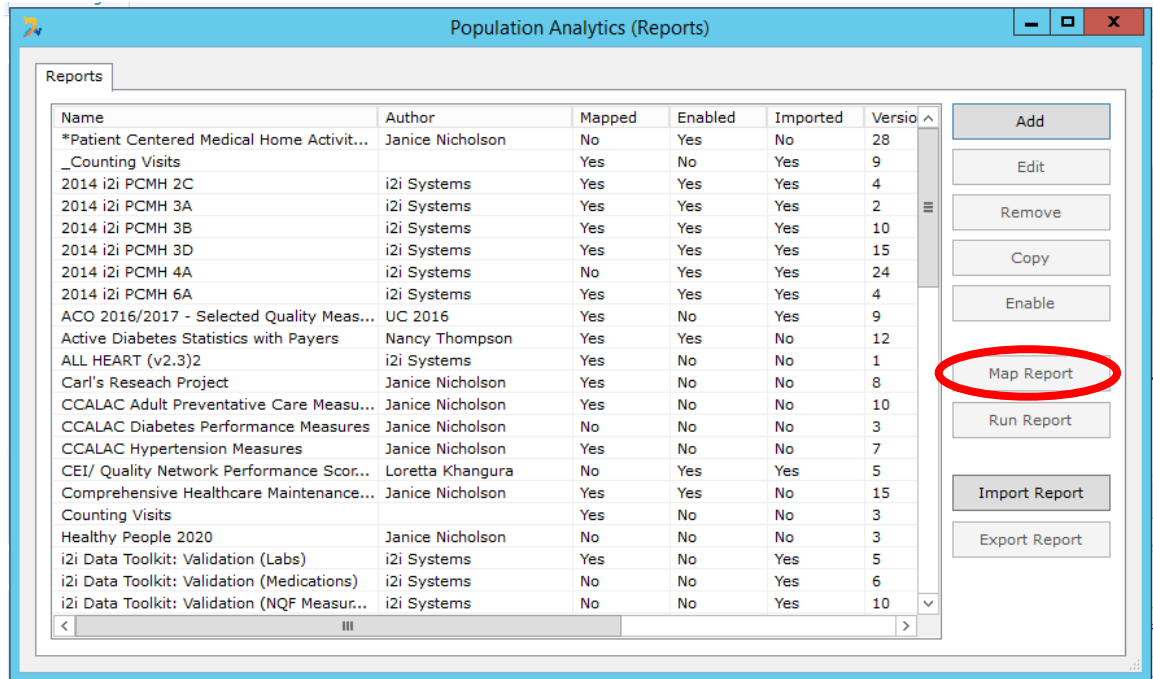


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Running & Printing a Custom Report

To print an iPHA Custom Report, follow these steps:

1. From the **Population Analytics (Reports)** window, highlight the report you want to print. Click the **Run Report** button.



2. The **Report Criteria** screen will display. Complete the fields as follows:

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- Enter the date range for the report in the date range fields.
- Click **Show multiple periods** and enter your number of months if you want to create a comparison/trend report for each of the time periods selected. For example, you may want to have the report show comparison columns of 12 months each (to track and compare your progress from year to year) or quarterly reports for the year. Your report will display four columns of data.
- Select **Only include these locations** if you want to generate a report based on a specified location. Leave these fields blank to include all locations. Select **Show as separate** to indicate if you want to see one location on the page or multiple locations in separate columns on the same page (side by side).
- Select **Only include these providers** if you want to generate a report based on a specified provider. Leave these fields blank to include all providers. Select **Show as separate** to indicate if you want to see one provider on the page or multiple providers in separate columns on the same page (side by side).
- Select **Only include these financial classifications** if you want to generate a report based on a specified financial classification. Leave these fields blank to include all financial classifications. Select **Show as separate** to indicate if

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you want to see one financial class on the page or multiple financial classes in separate columns on the same page (side by side).

- Select **Only include these Migrant Statuses** if you want to generate a report based on a specific migrant status. Leave these fields blank to include all migrant statuses. Select **Show as Separate** to indicate if you want to see one migrant status on the page or multiple migrant statuses in separate columns on the same page (side by side).
- Select **Only include these Homeless Statuses** if you want to generate a report based on a specific homeless status. Leave these fields blank to include all homeless statuses. Select **Show as Separate** to indicate if you want to see one homeless status on the page or multiple homeless statuses in separate columns on the same page (side by side).

3. Once your printing criteria fields are completed, click **OK** to generate your report.



| Item | Value | % |
|--|--------|--------|
| 1. Active Diabetic Statistics | | |
| A. Active Patients Assigned to Diabetes Tracking Type who had at least one visit | | |
| 1. Patients that had one HbA1c in the past one year | 30 | 1.53% |
| a. Patients with HbA1c >7 | 12 | 40% |
| b. Patients with HbA1c between 7-9 | 13 | 43.33% |
| c. Patients with HbA1c >9 | 5 | 16.67% |
| d. Patients with missing HbA1c | 0 | 0% |
| e. Average HbA1c | 7.73 | |
| 2. Patients that received a flu vaccine | 6 | 0.31% |
| 3. Patients that had one LDL in the past one year | 43 | 2.19% |
| a. Patients with LDL >100 | 14 | 32.56% |
| b. Patients with LDL >= 100 | 29 | 67.44% |
| c. Patients with no LDL | 0 | 0% |
| d. Average LDL | 121.16 | |
| 4. Patients that Received, Referred, or Refused Education | 2 | 0.1% |
| a. Patients that received education | 2 | 100% |
| b. Patients referred for education | 0 | 0% |
| c. Patients that refused education | 0 | 0% |

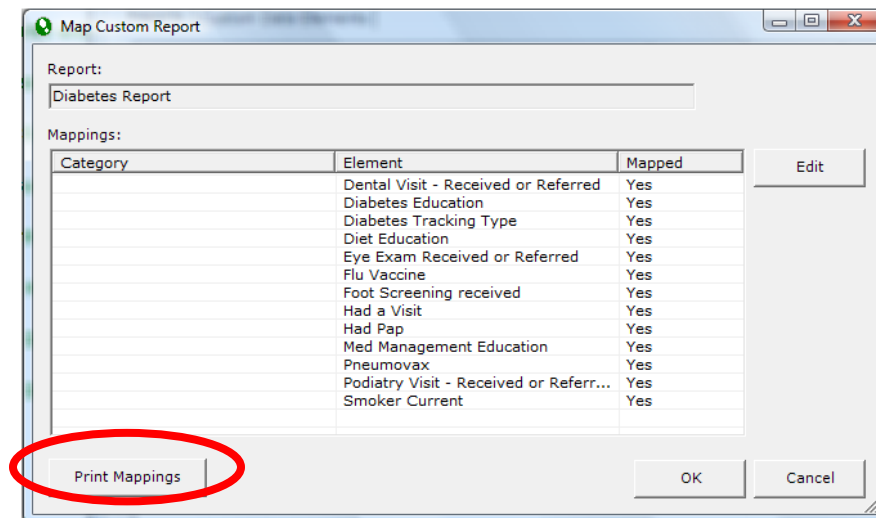
2. To print your report to a printer, click the printer icon. To save the report to Excel, HTML, or Text file, click the Save icon.
3. To drill-down for an audit listing of the line item, double-click the value. An audit listing will be generated.

i2iTracks Population Health Analytics: Custom Reports & Dashboards

Patients that had one HbA1c in the past one year

| ID | Name | Gender |
|------|--------------------|--------|
| 1004 | Larios, Imelda | F |
| 1005 | Newton, Jose | M |
| 1008 | Kendall, Isabel | F |
| 1009 | Juarez, Itzel | F |
| 1014 | Gonzalez, Judith | F |
| 1015 | Gonzalez, Judy | F |
| 1019 | Gomez, Karina | F |
| 1027 | De La Cruz, Lucila | F |
| 1047 | Garcia, Jose | M |
| 1050 | Estrada, Isaias | M |
| 1054 | Acosta, Marlen | F |
| 1059 | Deroux, Gurdev | M |
| 1075 | Alcantar, Nohemi | F |
| 1088 | Calderon, Pedro | M |
| 2736 | Wallace, Anabel | F |

- To print your audit report to a printer, click the printer  icon. To save the report to Excel, HTML, or Text file, click the Save  icon.
- To print the Custom Data Element Mappings used in your report, from the **Population Analytics (Reports)** window, highlight your report. Click the **Map Report** button.
- Click the **Print Mappings** button.



Enabling a Custom Report

After you are completely finished designing the report and you have validated that the report is accurate, you can make the report available to other users.

To enable a Custom Report so other users will see the report in their **Select a Report** menu when printing reports, do one of the following:

- From the **Population Analytics (Reports)** window, highlight the report you want to activate and click **Enable**.
- From the **Report Setup** window **General** tab, check the Enabled for General Use checkbox.

Report Setup (Read Only)

General | Defined Fields | Patients | Audit Fields | Design

Enabled for General Use

Name:
Diabetes Report

Title:

Description:

Author:
Nancy Thompson

Details:

| | |
|--------------|----------------------|
| Version: | 44 |
| Created On: | 1/1/1900 |
| Created By: | |
| Modified On: | 9/22/2010 9:38:49 AM |
| Modified By: | i2iadmin |
| Imported: | Yes |
| Imported On: | 9/29/2010 8:44:30 AM |
| Imported By: | i2iadmin |
| | |
| | |

Setup Custom Elements... Save Cancel

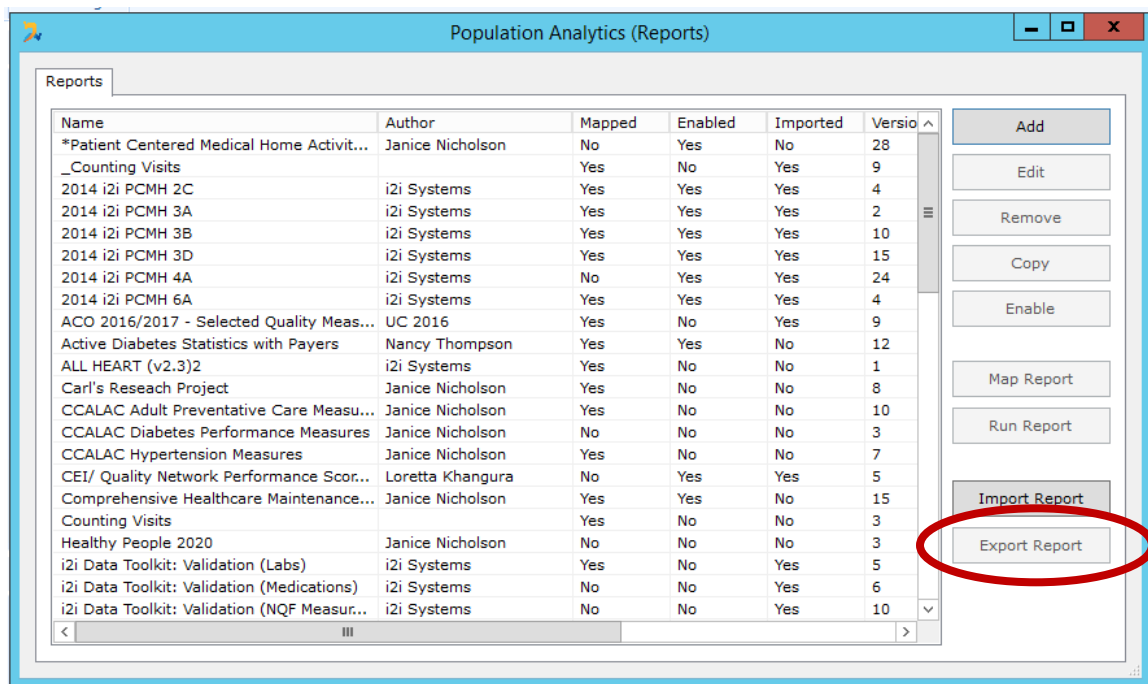
i2iTracks Population Health Analytics: Custom Reports & Dashboards

Exporting Reports

If you are creating a report that will be exported to other i2iTracks customers, you will not need to do any ‘mapping’ of the custom data elements. The ‘mapping’ can take place by the user who is importing the report. Clear “Mapping Notes” on every data element will help when the mapping process takes place.

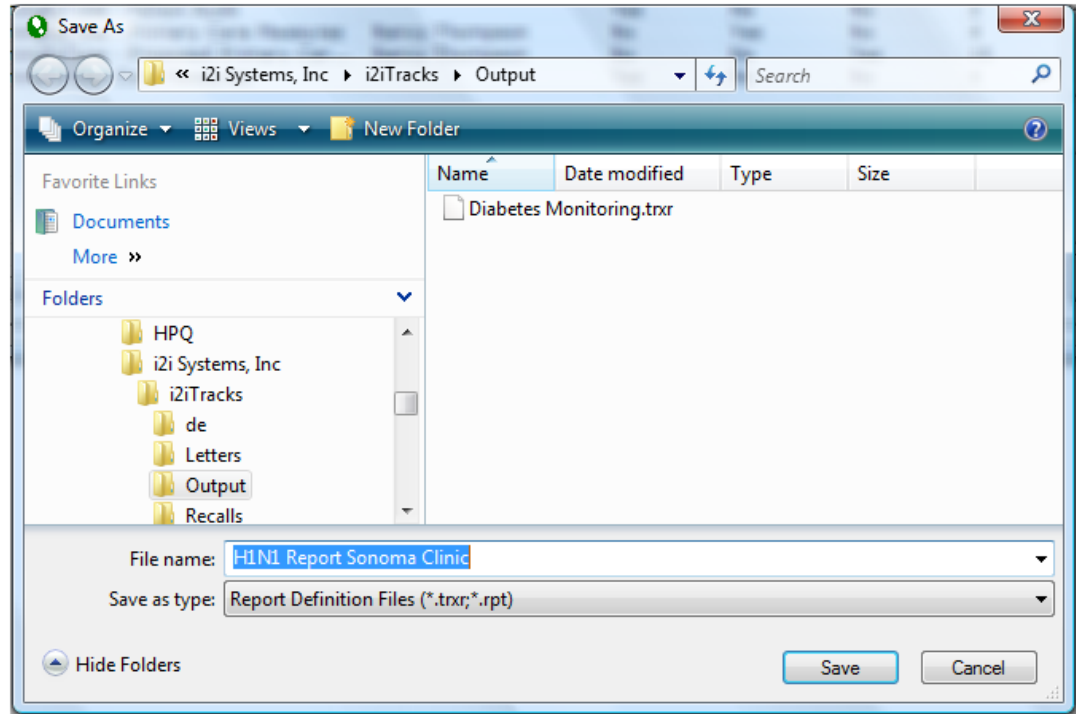
To export a report:

1. Select **Setup > Printing and Reporting > Population Analytics > Reports**.
2. On the **Reports** tab, select the report you want to export.

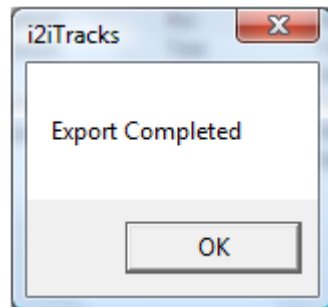


3. Click the **Export Report** button.
4. Navigate to the folder you want to save the report file in (if desired) and enter the name for your report file. Click the **Save** button.

i2iTracks Population Health Analytics: Custom Reports & Dashboards



5. Select **OK** when prompted.



Importing Reports

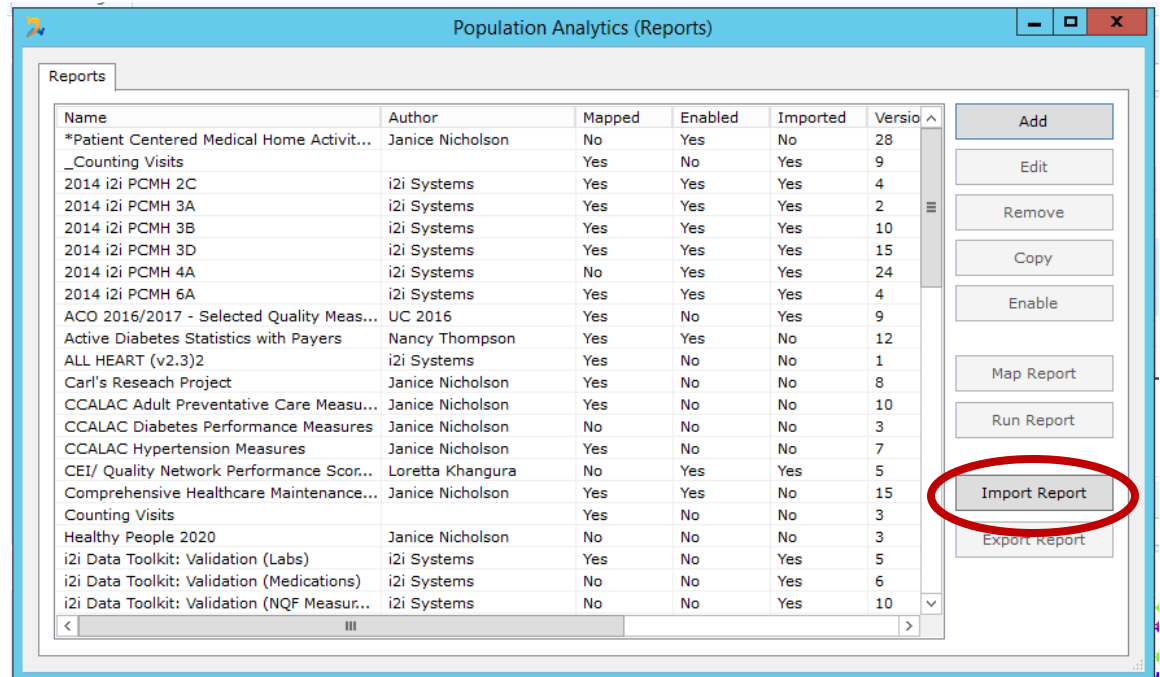
You can import report files that other i2iTracks customers have created. You can map the imported report as-is or create a copy that can be modified and mapped to personalize it to your needs.

To import a report file:

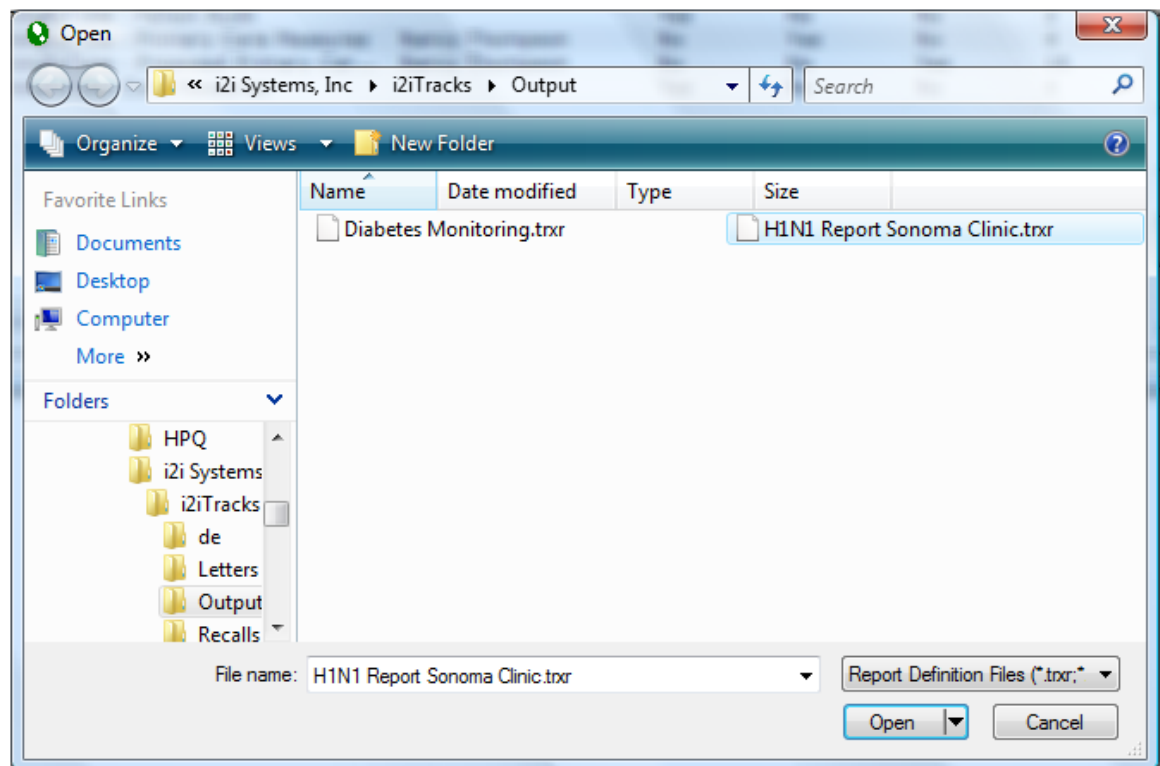
1. Select **Setup > Printing and Reporting > Population Analytics > Reports**.

i2iTracks Population Health Analytics: Custom Reports & Dashboards

- On the **Reports** tab, click the **Import Report** button.

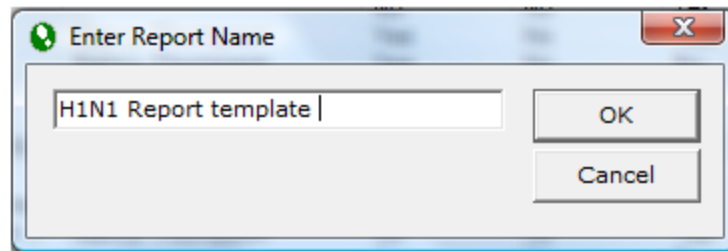


- Navigate to the folder where the report file you want to import is located and select the file name.
- Click the **Open** button.

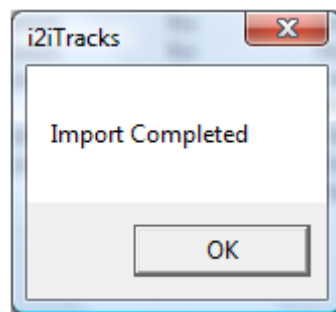


i2iTracks Population Health Analytics: Custom Reports & Dashboards

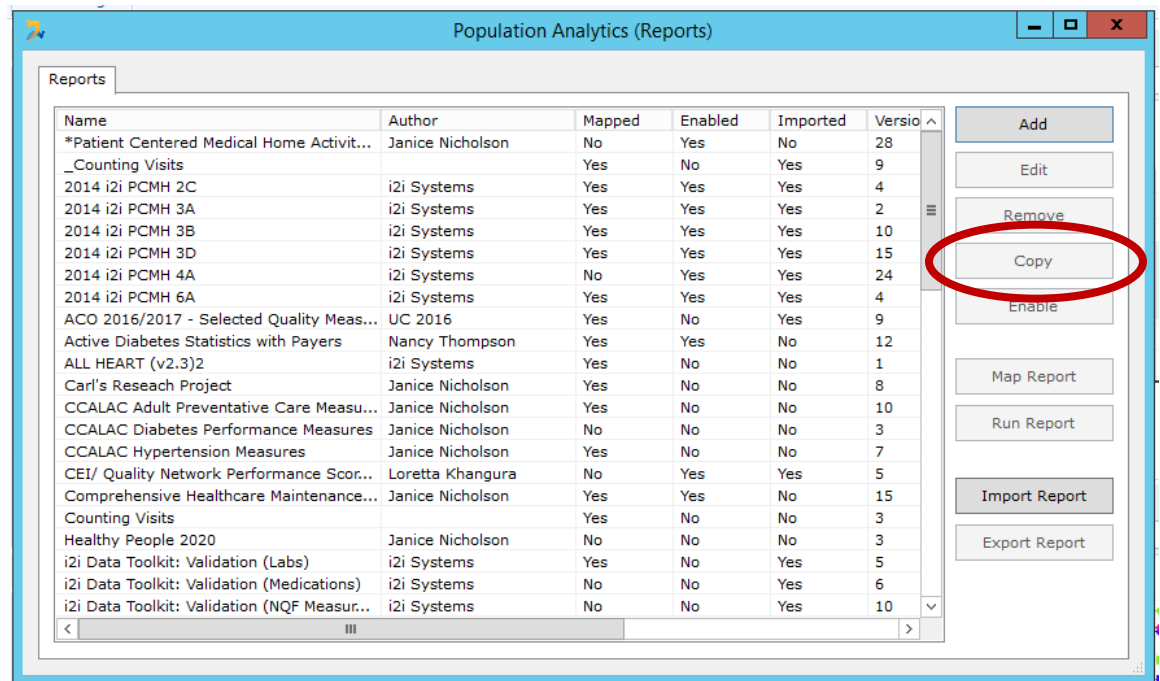
- Enter a name for the report and click **OK**. If you would like to modify the report, you will need to make a copy of this version of the report, so you may want to give it a name that reminds you, such as “H1N1 Report template”.



- Select **OK** when prompted.



- The report is now listed on the **Reports** tab and its status is shown as “Yes” in the **Imported** column. Select the report and click **Copy**.



i2iTracks Population Health Analytics: Custom Reports & Dashboards

- Enter a name for the report in the **Name** field and click **Save**.

Report Setup

General | Defined Fields | Patients | Audit Fields | Design

Enabled for General Use

Name:
H1N1 Report 2011

Title:
H1N1 Report

Description:
H1N1 Report

Author:
Nancy Thompson

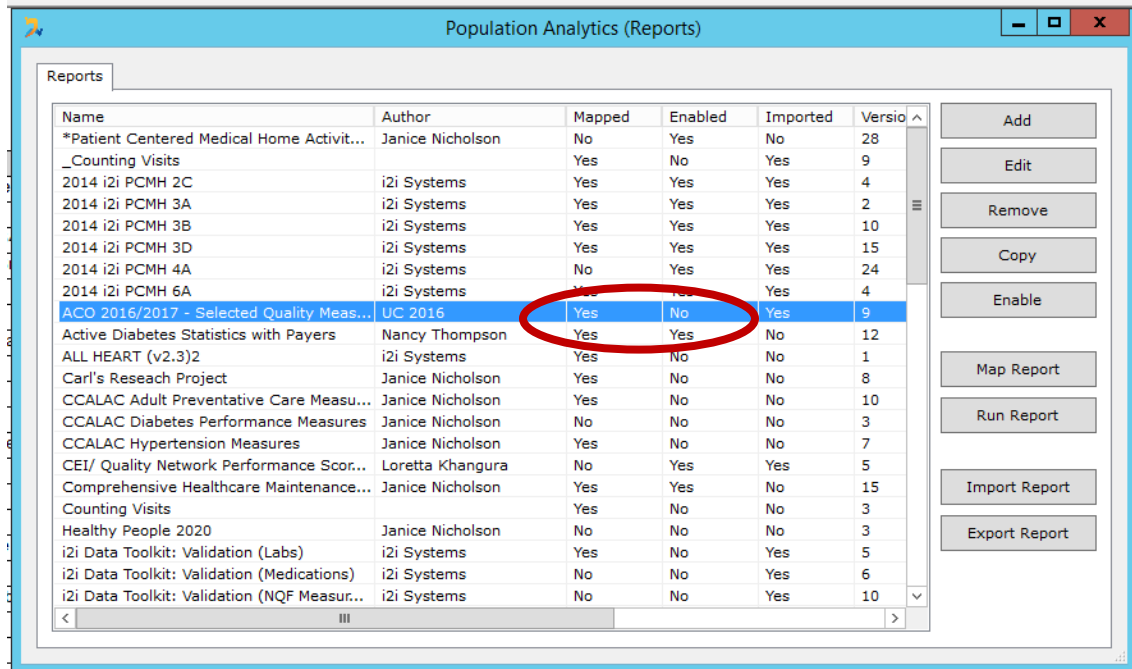
Details:

| | |
|--------------|----|
| Version: | 1 |
| Created On: | |
| Created By: | |
| Modified On: | |
| Modified By: | |
| Imported: | No |
| Imported On: | |
| Imported By: | |

Setup Custom Elements... Save Cancel

Now the report status is shown as “No” in the **Imported** column. This version of the report can be altered or changed by you. If you do not make a copy of an imported report, you can map the data and run the report, but you cannot change the report. You will also notice that the report is not mapped. You will need to map the items in the report to the items in your i2iTracks system before enabling the report for use.

i2iTracks Population Health Analytics: Custom Reports & Dashboards

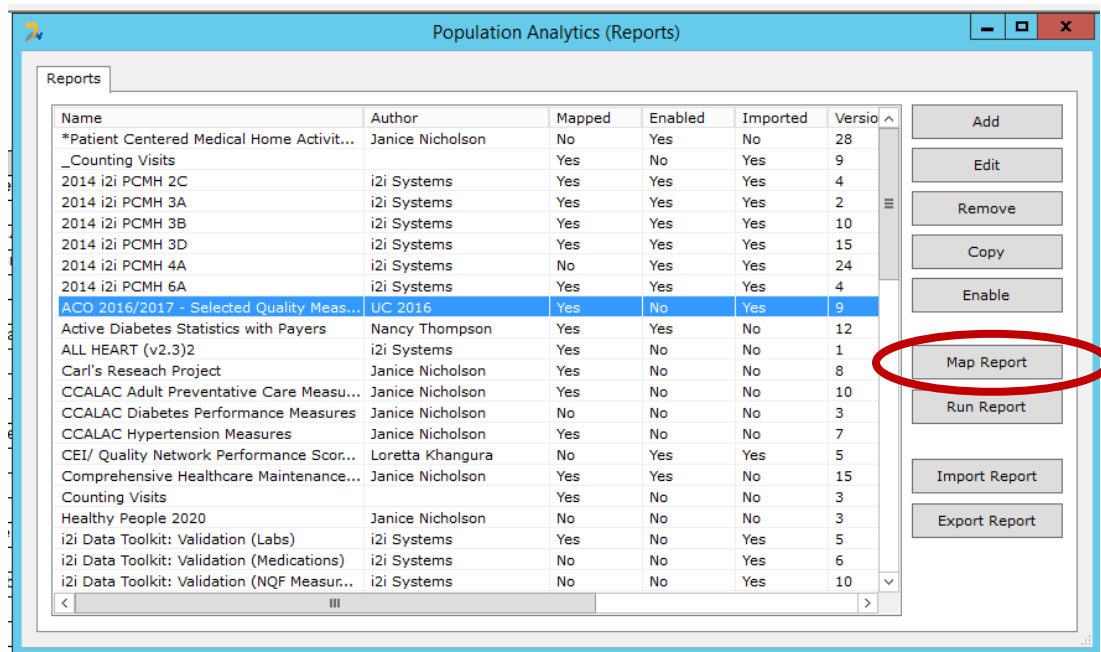


Mapping Imported Reports

Before users can run the report, you must first map the report items.

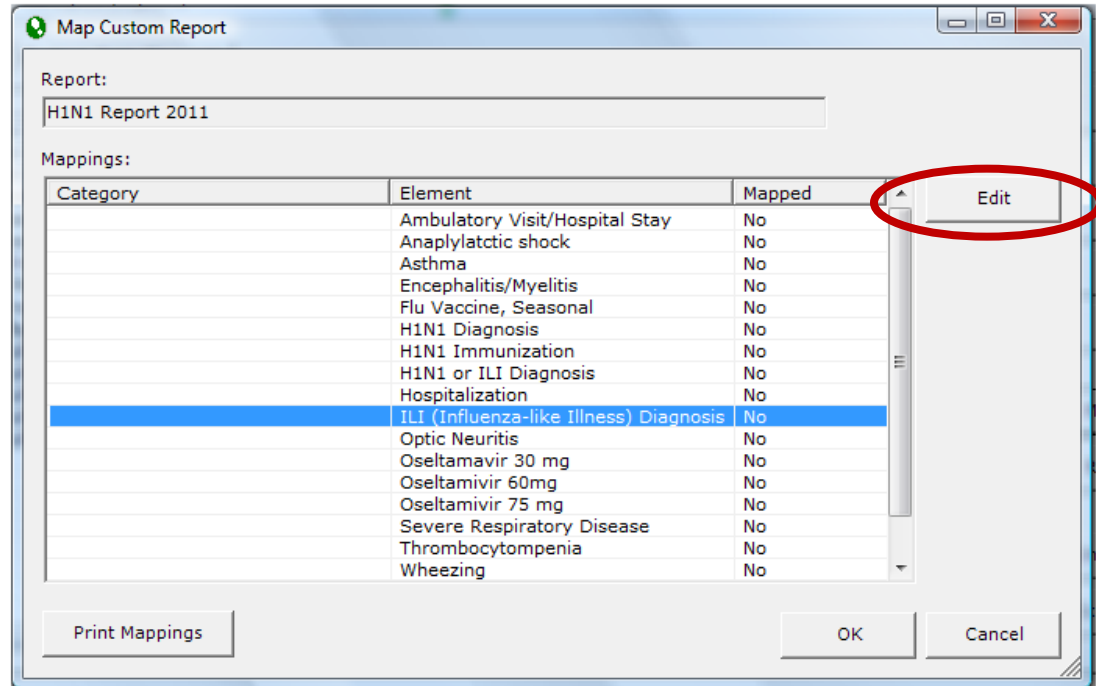
To map report data:

1. Select **Setup > Printing and Reporting > Population Analytics > Reports**.
2. On the **Reports** tab, select the report and click the **Map Report** button.

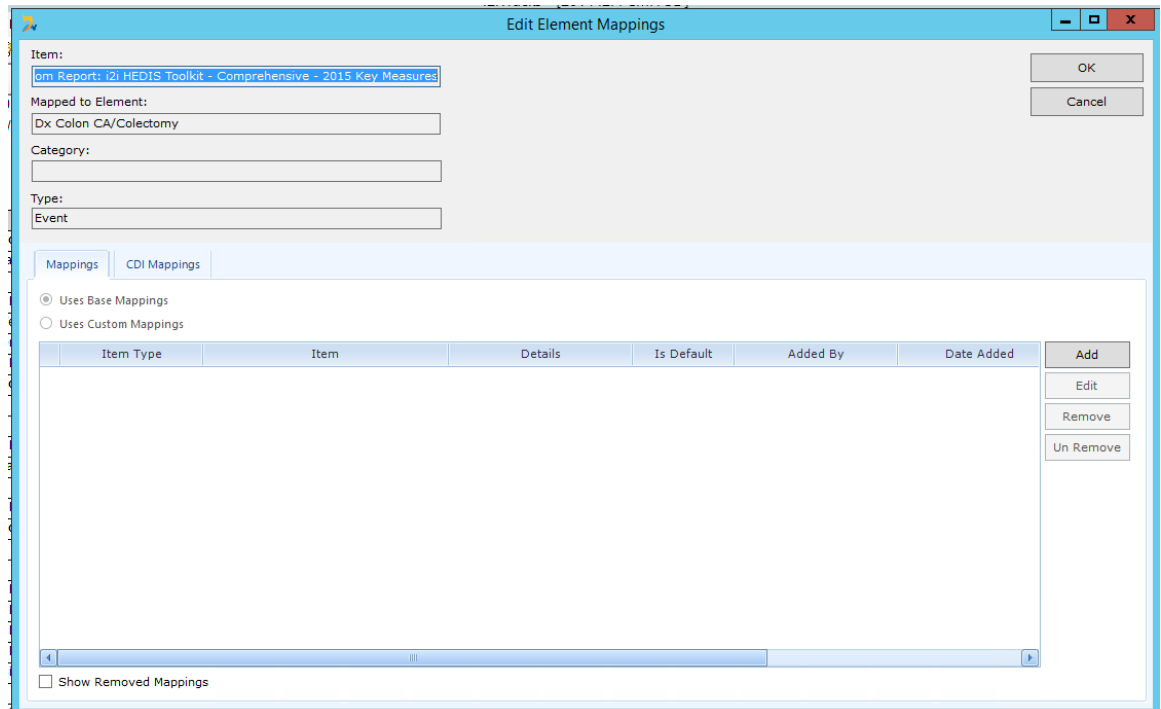


3. Select the report element from the **Mappings** list and click the **Edit** button.

i2iTracks Population Health Analytics: Custom Reports & Dashboards

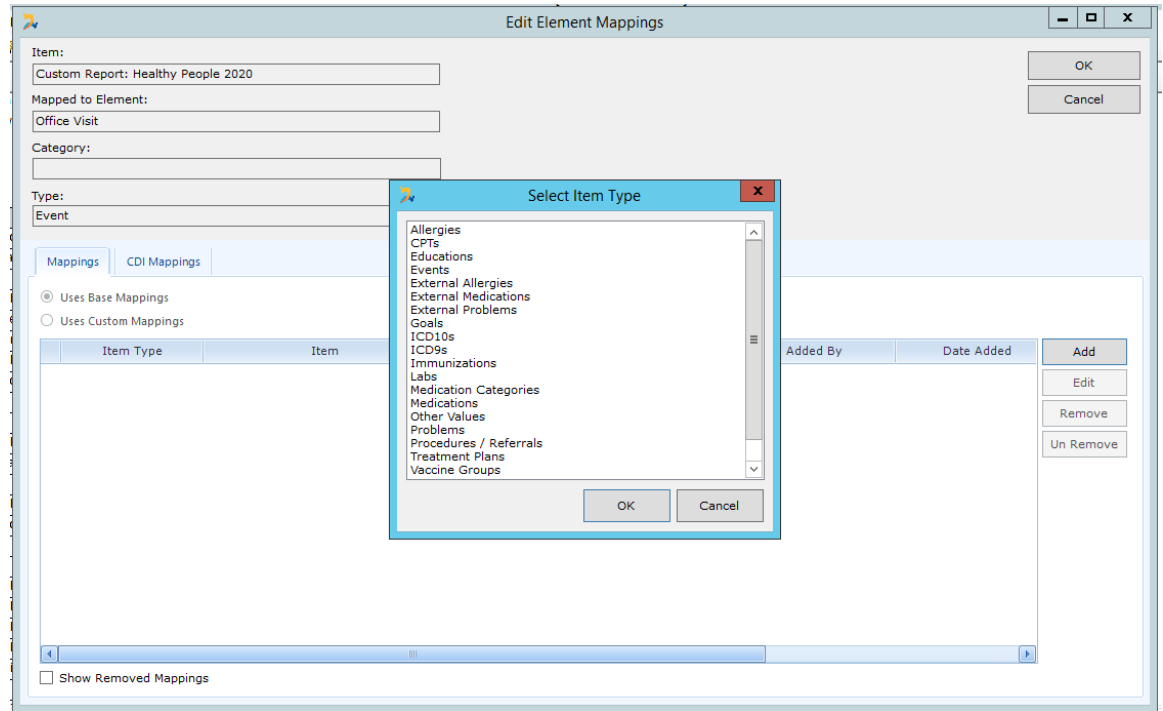


- Review the **Mapping Notes** to understand how this element is used in the report and how you can best map it to the data in your system.

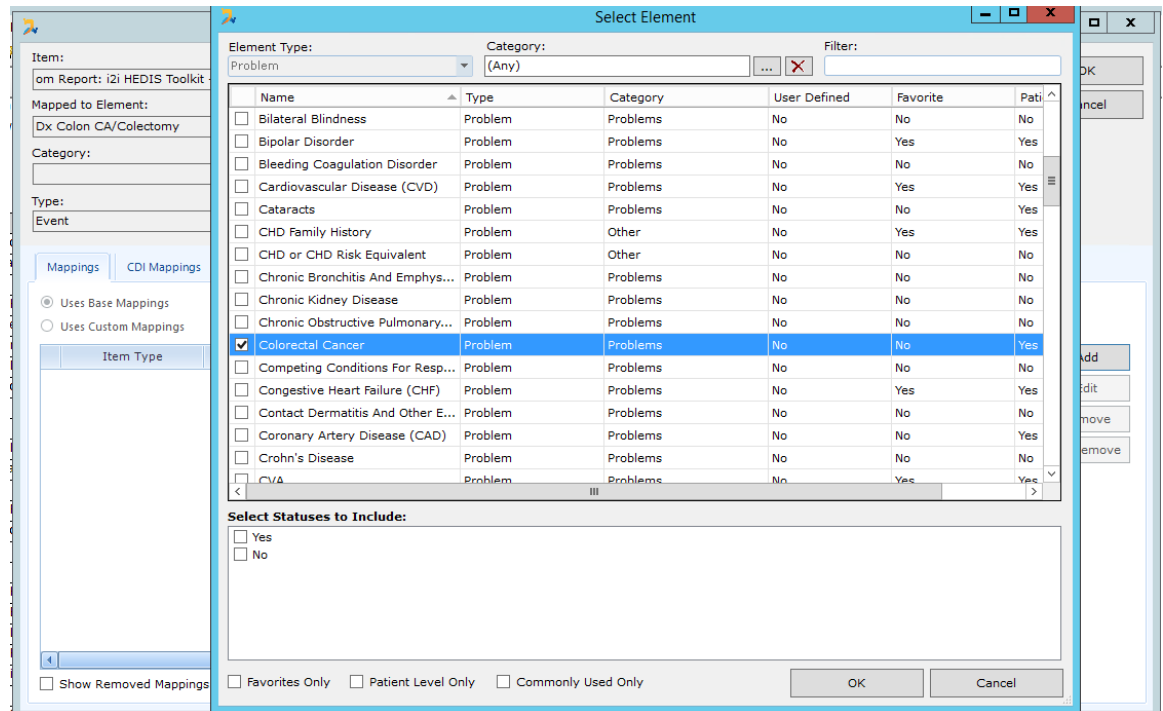


- Click the **Add** button. Select the item type and click **OK**. (If you have an equivalent Custom Data Element in your library you can select the **Map to Custom Data Elements** radio button and select the equivalent data element from your library.)

i2iTracks Population Health Analytics: Custom Reports & Dashboards

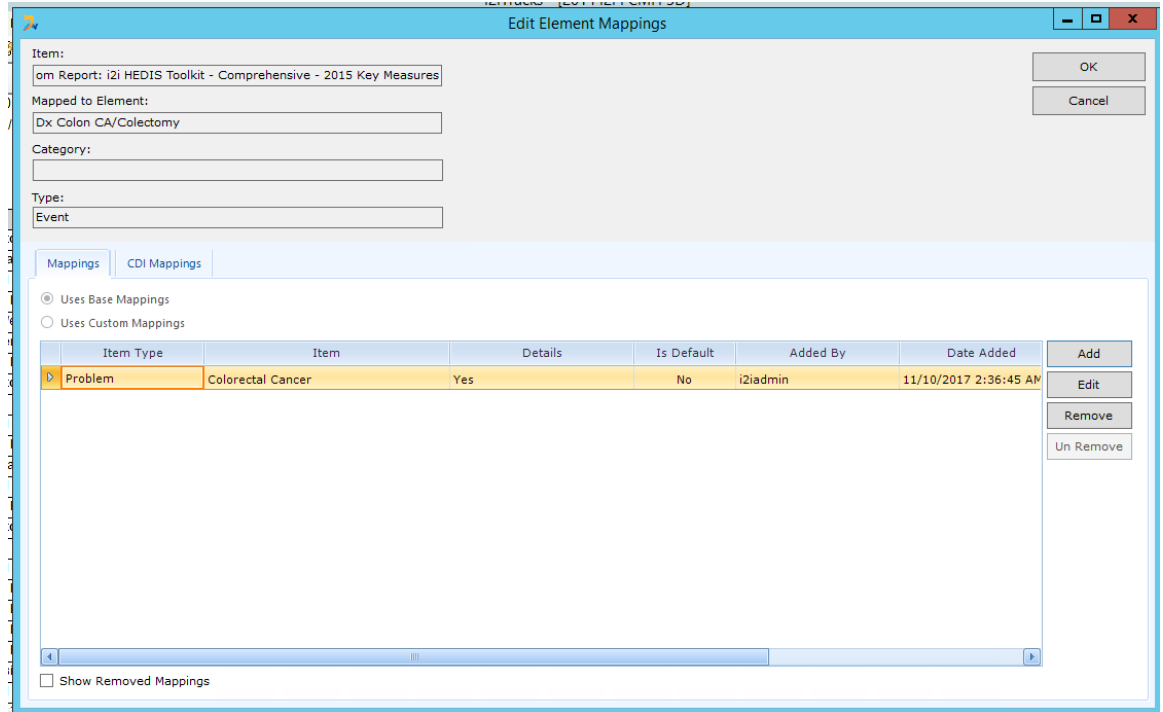


6. Select the items that you want to map to and click **OK**.

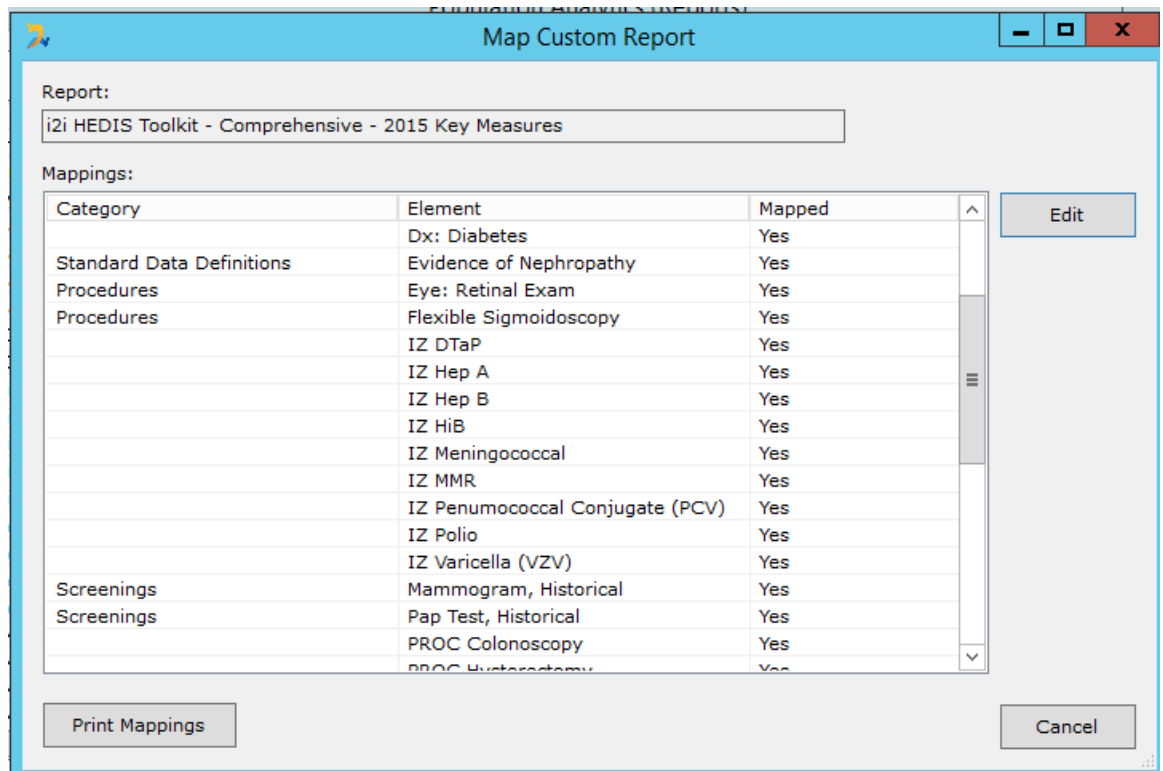


7. Click **Add** to continue to add items, then click **OK** when finished.

i2iTracks Population Health Analytics: Custom Reports & Dashboards

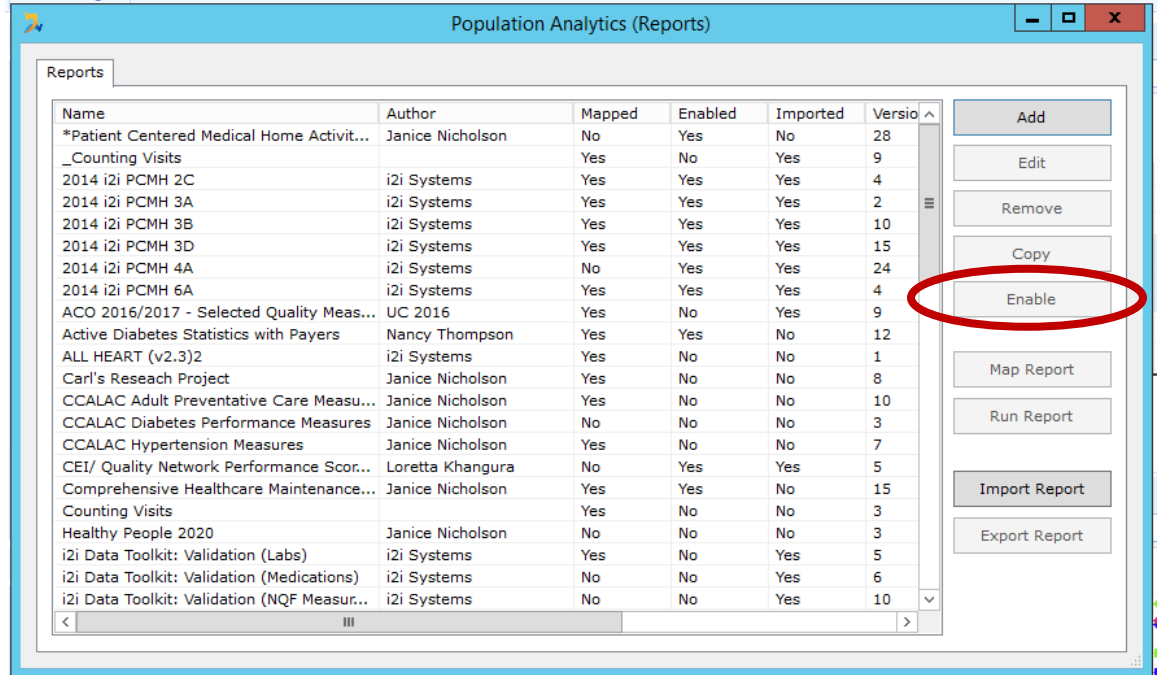


- The item is now mapped. Continue to map all the report items until they are all mapped.



i2iTracks Population Health Analytics: Custom Reports & Dashboards

9. To print a report of the mappings for the newly imported report, click **Print Mappings** then **Print**. Click **OK** to return to **Population Analytics (Reports)**.
10. If you are satisfied that the report is ready for use, select the report and click **Enable** to allow users to run the report.



Creating iPHA Custom Graphs Overview

You can create custom graphs, or series of graphs; display and print graphs; and add a Graphs tab to **i2iTracks Today** screen. The following is an overview of the steps to take when creating a graph in iPHA:

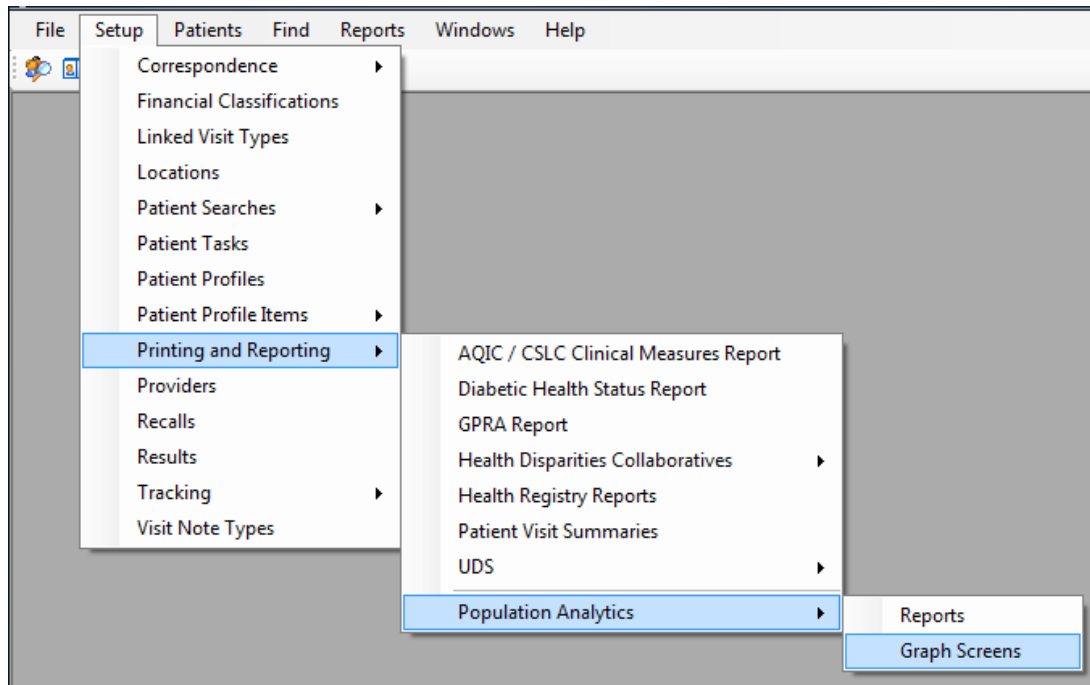
1. Understand how a graph is structured and document the information you want to display in a graph.
2. Set up the data elements (fields and filters) you want to use in the report in the **Custom Data Elements** library.
3. Design your graph.
 - a. Assign your graph a title.
 - b. Select the data elements from the library and define their parameters.
 - c. Identify the main Patient Population and any Sub-Populations you want to use in your report.
 - d. Select the audit fields (data/details) that you would like to display for each patient when printing an audit list.
 - e. Create the design/layout of the report – define x and y axis, reporting periods and goal ranges.
6. Review and audit your graph for accuracy.
7. Enable the graph for use by other users so they will see the graph in their **Select a Graph Screen** menu when printing graphs.

Creating iPHA Custom Graphs

Follow these steps to access and create iPHA Custom Graphs:

1. **Setup > Printing and Reporting > Population Analytics > Graph Screens.**

i2iTracks Population Health Analytics: Custom Reports & Dashboards



2. The **Population Analytics (Graphs Screen)** screen displays, showing you a list of all previously created Graphs.

Population Analytics (Dashboards)

| Name | Author | Mapped | Enabled | Imported | Version |
|---|--------------------------|--------|---------|----------|---------|
| 2014 i2i PCMH 6A | i2i Systems, Inc | Yes | Yes | No | 3 |
| Diabetes Dashboard | Nancy Thompson | Yes | No | No | 11 |
| Diabetes Dashboard for Panel | Nancy Thompson | Yes | Yes | Yes | 8 |
| Diabetic Measures | Janice Nicholson | Yes | No | No | 3 |
| High Risk CVD pts | Nancy Thompson | Yes | No | No | 3 |
| i2i Million Hearts Toolkit: ABCS | i2i Systems | Yes | Yes | Yes | 3 |
| i2i PCMH Toolkit: 6A | i2i Systems, Inc | Yes | No | Yes | 10 |
| iTi: Panel Outcomes Dashboard | i2i Systems | Yes | Yes | Yes | 8 |
| Meaningful Use Measures | i2i Systems | Yes | Yes | No | 31 |
| PCMH Diabetes Dashboard | Nancy Thompson | Yes | No | Yes | 26 |
| PCMH Diabetes Dashboard2 | Nancy Thompson | Yes | No | No | 1 |
| PCMH: Diabetes Outcome Data | N Thompson | No | No | No | 20 |
| PCMH: Wellness Disease Prevention Pr... | Lisa Israel, i2i Systems | Yes | No | No | 7 |
| Preventive Care and Screenings | Nancy Thompson, i2i ... | No | Yes | No | 6 |
| Proactive Care Measures | i2i Systems, Inc. | No | Yes | No | 1 |
| Team Performance Missing Assessments | i2i Systems, Inc. | Yes | Yes | No | 2 |
| UDS 2014 Clinical Quality Measures2 | Loretta Khangura | Yes | Yes | No | 5 |

Buttons: Add, Edit, Remove, Copy, Enable, Map Dashboard, Display Dashboard, Import Dashboard, Export Dashboard

i2iTracks Population Health Analytics: Custom Reports & Dashboards

- To add a new graph, on the **Graph Screens** tab, click **Add**. The **Graph Screen Setup** window will appear. There is a series of tabs across the top of your screen.

Graph Screen Setup (Read Only)

General | Defined Fields | Patients | Audit Fields | Graphs

Enabled for General Use

Name: Preventive Care and Screenings

Title: Preventive Care and Screening

Description:

Author: Nancy Thompson, i2i Systems, Inc.

Details:

| | |
|--------------|----------------------|
| Version: | 13 |
| Created On: | 2/10/2010 3:30:57 PM |
| Created By: | i2iadmin |
| Modified On: | 2/24/2010 1:28:17 PM |
| Modified By: | i2iadmin |
| Imported: | Yes |
| Imported On: | 2/11/2010 9:04:26 AM |
| Imported By: | i2iadmin |
| | |
| | |
| | |

Show Target Column

Setup Custom Elements... Save Cancel

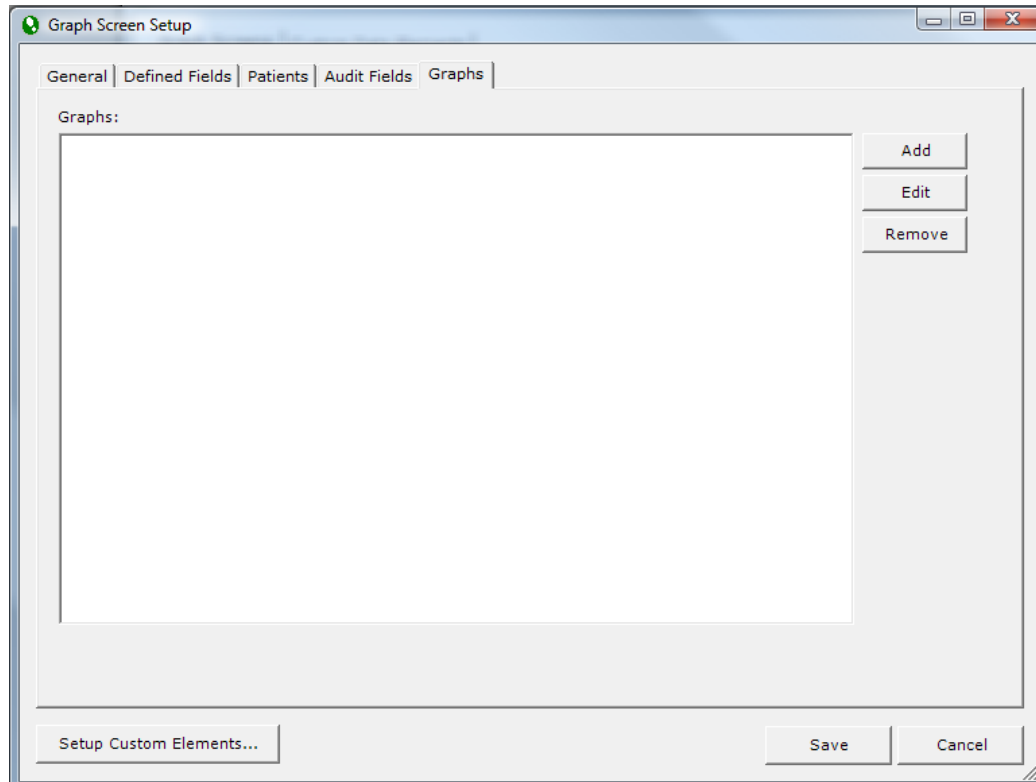
- **General Tab:** The name and general information about the graph.
- **Defined Fields Tab:** This tab is used to identify each data element that you want to include in the graph and to assign the parameters of how the data element will be used in the report (the 'rules' for when you count a patient – For example, patients that had 2 visits in 2 years).
- **Patients Tab:** The **Patients** tab is used to define the global denominator for the graph. For example, you may want your graph to include only Active Patients, or only Active Patients assigned to Diabetes Tracking, etc.
- **Audit Fields Tab:** This tab is used to choose the data fields you want to print when you do an audit report of a line item.
- **Graphs Tab:** In the **Graphs** tab, you will format the layout of the graphs, defining the information (X & Y axis, reporting periods, etc.) you want to see in your graph.
- **Setup Custom Elements Action Button:** Click this button if you find that you need to add a new Custom Data Element to the library.

i2iTracks Population Health Analytics: Custom Reports & Dashboards

Complete the **General** tab, **Defined Fields** tab, **Patients** tab and **Audit Fields** tab as described starting on page 17 of this document.

Follow these steps to complete the **Graphs** tab:

1. When creating graphs, you can include an unlimited number of separate graphs to display together. The first screen in the **Graphs** tab is a list of graphs you want to include.



2. To add a new graph, click the **Add** button.

i2iTracks Population Health Analytics: Custom Reports & Dashboards

- The **Graph Properties** screen will display.

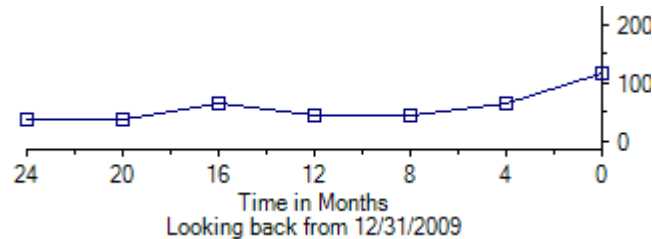
The screenshot shows the 'Graph Properties' dialog box with the following configuration:

- Graph Name:** Flu Vaccine
- Patient Population (Denominator for Graph):** (Use Main Filters)
- Y-Axis:** Min Value: 0, Max Value: 500, Fit to Data
- X-Axis:**
 - Time Span: 2 Year(s)
 - Time Increment: 4 Month(s)
 - Look Back From: Today, Specific Date: 12/31/2009
 - Show: Time Ago, Date
- Reporting Period Length:** 1 Year(s)
- Goal Value Range:** Show, Goal Min: [], Goal Max: []

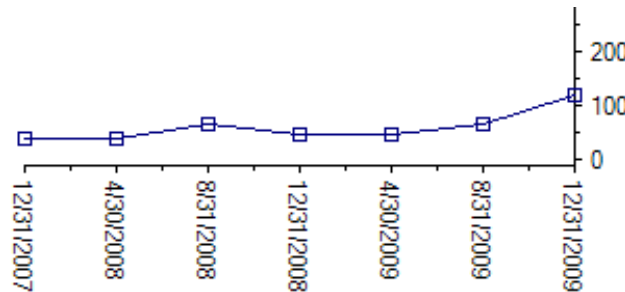
- Across the top, there are three tabs for you to complete. In the **General** tab, complete the fields as follows:
 - Graph Name:** Enter a descriptive name for the graph. This will show as the title at the top of the graph.
 - Patient Population:** Click the down arrow to select the Patient Population for your graph. This will be the denominator for your graph.
 - Y-Axis:** To determine the values that will show in the graph on the Y-Axis, enter the min and max values, or click the 'Fit to Data' option if you would like for the iPHA to create the value range based on the data that displays. The default min is 0 and the default max is 100.
 - X-Axis:** The X-Axis fields are used to define the time ranges for your graph's X-Axis. Complete the fields as follows:
 - Time Span:** Enter the length of time to include in your X Axis. In the above example, 2 years worth of data will display across the X-Axis.
 - Time Increment:** Enter the length of time between data points on your graph. In the above example, there will be 7 data points 4 months apart for a period of 2 years.

i2iTracks Population Health Analytics: Custom Reports & Dashboards

- Look Back From:** For each graph, you must decide what date you would like to look back from on your graph. You could choose “Today”, and each time you run your graph, the “0” would reflect the current date. Or, you could choose a specific date to begin the graph. For example, if you enter 12/31/09, the data that would be included in the graph would look back in time from 12/31/09 (the ‘0’) to determine the increments.



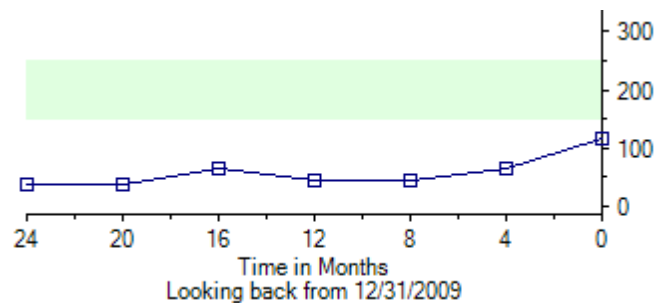
- Show:** Choose ‘Time Ago’ to display the time increments like shown in the example above. Or, select ‘Date’ to display the actual date on the graph (as shown in the example below).



- Reporting Period Length:** A graph reporting period length defines the reporting period for each data point on your graph. For example, the above graph is the number of patients that are compliant for flu shots. For this measure, our reporting period is one year, meaning a patient would be compliant if they had a flu shot in the past 1 year. In other words, the reporting period for the 12/31/09 data point is 1/1/09 – 12/31/09, the reporting period for the 8/31/09 reporting period is 9/1/08 – 8/31/09, and so on.

i2iTracks Population Health Analytics: Custom Reports & Dashboards

- **Goal Value Range:** Click the ‘Show’ option to display your goal range for a graph. The goal range displays in green, as shown in the example below.



5. The next two tabs, **Series 1** and **Series 2** define the numerator for the data points on the graphs, the type of data to be graphed, and the labels for the Y-Axis. Each graph can have up to two series of data points. To add a series of data points, click the **Series 1** tab.

The screenshot shows the 'Graph Properties' dialog box with the 'Series 1' tab selected. The 'Y-Axis Label' field contains 'Patients Age 50 or older'. Under 'What To Graph', 'Patient Count' is selected. The 'Patient Filters' section shows a list containing 'Age >= 50'. There are buttons for 'Add', 'Edit', 'Remove', 'Move Up', 'Move Down', and logical operators: '(', ')', 'AND', 'OR', 'NOT'. 'OK' and 'Cancel' buttons are on the right.

6. Complete the fields for Series 1 as follows:
 - Y-Axis Label: Enter the label you want to attach to the Y-Axis.
 - What to Graph: In this section, you will decide the type of value for each point on the graph. You can choose any of the following:
 - **Patient Count:** This option will show you the actual number of patients that make up the data point on the graph.

i2iTracks Population Health Analytics: Custom Reports & Dashboards

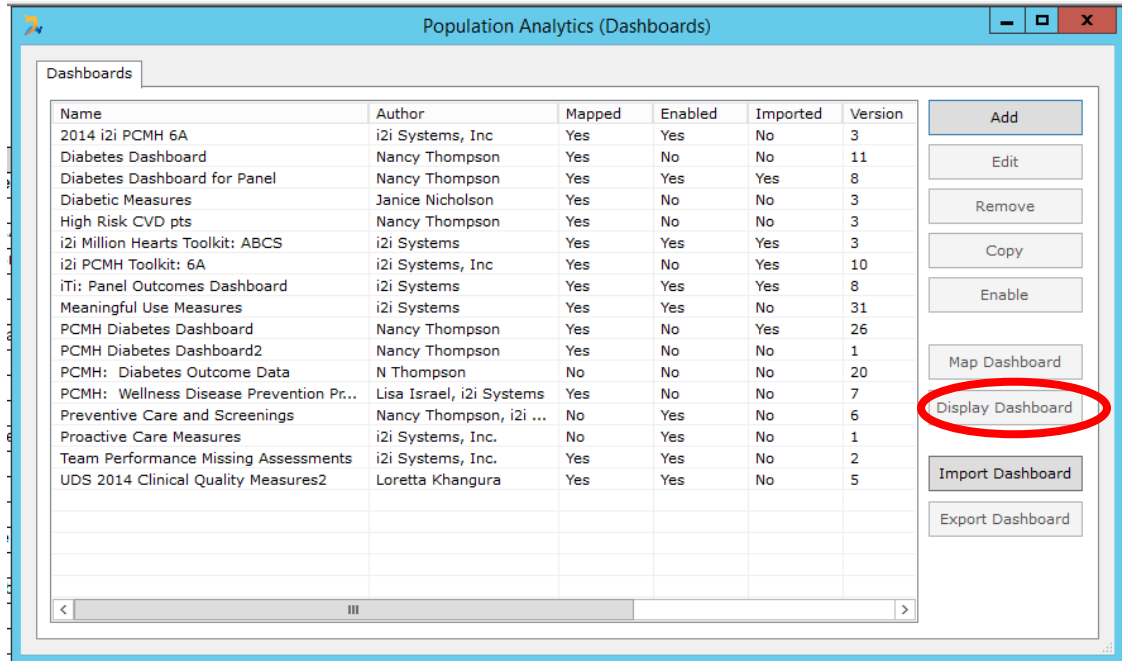
- **Patient Percentage:** This option will display the percentage of the entire denominator for each data point on the graph. For example, if you have 100 patients over 50 years old (your denominator) and 50 of them had a flu vaccine, the data point would show at 50%.
 - **Field Value:** Click to the down arrow to reveal the additional field values: Average, Min, Max, or Sum of a value. Select the data element you want use to calculate the value. For example, if you create a graph for HbA1c, you can graph the average HbA1c over time to compare or trend.
 - **Filters:** Add your selection criteria ('filters') for identifying the patients that will be included in the data point. Use the control buttons – move up, move down, (), AND, OR, NOT – to narrow down your population correctly.
 - **Additional Audit Fields:** In this window, you can select additional audit fields that will be printed only for audits of this specific data point.
7. Complete the same steps for Series 2.
 8. When you are finished, click OK, to save your graph.

Displaying and Printing a Graph

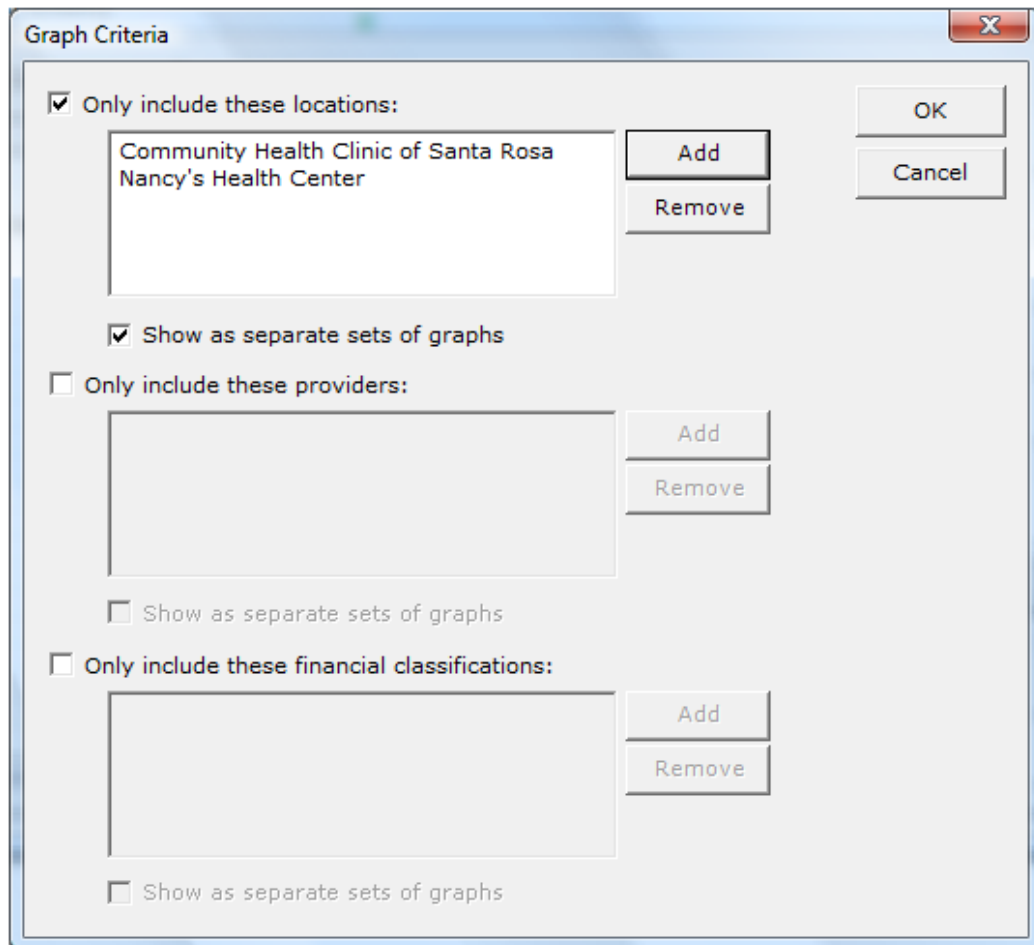
To display a graph, follow these steps:

1. From the **Graphs** screen, highlight the graph you want to print. Click the **Display Screen** button.

i2iTracks Population Health Analytics: Custom Reports & Dashboards



2. The **Graph Criteria** screen will display. Complete the fields as follows:

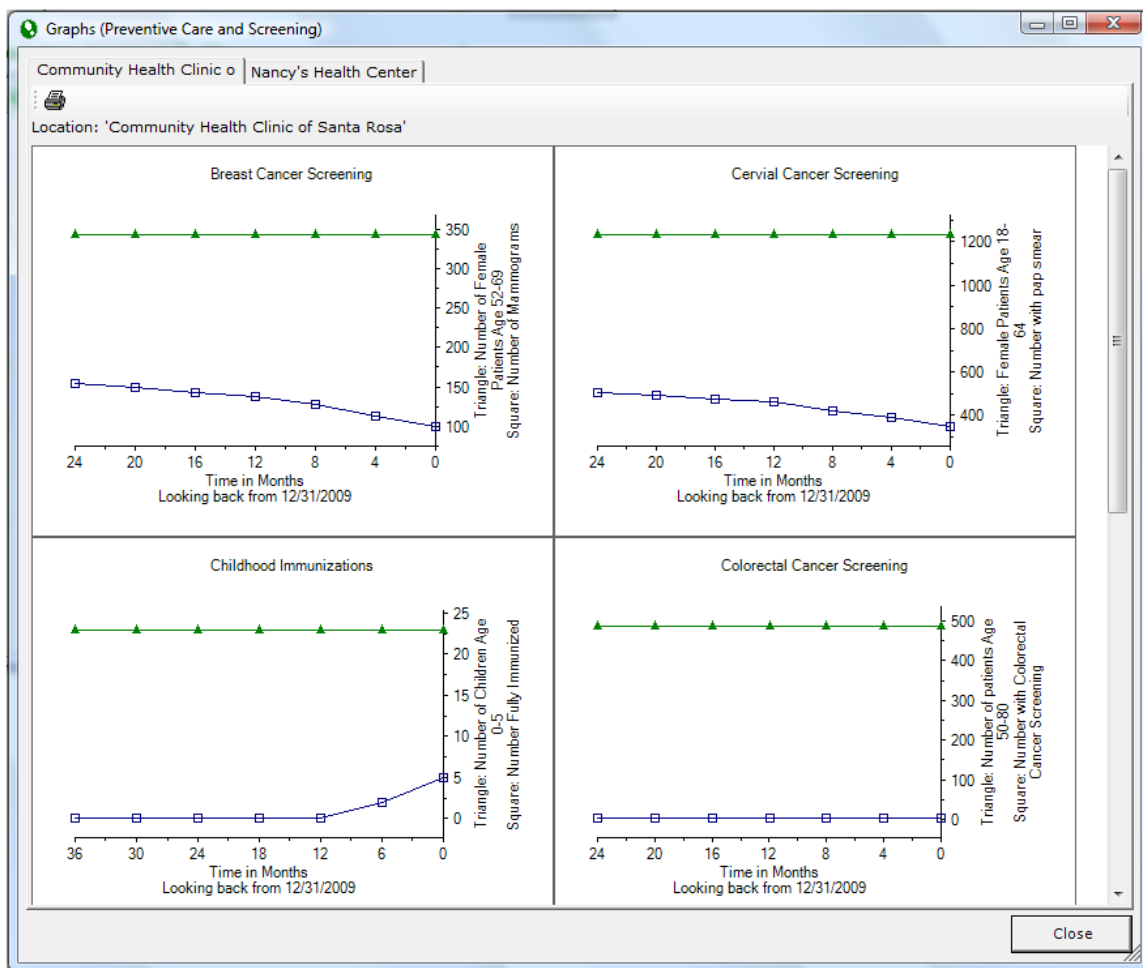


i2iTracks Population Health Analytics: Custom Reports & Dashboards

- Select **Only include these locations** if you want to generate graphs based on a specified location. Leave these fields blank to include all locations. Select **Show as separate sets of graphs** to indicate if you want to see each location on a separate tab.
- Select **Only include these providers** if you want to generate graphs based on a specified provider. Leave these fields blank to include all providers. Select **Show as separate sets of graphs** to indicate if you want to see each provider on a separate tab.
- Select **Only include these financial classifications** if you want to generate a graphs based on a specified financial classification. Leave these fields blank to include all financial classifications. Select "Show as separate sets of graphs" to indicate if you want to see each financial class on a separate tab.

3. Once your printing criteria fields are completed, click **OK** to generate your graphs.

4. From the **Graphs** screen, select the tab of the graph you want to print. To print the graphs, click the Printer icon at the top of the screen.



i2iTracks Population Health Analytics: Custom Reports & Dashboards

Note: If you need to audit a data point on a graph, simply double click on the data point. An audit list of patients that make up that data point will display.

| ID | Name | Gender | Age | DOB |
|------|--------------------------|--------|-----|------------|
| 1772 | Chavez, Maria | F | 5 | 8/27/2004 |
| 1811 | Carrillo, Maria | F | 5 | 11/13/2004 |
| 1822 | Guerrero, Angel | M | 5 | 12/19/2004 |
| 1846 | Burns, Maria | F | 5 | 2/14/2005 |
| 1893 | Garcia, Justin | M | 4 | 5/29/2005 |
| 1900 | Garcia, Edgar | M | 4 | 6/20/2005 |
| 1906 | Gallagher, Jesus | M | 5 | 12/16/2004 |
| 1914 | Frazee, Andy | M | 5 | 3/20/2005 |
| 1922 | Forbes, Luca | M | 4 | 6/8/2005 |
| 1953 | Alvarado, Maria | F | 5 | 2/21/2005 |
| 1962 | Emmerson, Kevin | M | 4 | 9/29/2005 |
| 1989 | Vazquez, Martha | F | 4 | 11/23/2005 |
| 1992 | Agustin, Martha | F | 4 | 7/24/2005 |
| 2008 | Deeny, Christopher | M | 4 | 1/9/2006 |
| 2013 | Vargas-Martinez, Maryann | F | 4 | 5/21/2005 |
| 2018 | De La Cruz, Luis | M | 4 | 8/7/2005 |
| 2056 | Crisostormo, Elias | M | 4 | 3/20/2006 |
| 2059 | Craig, Alex | M | 4 | 3/7/2006 |
| 2074 | Coronel, Elias | M | 4 | 6/17/2005 |
| 2084 | Mccollum, Negede | F | 5 | 9/21/2004 |

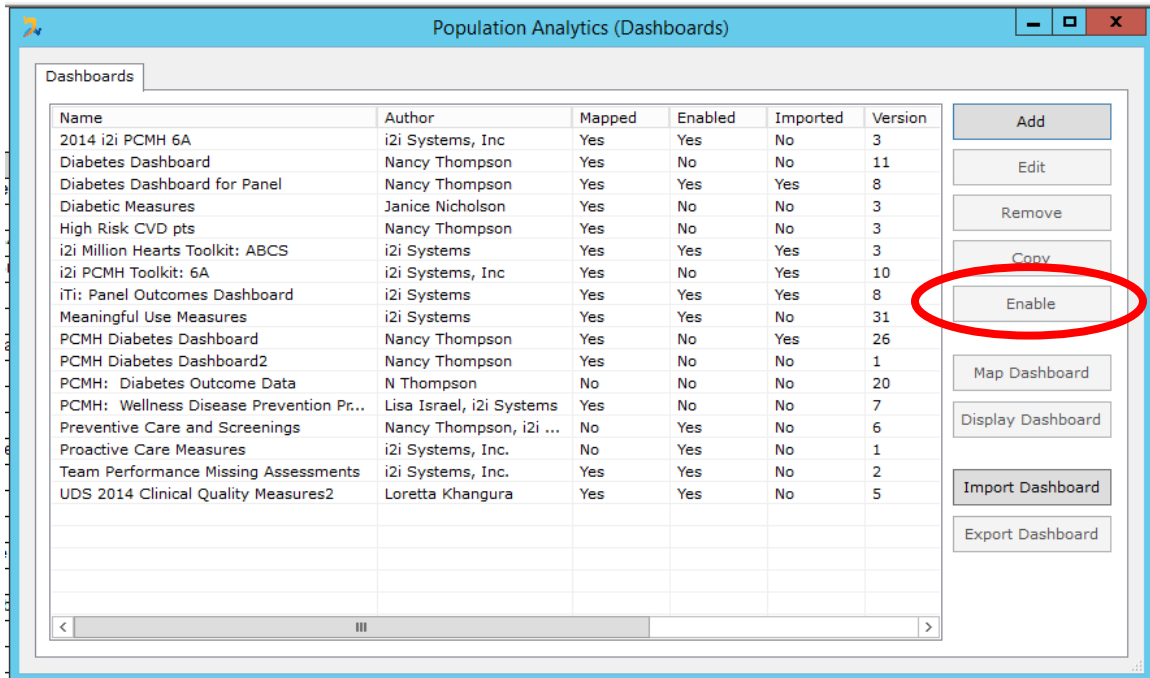
Enabling a Custom Graph

After you are completely finished designing the graph and you have validated that the graph is accurate, you can make the graph available to other users.

To enable a Custom Graph so other users will see the graph in their **Select a Graph Screen** menu when printing graphs, do one of the following:

- From the **Population Analytics (Graph Screens)** window, highlight the graph you want to activate and click **Enable**.
- From the **Graph Screen Setup** window General tab, check the **Enabled for General Use** checkbox.

i2iTracks Population Health Analytics: Custom Reports & Dashboards



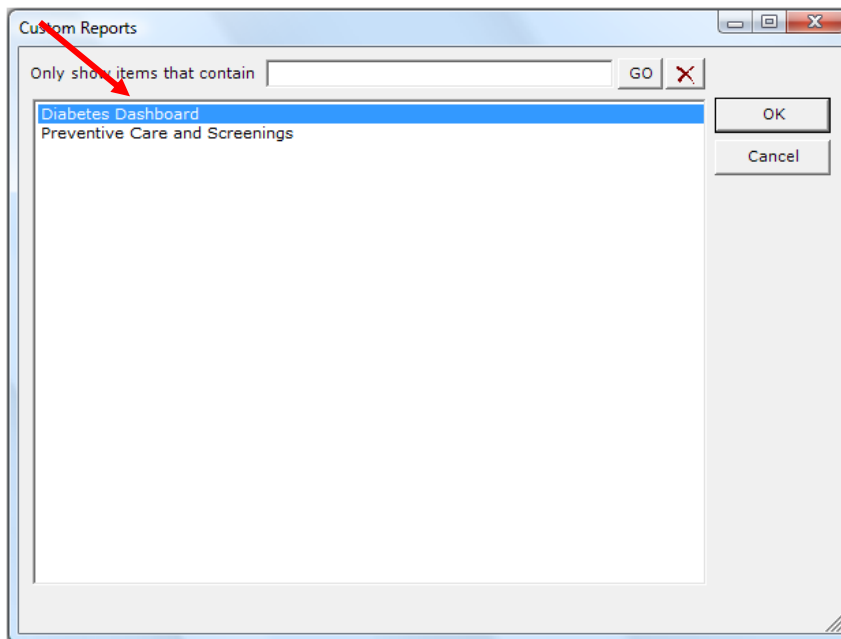
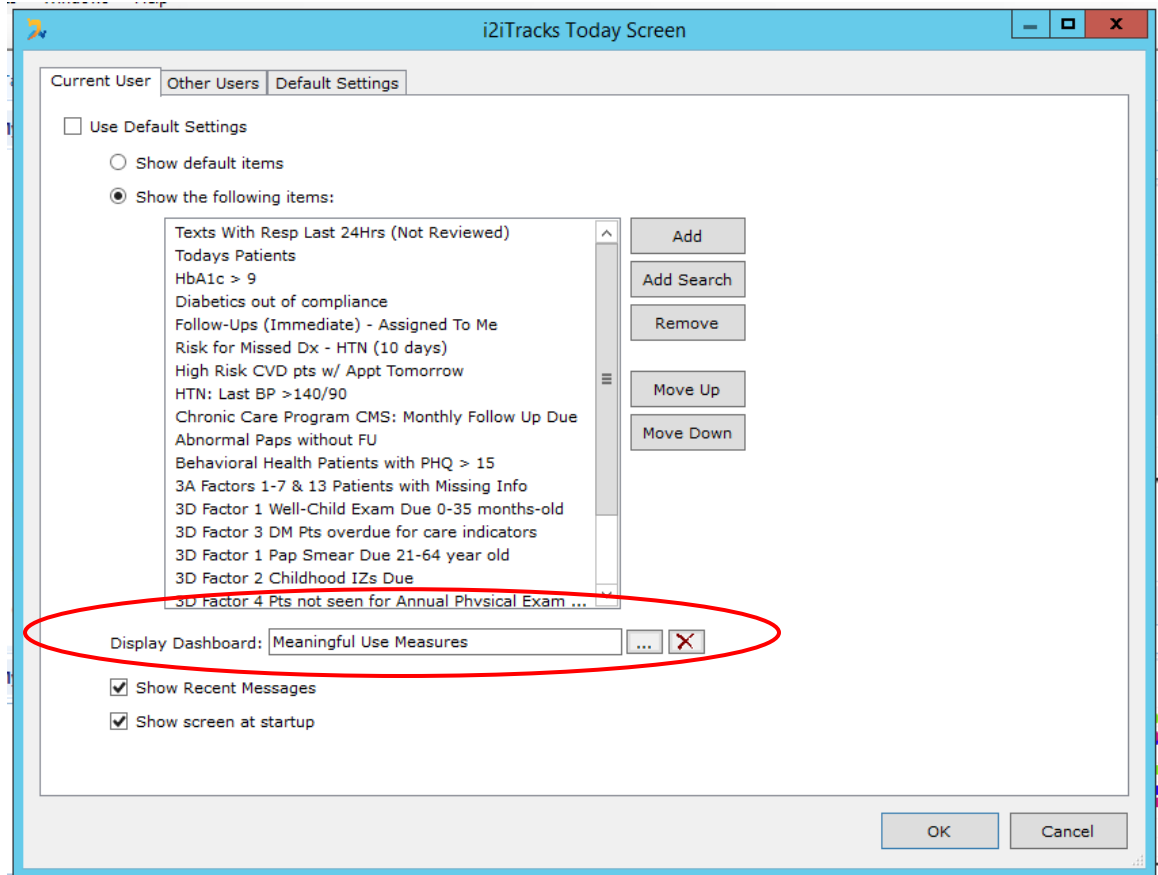
Dashboard on i2iTracks Today Screen

The **i2iTracks Today** screen now includes a **Dashboard** tab which allows you to choose to display a set of graphs from those created in the **Population Analytics** module.

To select graphs to display:

1. Select **File > i2iTracks Today > Dashboard**.
2. Select the graphs you want to display from the **Display Graph Screen** list.

i2iTracks Population Health Analytics: Custom Reports & Dashboards



i2iTracks Population Health Analytics: Custom Reports & Dashboards



Exporting and Importing Graphs

Exporting and importing graph screens in Population Analytics is done the same way you export and import reports, as described in detail above. Below is an overview of the process.

To export graph screens:

- Go to **Setup > Printing and Reporting > Population Analytics > Graph Screens**.
- Select the graph and click **Export Screen**.

To import graph screens:

- Go to **Setup > Printing and Reporting > Population Analytics > Graph Screens**.
- Click **Import Screen**.
- Select a name for the graph.
- Create a copy of the graph screen using **Copy**.
- Map the data using **Map Screen**.
- Enable the graph for use by others by clicking **Enable**.

i2iTracks Population Health Analytics: Custom Reports & Dashboards

Population Analytics (Dashboards)

Dashboards

| Name | Author | Mapped | Enabled | Imported | Version |
|---|--------------------------|--------|---------|----------|---------|
| 2014 i2i PCMH 6A | i2i Systems, Inc | Yes | Yes | No | 3 |
| Diabetes Dashboard | Nancy Thompson | Yes | No | No | 11 |
| Diabetes Dashboard for Panel | Nancy Thompson | Yes | Yes | Yes | 8 |
| Diabetic Measures | Janice Nicholson | Yes | No | No | 3 |
| High Risk CVD pts | Nancy Thompson | Yes | No | No | 3 |
| i2i Million Hearts Toolkit: ABCS | i2i Systems | Yes | Yes | Yes | 3 |
| i2i PCMH Toolkit: 6A | i2i Systems, Inc | Yes | No | Yes | 10 |
| iTi: Panel Outcomes Dashboard | i2i Systems | Yes | Yes | Yes | 8 |
| Meaningful Use Measures | i2i Systems | Yes | Yes | No | 31 |
| PCMH Diabetes Dashboard | Nancy Thompson | Yes | No | Yes | 26 |
| PCMH Diabetes Dashboard2 | Nancy Thompson | Yes | No | No | 1 |
| PCMH: Diabetes Outcome Data | N Thompson | No | No | No | 20 |
| PCMH: Wellness Disease Prevention Pr... | Lisa Israel, i2i Systems | Yes | No | No | 7 |
| Preventive Care and Screenings | Nancy Thompson, i2i ... | No | Yes | No | 6 |
| Proactive Care Measures | i2i Systems, Inc. | No | Yes | No | 1 |
| Team Performance Missing Assessments | i2i Systems, Inc. | Yes | Yes | No | 2 |
| UDS 2014 Clinical Quality Measures2 | Loretta Khangura | Yes | Yes | No | 5 |

Buttons: Add, Edit, Remove, Copy, Enable, Map Dashboard, Display Dashboard, Import Dashboard, Export Dashboard

Glossary of Terms

Data Elements: Data Elements are the pieces of information (data) that you use in a report (age, gender, diabetes status, LDL values, BMI, etc.).

General Data Elements: General Data Elements include Age and Deceased Status

Patient Population: Also known as the denominator, the Patient Population defines the group of patients included in a report or a report area (Diabetic Patients, Female Patients, Active Patients).

Data Filters: A data filter is used to sift through your data to narrow down the patient population to include only the patients you want in your report.

Defined Fields: Defined fields are used to identify each data element that you want to include in a specific report and to assign the parameters of how the data element will be used in the report (the 'rules' that apply to your report - patients that had 2 visits in 2 years, patients with 2 HbA1c tests 90 days apart).

Audit Fields: Audit fields are the data fields you want to print when you do an audit report of a line item.

Report Section: An iPHA report is divided into segments called sections. A report can have numerous sections. Each section heading includes only a text field that describes each segment of the report.

Report Area: Each report section is divided up into areas. Each area contains the 'denominator' for the group of patients that are included in the detail items that display beneath the area name.

Report Item: Report items include the details and statistics you want to include about each report area (the value and percentage data).

Count Item: A Count item is the total number of patients that meet all filter requirements for that line item (How many patients had an HbA1c test, How many patient have an HbA1c value <8).

Multi-Item: A Multi-item is the number of patients broken down by any of the following:

- Gender
- Language
- Race
- Ethnicity
- Financial Classification
- Age Ranges
- Other types of values (ie break down of HbA1c value by specified ranges)

i2iTracks Population Health Analytics: Custom Reports & Dashboards

Text Item: A Text Item is a line of written text only. No value will print in the value column.

Value Item: A Value Item is the average of a value, the sum of values, or the minimum or the maximum value. A value item is used to generate a visit count (sum of occurrences).