Purpose Statement

This document is intended to demonstrate the functionality of the Infusion Pump Informatics (IPI) system. This training is modeled on a typical healthcare provider; however, specific processes may vary by provider.

This document provides instructions on how to access the system, gives example sequences to get comfortable with using the tool, and introduces administrative functions.
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Getting Started

Welcome to Infusion Pump Informatics (IPI). In order to access IPI, you will need to (1) register on CatalyzeCare, (2) become a member of the Infusion Pump Informatics group, and (3) be granted access to IPI system.

Accessing IPI

- Open a browser and navigate to catalyzecare.org.

Note – For best results choose Chrome or Firefox. The use of Windows Internet Explorer is not recommended with IPI.
• Login with your **Username** and **Password**

![Login screen](image1)

• Select **GROUPS**

![Groups section](image2)

• Select **Infusion Pump Informatics** from **Popular groups**.

![Find a group](image3)

Note: If **Infusion Pump Informatics** is not listed as a popular group, use the **Find a group** search tool. Enter **Informatics** followed by selecting **Search** and then select **Infusion Pump Informatics**.
• Select **Run IPI**

• Select the orange **Run IPI** box
The IPI main page is opened.
IPI Main Page

The IPI main page is divided into 3 sections. The top section (1) provides the user the ability to analyze infusion pump data, upload pump log files to IPI, and complete IPI administration functions. The middle section (2) is a dashboard that identifies the user and default hospital and provides instant access to 4 popular reports. The bottom section (3) communicates upcoming IPI community events and IPI news, provides access to IPI documentation, and the management of narratives.
Definition of icons

Selecting **Analysis Charts** opens the IPI tool and allows users to analyze infusion pump log data for one or more hospitals.

**Investigative Reports** provide the ability to drill deeper into the data to investigate alerts related to specific drugs and identify “good catches” and “missed catches”.

**Pivot Charts** are typically used to look at the alerts and actions taken for a specific drug.

The **Compliance Charts** option provides users the ability to view and analyze compliance data.

Users can upload their pump data to IPI using **Logs Upload**.

The **Administration** utility includes management of users and events.
The Dashboard sections begins with a banner identifying the hospital and user.

**Alerts by Drug or Fluid** shows the Top 10 drugs or fluids generating alerts across the user’s hospital for the last month. Selecting the icon will open the chart, complete with labels and chart parameters.

Selecting **Actions Taken by Drug or Fluid** will open a chart showing the Top 10 drugs or fluids generating alerts and the breakdown of the actions taken. This chart defaults to the last month of pump data across all profiles.

The **Alerts by Month** chart shows the number of alerts per month for the latest year of pump data. When selected, the chart will open with labels and show the parameters used to generate the chart.

Clicking on the **Alerts Profile Pie Chart** will open a new window showing the breakdown of alerts by profile for the latest month of pump data.
The **Events** section shows recent and upcoming IPI community events and activities.

Recent IPI community news is displayed in the **IPI News** section.

Selecting any of the entries under **IPI How-To** will open the IPI community Wiki providing access to documentation and other learning resources.

The **Resources** section is used for the creation and management of narratives and accessing drug limit libraries. Narratives are documents used to capture hospital IPI issues, thoughts and ideas on possible solutions, and document corrective actions taken.
Viewing Drug Limit Libraries

This section describes how to view a drug limit library.

- Select **IPI Drug Limit Libraries** from the IPI Main page.

A “Viewer” showing all the Drug Limit Libraries in IPI is displayed.
- Select **View Resource Page** to view the desired library

- A Resources screen opens. Select the **Download** button

- Select OK to view the library.

For MS Word RTF, DOC, and DOCX formats the library will be opened using MS Word. For PDF format, the library will be opened using Adobe Acrobat. For XLS and XLSX format, the library will be opened using MS Excel.
Dashboard

The dashboard provides quick access to four (4) of the most common reports; *Alerts by Drug or Fluid, Actions Taken by Drug or Fluid, Alerts by Month*, and *Alerts Profile Pie Chart*.

*alerts by drug or fluid* shows the Top 10 drugs or fluids generating alerts across the user’s hospital for the last month. Selecting the icon will open the chart complete with labels and chart parameters.

A new window opens with that chart at the top, a table of the parameters used to generate the chart in the center, and a table of the chart data at the bottom.

This chart is similar to the *alerts by drug or fluid* chart available under *Analysis Charts*. The dashboard chart is not a *clickable chart*.

Selecting *actions taken by drug or fluid* will open a chart showing the Top 10 drugs or fluids generating alerts and the breakdown of the actions taken. This chart defaults to the last month of pump data across all profiles.
A new window opens with that chart at the top, a table of the parameters used to generate the chart in the center, and a table of the chart data at the bottom.

This chart is similar to the **Actions Taken by Drug or Fluid** chart available under **Analysis Charts**.

The **Alerts by Month** chart shows the number of alerts per month for the latest year of pump data for the Top 10 drugs. When selected, the chart will open with labels and show the parameters used to generate the chart.

A new window opens with that chart at the top, a table of the parameters used to generate the chart in the center, and a table of the chart data at the bottom.

This chart is similar to the **Alerts by Month** chart available under **Analysis Charts**. The dashboard chart is not a **Clickable Chart**.
Clicking on the **Alerts Profile Pie Chart** will open a new window showing the breakdown of alerts by profile for the Top 10 drugs over the last month of available data.

A new window opens with that chart at the top, a table of the parameters used to generate the chart in the center, and a table of the chart data at the bottom.

This chart is similar to the **Alerts Profile Pie Chart** available under **Analysis Charts**.
Analysis Charts

Navigating Analysis Charts

Selecting the **Analysis Charts** icon will take the user to the **Analyze** screen shown below. There are 2 sets of Analysis Charts; basic and advanced. The default dialog is for the creation of **Basic** reports.

Basic reports main screen

![Basic reports main screen](image)

Analysis Chart details for **Basic** reports

Each new report will be opened in a new tab. To return to the **Analysis Charts Basic** screen select the **Analyze** tab.
The **Hospital** dialog defaults to the user’s hospital. If multiple hospitals are selected the requested chart will be run for each hospital.

Selecting the **Advanced** button switches the analysis type from single hospital reporting to multiple hospital comparison mode. Advanced reporting options will be discussed later.

The **Chart** section allows users to select the type of report to generate. There are 4 tabs available when running **Basic** reports; **Standard, PieChart, Ratio**, and **Facility**.

There are 16 chart options available from the **Standard** tab.

There are 4 **PieChart** report options.
The **Ratio** tab provides access to 9 additional reports.  

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2 reports are available under the **facility** tab.  

The **Datasets** option allows users to look at alert data against a specific limit library or across all limit libraries. The default is **All**.

This section determines the data range for analyzing pump data. Selecting **Max. Date Range** sets the **Start Date** and **End Date** to match the hospital’s pump data loaded into IPI. Selecting the 🔗 for the date range will set the **Start Date** to January 1 (1/1) of the current or previous year.

Selecting the 🔗 for **End Date** will set the **End Date** to the date corresponding to the most recent upload of pump data into IPI for the selected hospital(s).

The **Anesthesia Option** allows users to customize their reports to include anesthesia alerts, exclude anesthesia alerts, or report only against anesthesia alerts.

There are 3 available options.

- All alerts including anesthesia
- Alerts excluding anesthesia
- Alerts for anesthesia only
The IPI system will occasionally provide helpful tips as the user makes selections.

Selecting Logs, the default, shows a histogram of alerts by month for the hospital selected for the entire duration of pump data uploaded to IPI.

Selecting Events tab will modify the display to show the dates for hospital upload of limit libraries.

Hovering over the symbol will identify the date of upload and left clicking on the symbol will open a dialog providing a URL to the limit library document.

This dialog allows the user to generate reports for one or more profiles or Clinical Care Areas (CCA). The list of values are generated from the log files and will likely be unique for each hospital.
Reports can be generated across the entire hospital system by selecting All. Alternatively, reports can be run against one or more facilities.

Reports will be generated for the drugs selected from this list. One or more drugs may be selected. The list of values are generated from the log files and will be unique for each hospital. Selecting **Top 5**, **Top 10**, or **Top 20** will generate reports based on drugs or fluids generating the highest numbers of alerts.

The **all drugs except selected** provides a method to exclude drugs from the analysis. Clicking on the button provides an explanation and example for using the **all drugs except selected** button.

The **Resolution** option allows users the ability to generate reports based on action taken in response to the alert.
Preset Options allow each user to quickly apply preferred Analysis Chart settings.

Selecting the Save button captures the current analysis settings and opens a dialog requesting a name for the preset, a description for the preset, and a toggle box for allowing the preset to be used by others in the IPI community.

Selecting Load allows the user to apply settings saved in previously defined preset. To load one of your presets select the symbol. To delete a previously created preset, select the symbol. To load a preset defined by another IPI user, select the Shared by Others tab and then select the symbol for the desired preset.

Selecting the Analyze button will create the desired chart based on the current selections.

The Alert Types dialog provides the user with the ability to filter on alert type. One or more alert types may be selected.
A description of the alert types is provided by hovering over or clicking on the symbol.

If Field Limit is selected in Alert Types above, then the user can further refine their report by selecting one or more specific Field Limit Types.
Example 1: Alerts by Drug or Fluid Drill-down (Clickable Chart)

This sample workflow demonstrates the clickable chart feature.

- Select **Analysis Charts** from the IPI main page
- For **Hospital** select **Eskenazi Hospital**
- For **Chart** select **Alerts by Drug or Fluid** (This is the default)
- Set **Start Date** to **12-01-2013**
- Set **End Date** to **12-31-2013**
- Set **Profiles/CCA** to **Critical Care/ED**
- Set **Drugs** to **Top 20**
- Leave remaining options at their default values

The image below shows the desired settings.

- Select **Analyze** to generate the chart
The chart is generated and displayed on a new tab titled **Alerts by Drug or Fluid**.

Propofol is the number 1 alert generating drug so the analysis will focus on it. Further analysis could be performed on any of the drugs listed.

- Click anywhere on the *propofol* blue bar

The chart is modified to include a new box at the top of the chart that shows the Drug selected, Alert Count, and available **Actions** for further analysis.
• Select **Actions Taken**. This will help to understand how the clinicians responded to the alert.

The **Actions Taken by Drug or Fluid** chart is generated and displayed on a new tab.

The resulting chart shows for the 119 **propofol** alerts the response was to **Cancel** in 7 cases, **Override** in 82, **Reprogram** in 29, and 1 **Other** response.

• Select the **Alerts by Drug or Fluid** tab to return to the Top Drugs Chart with the **Action** links.

The analysis of **propofol** continues by examining the limits exceeded.
• Select **Alert Field Limits (Pie Chart)** as the desired action

The Alerts Field Limit Pie Chart is generated and displayed on a new tab.

• Click inside the **Continuous Dose** piece of the pie
The chart is modified to include a new box at the top of the chart that shows *Continuous Dose* was selected, the *Alert Count*, and the option to *Generate pivot chart for Continuous Dose*.

- Select *Generate pivot chart for Continuous Dose* to continue the analysis

The *Continuous Dose* pivot chart is opened in a new tab.

On the same tab, a second chart is generated, below the one pictured above, showing a similar pivot chart that includes information on the action taken by the clinician (E.g., Override or reprogram).
Scroll down to see the second chart.

The analysis continues by looking at the 30 alerts generated at the Alert Value Range of 100.00.

- Click inside the bar representing 100.0.
The drilldown report with all possible details is opened in a new tab titled **Above/Below Limit All Types**.

This concludes the Alerts by Drug or Fluid Drill-down example.
Example 2: Alerts by Month Drill-down (Clickable Chart)

This sample workflow demonstrates the clickable chart feature.

- Select **Analysis Charts** from the IPI main page

- For **Hospital** select Eskenazi Hospital

- For **Chart** select **Alerts by Month**

- Set **Start Date** to 01-01-2013

- Set **End Date** to 01-09-2014

- Set **Drugs** to *propofol*. This can be done several ways. 1) Type *propofol*, 2) Type the letters *prop* (propofol is highlighted) or 3) scroll to *propofol* and select it.

- Leave remaining options at their default values

The image below shows the desired settings.

- Select **Analyze** to generate the chart
The chart is generated and displayed on a new tab titled *Alerts by Month*. A second chart is generated below the *Alerts by Month* chart showing the number of devices generating alerts for each month in the date range.

*December 2013* has the most alerts so the analysis will focus on it. Further analysis could be performed for any month displayed.
• Click anywhere on the **Dec/2013** blue bar

![Chart](image)

The chart is modified to include a new box at the top of the chart showing the Date selected, Alert Count, and available **Actions** for further analysis.

![Modified Chart](image)

• Select **Alert Profiles**. This will help to understand where in the hospital the alerts were generated.
The **Alerts Profile Pie Chart** is generated and displayed on a new tab.

The majority of the alerts occurred in the **Critical Care/ED** profile.

- Select on the **Alerts by Month** Tab to return to the previous chart
- Select **Alerts by Day**
The **Alerts by Day** chart is generated and displayed on a new tab.

December 26, 2013 has the most alerts so the analysis will focus on it. Further analysis could be performed for any day displayed.

- Click anywhere on the **2013-12-26** blue bar
The chart is modified to include a new box at the top of the chart showing the Date selected, Alert Count, and available Actions for further analysis.

- Select Alerts by Hour

The Alerts by Day chart (showing Alerts by Hour) is generated and displayed on a new tab.

The hour with the most alerts was 10:00 A.M. (15).

This concludes the Alerts by Month Drill-down example.
Alerts by Drug or Fluid

Location: Analysis Charts – Basic – Standard tab

Critical Question: Which drugs get the most alerts?

Clickable Chart: Yes
Actions Taken by Drug or Fluid

Location: **Analysis Charts** – **Basic** – **Standard tab**

Critical Question: How did the clinicians respond to the alerts for these drugs?

Clickable Chart: **No**
Field Limit Types by Drug or Fluid

Location: **Analysis Charts – Basic – Standard tab**

Critical Question: What limits are being hit by these drugs?

Clickable Chart: **No**
Alerts by Month

Location: *Analysis Charts* – *Basic* – *Standard tab*

Critical Question: What is the total volume of alerts and how are they trending?

Clickable Chart: *Yes*
Alerts by Month Line Graph

Location: **Analysis Charts** – **Basic** – **Standard tab**

Critical Questions:

What is the total volume of alerts and how are they trending?

Clickable Chart: **No**
Alerts by Month by Resolution

Location: Analysis Charts – Basic – Standard tab

Critical Question: How did clinicians respond for total monthly alerts?

Clickable Chart: No
Alerts by Month by Profile

Location:  *Analysis Charts – Basic – Standard tab*

Critical Question: What is the profile breakdown of all alerts by month?

Clickable Chart: No
Alerts by Month by Type

Location: **Analysis Charts** – **Basic** – **Standard tab**

Critical Question: What is the limit type breakdown for all alerts by month?

Clickable Chart: **No**
**Alerts by Month by Field Limit Types**

**Location:** *Analysis Charts* – *Basic* – *Standard tab*

**Critical Question:** What limits are being hit by these drugs and how are they trending?

**Clickable Chart:** No
Alerts by Time of Day

Location: **Analysis Charts** – **Basic** – **Standard tab**

Critical Question: What time of day are the alerts generated?

Clickable Chart: **No**
Alerts by Time of Day Line Graph

Location: Analysis Charts – Basic – Standard tab

Critical Question: What time of day are the alerts generated?

Clickable Chart: No
Alerts by Time of Day by Resolution

Location: *Analysis Charts* – *Basic* – *Standard tab*

Critical Question: What time of day are the alerts generated and how do the clinicians respond?

Clickable Chart: No
Field Limit Types by Profile

Location: **Analysis Charts – Basic – Standard tab**

Critical Question: What field limits are being hit in each area?

Clickable Chart: No
TTO Frequency Distribution

Location: Analysis Charts – Basic – Standard tab

Critical Question: How quickly are alarms being overridden?

Clickable Chart: No
TTO Cumulative Distribution

Location:  *Analysis Charts* – *Basic* – *Standard tab*

Critical Question:  How quickly are alarms being overridden?

Clickable Chart:  No
TTO Alerts by Month

Location: **Analysis Charts – Basic – Standard tab**

Critical Question: What is the trend for alerts being overridden in less than 2 seconds?

Clickable Chart: **No**
Alerts Profile Pie Chart

Location: *Analysis Charts* – Basic – *PieChart tab*

Critical Question: Where in the hospital are the alerts being generated?

Clickable Chart: **No**
Alerts Types Pie Chart

Location: *Analysis Charts* – Basic – PieChart tab

Critical Question: What is the breakdown of alerts by type?

Clickable Chart: No
Alerts Field Limit Pie Chart

Location: *Analysis Charts – Basic – PieChart tab*

Critical Question: What is the field limit breakdown for all alerts?

Clickable Chart: **No**
Alerts Full Breakdown Pie Chart

Location: **Analysis Charts – Basic – PieChart tab**

Critical Question: What is the limit type breakdown for all alerts?

Clickable Chart: **No**
Overrides per Device

Location: **Analysis Charts** – Basic – Ratio tab

Critical Question: How often does the clinician override the alert per device?

Clickable Chart: **No**
Reprograms per Device

Location: *Analysis Charts* – *Basic – Ratio tab*

Critical Question: How often does the clinician reprogram per device?

Clickable Chart: **No**
Alerts per Device

Location: **Analysis Charts** – **Basic** – **Ratio tab**

Critical Question: How many alerts are generated per device?

Clickable Chart: **No**
Cancels per Device

Location: Analysis Charts – Basic – Ratio tab

Critical Question: How often does the clinician cancel the alert per device?

Clickable Chart: No
Overrides to Total Alerts (%)

Location: Analysis Charts – Basic – Ratio tab

Critical Question: What is the trend of overrides to total alerts?

Clickable Chart: No
Overrides to Reprograms

Location: Analysis Charts – Basic – Ratio tab

Critical Question: What is the trend of the ratio of overrides to reprograms?

Clickable Chart: No
Overrides to Cancels

Location: *Analysis Charts* – *Basic* – *Ratio* tab

Critical Question: What is the trend of the ratio of overrides to cancels?

Clickable Chart: No
Reprograms to Total Alerts (%)

Location:  *Analysis Charts* – *Basic* – *Ratio tab*

Critical Question:  What is the trend of the ratio of reprograms to total alerts?

Clickable Chart:  No
TTO Frequency Distribution (%)

Location: *Analysis Charts* – *Basic* – *Ratio tab*

Critical Question: How quickly are alarms being overridden?

Clickable Chart: No

![Chart showing TTO frequency distribution](image-url)
Alerts by Month By Facility

Location: **Analysis Charts** – Basic – Facility tab

Critical Question: In which facilities are alerts generated?

Clickable Chart: No
Overrides to Reprograms By Facility

Location: *Analysis Charts* – *Basic* – *Facility tab*

Critical Question: How does the ratio of overrides to reprograms differ across facilities?

Clickable Chart: No
Advanced reports main screen.

Analysis Chart details for Advanced reports

Each new report will be opened in a new tab. To return to the Analysis Charts Advanced screen select the Compare tab.
Reports will be generated showing data from the hospitals selected. The user can select multiple hospitals. The Hospital dialog defaults to all hospitals selected.

Selecting the Basic button switches the analysis type from multiple hospital comparison mode to single hospital reporting.

The Chart section allows users to select the type of report to generate. There are 3 tabs available when running Advanced reports; Standard, PieChart, and Ratio.

There are 13 chart options available from the Standard tab.

There are 4 PieChart report options.
The *Ratio* tab provides access to 8 additional reports.

Selecting the *Show* button provides the user with a histogram of alerts and event history for each hospital chosen for the analysis.

To return to the initial display select *Hide*.

The *Datasets* option allows users to look at alert data against a specific limit library or across all limit libraries. The default is *All*. When analyzing multiple hospitals there is a *Datasets* dialog for each hospital.
Users may report on selected **Facilities** for each **Hospital** selected.

The **Profiles/CCA** dialog allows the user to select one or more profiles or Clinical Care Areas (CCA) per hospital analyzed.

Reports will be generated for the drugs selected from this list. One or more drugs may be selected. The list of values are generated from the log files and will be unique for each hospital. Selecting **Top 5**, **Top 10**, or **Top 20** will generate reports based on drugs or fluids generating the highest numbers of alerts.
This section determines the data range for analyzing pump data. Selecting Max. Date Range sets the Start Date and End Date to match the hospitals' pump data loaded into IPI.

Selecting the for the date range will set the Start Date to January 1 (1/1) of the current or previous year.

Selecting the for End Date will set the End Date to the date corresponding to the most recent upload of pump data into IPI for the selected hospital(s).

The Anesthesia Option allows users to customize their reports to include anesthesia alerts, exclude anesthesia alerts, or report only against anesthesia alerts.

The Alert Types dialog provides the user with the ability to filter on alert type. One or more alert types may be selected.

A description of the alert types can be found by returning to the <<Basic analysis chart and hovering over the symbol next to Alert Types.

Select the Compare button to create the desired chart based on the current selections.
The **Resolution** option allows user the ability to generate reports based on the actions taken in response to the alert.

**Preset Options** allow each user to quickly apply preferred **Analysis Chart** settings.

Selecting the **Save** button captures the current analysis settings and opens a dialog requesting a name for the preset, a description for the preset, and a toggle box for allowing the preset to be used by others in the IPI community.

Selecting **Load** allows the user to apply settings saved in previously defined preset. To load one of your presets select the 🔄 symbol. To delete a previously created preset, select the 🗑️ symbol. To load a preset defined by another IPI user, select the **Shared by Others** tab and then select the 🔄 symbol for the desired preset.
<table>
<thead>
<tr>
<th>Name</th>
<th>Created On</th>
<th>Share</th>
<th>Load</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple Top 20</td>
<td>2013-03-19</td>
<td>Not Shared</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Analysis Charts (Advanced)

The Advanced Analysis Charts provide the ability to compare between hospitals at a deeper level of detail than with Basic Analysis Charts. Specifically, the user has the ability to select for each hospital; Datasets, Profiles/CCA, Facility, and Drugs.

An example will be used to show the differences between Basic and Advanced Analysis Charts.

Example 1: Analysis Charts - Basic and Advanced

- Select **Analysis Charts** from the IPI main page
- For **Hospital** select **Eskenazi Hospital**

Notice that all options are available for **Datasets, Profiles/CCA, Facilities, and Drugs**.

To compare 2 hospitals select a second **Hospital**.
For **Hospital** select *University of Wisconsin Hospital* and *Eskenazi Hospital*.

Tip: Multi-select by holding the <Ctrl> key while left-clicking

Notice that the options are minimized for *Datasets, Profiles/CCA, Facilities,* and *Drugs*.

To compare at a deeper level of detail than **All**, use Advanced Analysis Reports.

- Select **Analysis Charts** from the IPI main page
- Select **Advanced>>**
- For **Hospital** select *University of Wisconsin Hospital* and *Eskenazi Hospital*. 
Notice that for each Hospital detailed values are available for Datasets, Profiles/CCA, Facilities, and Drugs.
This dialog provides the ability to generate a report comparing the drugs generating alerts in different units.

- For University of Wisconsin Hospital
  - Set **Profile/CCA** to **PICU**
  - Set **Drugs** to **Top 10**

- For Eskenazi Hospital
  - Set **Profile/CCA** to **NICU**
  - Set **Drugs** to **Top 10**
Generate the report for all of 2013

- Set **Start Date** to 01-01-2013
- Set **End Date** to 12-31-2013
- Select **Compare**

This concludes the Analysis Charts – Basic and Advanced example.
Analysis Charts (Advanced)

Alerts by Drug or Fluid

Location: **Analysis Charts** – **Advanced** – **Standard tab**

Critical Question: Which drugs get the most alerts?

Clickable Chart: No

![Alerts by Drug or Fluid (Community Health Network) 1st January 2013 to 9th January 2014](chart1)

![Alerts by Drug or Fluid (University of Wisconsin Hospital) 1st January 2013 to 9th January 2014](chart2)
Actions Taken by Drug or Fluid

Location: **Analysis Charts** – **Advanced** – **Standard tab**

Critical Question: How did the clinicians respond to the alerts for these drugs?

Clickable Chart: **No**
Field Limit Types by Drug or Fluid

Location: Analysis Charts – Advanced – Standard tab

Critical Question: What limits are being hit by these drugs?

Clickable Chart: No
Field Limit Types by Profile

Location: **Analysis Charts** – **Advanced** – **Standard tab**

Critical Question: What field limits are being hit in each area?

Clickable Chart: **No**
Alerts by Month

Location: **Analysis Charts** – **Advanced** – **Standard tab**

Critical Question: What is the total volume of alerts and how are they trending?

Clickable Chart: **No**
Alerts by Month Line Graph

Location:  *Analysis Charts – Advanced – Standard tab*

Critical Questions:

What is the total volume of alerts and how are they trending?

Clickable Chart:  **No**
Alerts by Month by Resolution

Location: **Analysis Charts** – **Advanced** – **Standard tab**

Critical Question: How did clinicians respond for total monthly alerts?

Clickable Chart: **No**
Alerts by Month by Profile

Location: **Analysis Charts** – **Advanced** – **Standard tab**

Critical Question: What is the profile breakdown of all alerts by month?

Clickable Chart: No
Alerts by Month by Types

Location: **Analysis Charts** – **Advanced** – **Standard tab**

Critical Question: What is the alert type breakdown by month?

Clickable Chart: **No**
Alerts by Month by Field Limit Types

Location: **Analysis Charts – Advanced – Standard tab**

Critical Question: What limits are being hit by these drugs and how are they trending?

Clickable Chart: **No**
Alerts by Month Per Device

Location: *Analysis Charts* – *Advanced* – *Standard tab*

Critical Question: What is the trend in the number of alerts per device?

Clickable Chart: No
Alerts by Time of Day

Location: **Analysis Charts** – **Advanced** – **Standard tab**

Critical Question: What time of day are the alerts generated?

Clickable Chart: **No**
Alerts by Time of Day by Resolution

Location: \textit{Analysis Charts} – \textit{Advanced} – \textit{Standard tab}

Critical Question: What time of day are the alerts generated and how do the clinicians respond?

Clickable Chart: No
Alerts Profile Pie Chart

Location: **Analysis Charts – Advanced – PieChart tab**

Critical Question: Where in the hospital are the alerts being generated?

Clickable Chart: **No**
Alerts Types Pie Chart

Location: *Analysis Charts* – Advanced – PieChart tab

Critical Question: What is the breakdown of alerts by type?

Clickable Chart: **No**
Alerts Field Limit Pie Chart

Location: Analysis Charts – Advanced – PieChart tab

Critical Question: What is the field limit breakdown for all alerts?

Clickable Chart: No
Alerts Full Breakdown Pie Chart

Location: **Analysis Charts – Advanced – PieChart tab**

Critical Question: What is the limit type breakdown for all alerts?

Clickable Chart: **No**
Overrides per Device

Location: *Analysis Charts* – *Advanced* – *Ratio tab*

Critical Question: How often does the clinician override the alert per device?

Clickable Chart: No
Reprograms per Device

Location: Analysis Charts – Advanced – Ratio tab

Critical Question: How often does the clinician reprogram per device?

Clickable Chart: No

![Reprograms per Device chart](image-url)
Alerts per Device

Location: Analysis Charts – Advanced – Ratio tab

Critical Question: How many alerts are generated per device?

Clickable Chart: No
Cancels per Device

Location: *Analysis Charts – Advanced – Ratio tab*

Critical Question: How often does the clinician cancel the alert per device?

Clickable Chart: **No**
Overrides to Total Alerts (%)

Location: *Analysis Charts* – *Advanced* – *Ratio tab*

Critical Question: What is the trend of overrides to total alerts?

Clickable Chart: **No**

![Chart of Percentage: Overrides to Total Alerts By Month (Multiple Hospitals): 1st, January 2013 to 9th, January 2014](chart.png)
Overrides to Reprograms

Location: *Analysis Charts* – *Advanced* – *Ratio tab*

Critical Question: What is the trend of the ratio of overrides to reprograms?

Clickable Chart: **No**
Overrides to Cancels

Location: Analysis Charts – Advanced – Ratio tab

Critical Question: What is the trend of the ratio of overrides to cancels?

Clickable Chart: No
Reprograms to Total Alerts (%)

Location:  **Analysis Charts** – **Advanced** – **Ratio tab**

Critical Question: What is the trend of the ratio of reprograms to total alerts?

Clickable Chart: **No**
Investigative Reports

Navigating Investigative Reports

Selecting the **Investigative Reports** icon will take the user to the **Investigate** screen.

Investigate Reports main screen

Investigative Report details

Each new report will be opened in a new tab. To return to the main Investigative Report screen select the **Investigate** tab.

The **Hospital** dialog defaults to the user’s hospital.
The **Field Limit Report** section allows users to select the type of investigative report to generate.

There are 4 tabs available; **Standard, GoodCatch, MissedCatch, and Other**.

### Above/Below Limit All Types

- **Above Limit by Dose**
- **Above Limit by Rate**
- **Above Limit by Duration**
- **Above Limit by Concentration**
- **Below Limit by Dose**
- **Below Limit by Rate**
- **Below Limit by Duration**
- **Below Limit by Concentration**

For **Standard** reports, there are 9 reporting options.

When selecting the **GoodCatch** tab, an additional field is shown called **xLimit**. *xLimit* is the factor the programmed value is above or below the limit library hard or soft limit.

A good catch is defined as a medication error that had potential to cause an incident but that did not due to timely intervention.

There are 9 investigate report options for **GoodCatch**.

### Above/Below Limit All Types [GC]

- **Above Limit by Dose [GC]**
- **Above Limit by Rate [GC]**
- **Above Limit by Duration [GC]**
- **Above Limit by Concentration [GC]**
- **Below Limit by Dose [GC]**
- **Below Limit by Rate [GC]**
- **Below Limit by Duration [GC]**
- **Below Limit by Concentration [GC]**
When selecting the **MissedCatch** tab, an additional field is shown called **xLimit**. **xLimit** is the factor the programmed value is above or below the limit library hard or soft limit.

A missed catch is defined as a medication error that had potential to cause an incident that was not adverted.

<table>
<thead>
<tr>
<th>Above/Below Limit All Types [MC]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above Limit by Dose [MC]</td>
</tr>
<tr>
<td>Above Limit by Rate [MC]</td>
</tr>
<tr>
<td>Above Limit by Duration [MC]</td>
</tr>
<tr>
<td>Above Limit by Concentration [MC]</td>
</tr>
<tr>
<td>Below Limit by Dose [MC]</td>
</tr>
<tr>
<td>Below Limit by Rate [MC]</td>
</tr>
<tr>
<td>Below Limit by Duration [MC]</td>
</tr>
<tr>
<td>Below Limit by Concentration [MC]</td>
</tr>
</tbody>
</table>

There are 6 investigative report options for **Other**.

**Time to Override**

- Alerts by Hard/Soft Limits
- Alerts Summary by Type
- Drugs by Profile
- Alerts Summary by Profile
- Alerts Summary by Month

When selecting the **Other** tab, an additional field is shown called **Time to Override**. The **Time to Override** value is shown for only the **Time to Override** report and does not show for the 5 additional reports available on the **Other** tab.

The value chosen for the **Time to Override** setting is the number of seconds between the Alert Timestamp and the Override Timestamp.
The **Datasets** option allows users to look at alert data against a specific limit library or across all limit libraries. The default is **All**.

This section determines the data range for analyzing pump data. Selecting **Max. Date Range** sets the **Start Date** and **End Date** to match the hospital's pump data loaded into IPI. Selecting the "+" for the date range will set the **Start Date** to January 1 (1/1) of the current or previous year.

Selecting the "+" for **End Date** will set the **End Date** to the date corresponding to the most recent upload of pump data into IPI for the selected hospital(s).

The **Anesthesia Option** allows users to customize their reports to include anesthesia alerts, exclude anesthesia alerts, or report only against anesthesia alerts.

There are 3 available options.

The **Limit** field allows users to control the number of records displayed. This control only applies to **standard Investigative Reports** that start with “Below” or “Above”.

There are 4 preset options available (**Top 5**, **Top 10**, **Top 20**, **Top 50**) and the ability to set a custom limit (**Set custom limit**).
Selecting Logs, the default, shows a histogram of alerts by month for the hospital selected for the entire duration of pump data uploaded to IPI.

Selecting on the Events tab will modify the display to show the dates for hospital upload of limit libraries.

Hovering over the symbol will identify the date of upload and left clicking on the symbol will open a dialog providing a URL to the limit library document.

This dialog allows the user to generate reports for one or more profiles or Clinical Care Areas (CCA). The list of values are generated from the log files and will likely be unique for each hospital.

The Facilities dialog provides users the opportunity to generate reports for one or more hospital facilities.
Reports will be generated for the drugs selected from this list. One or more drugs may be selected. The list of values are generated from the log files and will be unique for each hospital.

The *all drugs except selected* provides a method to exclude drugs from the analysis.

Clicking on the button provides an explanation and example for using the *all drugs except selected* button.

Preset Options allow each user to quickly apply preferred Analysis Chart settings.

Selecting the Save button captures the current analysis settings and opens a dialog requesting a name for the preset, a description for the preset, and a toggle box for allowing the preset to be used by others in the IPI community.
Selecting **Load** allows the user to apply settings saved in previously defined preset. To load one of your presets select the symbol. To delete a previously created preset, select the symbol. To load a preset defined by another IPI user, select the **Shared by Others** tab and then select the symbol for the desired preset.

Selecting the **Analyze** button will create the desired chart based on the current selections.

The **Resolution** option allows users the ability to generate reports based on action taken in response to the alert.
Example 1: Good Catch Drill-down
This sample workflow demonstrates some of the unique features of Investigative Reports.

- Select **Investigative Reports** from the IPI main page

- For **Hospital** select **Eskenazi Hospital**

- For **Field Limit Report** select the **GoodCatch** tab

- Change the report type from **Above/Below Limit All Types [GC]** to **Above Limit by Dose [GC]**

- Set **Start Date** to **01-01-2013**

- Set **End Date** to **01-09-2014**

- Leave remaining options at their default values

The image below shows the desired settings.

- Select **Analyze** to generate the chart
The report is generated and displayed on a new tab titled *Above Limit by Dose [GC]*.

The analysis continues by looking at a particular drug, \textit{propofol}.

- Select in the box under \textbf{Drug} and type \textit{propofol}

Notice that the report filters only on propofol.

- Using the scroll bar at the bottom of the report scroll to the right until the \textbf{Plot} column is visible and select \textbf{Graph} for the first row.
A window opens showing the Initial Programmed Dose (blue bar), the Reprogrammed Dose (blue bar), and the Guardrail Hard Limit (red line).

The analysis continues by looking at another drug.

- Close the Graph by selecting the “X”
- Scroll back to the left to view the Drug column and type in *morphine*.

There is only 1 alert associated with *morphine*.

- Scroll to the right to view the Re-programmed column. Note that the reprogrammed value is missing. It may be possible to obtain the reprogrammed value by viewing the data available in the More Reprogram Info for the Alert Group column.

- Select More Info.
A window opens with additional detail.

- Scroll to the right to view the Dose column.

The reprogrammed value is 1.

This concludes the Good Catch Drill-down example.
Investigative Reports

Above/Below Limit All Types

Location:  *Investigative Reports* – Standard tab

Critical Question:  What are the details for each alert?

Clickable Chart:  No

Attributes displayed:  Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Type, Above/Below, Drug Limit, Programmed, Amount Exceeded, Units, % Exceeded, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI (ml), Infusion Duration
Above Limit by Dose

Location: **Investigative Reports** – **Standard tab**

Critical Question: What are the details for each alert related to type of dose?

Clickable Chart: **No**

Attributes displayed: *Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Exceeded, Unit, % Exceeded, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration*
Above Limit by Rate

Location: *Investigative Reports* – *Standard tab*

Critical Question: What are the details for each alert related to rate?

Clickable Chart: **No**

Attributes displayed: *Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Exceeded, Unit, % Exceeded, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration*
Above Limit by Duration

Location: **Investigative Reports – Standard tab**

Critical Question: What are the details for each alert related to duration?

Clickable Chart: No

![Clickable Chart Image]

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Exceeded, % Exceeded, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Above Limit by Concentration

Location: **Investigative Reports** – **Standard tab**

Critical Question: What are the details for each alert related to concentration?

Clickable Chart: **No**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Profile</th>
<th>Therapy</th>
<th>Dataset</th>
<th>Facility</th>
<th>Hard/Soft</th>
<th>Drug Limit</th>
<th>Programmed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penicillin G K</td>
<td>Critical Care/ED</td>
<td>No Therapy</td>
<td>[01C37EF-R]WHS v9.4 - 14</td>
<td>Washhard</td>
<td>Soft</td>
<td>0.05</td>
<td>400.00</td>
</tr>
<tr>
<td>Penicillin G K</td>
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<td>No Therapy</td>
<td>[01C37EF-R]WHS v9.4 - 14</td>
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<td>[01C37EF-R]WHS v9.4 - 14</td>
<td>Washhard</td>
<td>Soft</td>
<td>0.10</td>
<td>400.00</td>
</tr>
<tr>
<td>Thiamine</td>
<td>Med/Surg</td>
<td>No Therapy</td>
<td>[01C37EF-R]WHS v9.4 - 14</td>
<td>Washhard</td>
<td>Soft</td>
<td>0.10</td>
<td>400.00</td>
</tr>
<tr>
<td>Methotrexate</td>
<td>Critical Care/ED</td>
<td>No Therapy</td>
<td>[01C37EF-R]WHS v9.4 - 14</td>
<td>Washhard</td>
<td>Soft</td>
<td>0.10</td>
<td>400.00</td>
</tr>
<tr>
<td>Methotrexate</td>
<td>Critical Care/ED</td>
<td>No Therapy</td>
<td>[01C37EF-R]WHS v9.4 - 14</td>
<td>Washhard</td>
<td>Soft</td>
<td>0.10</td>
<td>400.00</td>
</tr>
<tr>
<td>Digoxin</td>
<td>Critical Care/ED</td>
<td>No Therapy</td>
<td>[01C37EF-R]WHS v9.4 - 14</td>
<td>Washhard</td>
<td>Soft</td>
<td>0.10</td>
<td>400.00</td>
</tr>
<tr>
<td>Digoxin</td>
<td>Critical Care/ED</td>
<td>No Therapy</td>
<td>[01C37EF-R]WHS v9.4 - 14</td>
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<td>Washhard</td>
<td>Soft</td>
<td>0.10</td>
<td>400.00</td>
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<tr>
<td>VANCOmycin</td>
<td>Med/Surg</td>
<td>Gram Dosing</td>
<td>[01C37EF-R]WHS Aug.2013</td>
<td>Washhard</td>
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<tr>
<td>Levotiracem</td>
<td>Critical Care/ED</td>
<td>No Therapy</td>
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<td>Washhard</td>
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Below Limit by Dose

Location: *Investigative Reports* – *Standard tab*

Critical Question: What are the details for each alert related to type of dose?

Clickable Chart: **No**

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Below, Unit, % Below, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Below Limit by Rate

Location: *Investigative Reports* – Standard tab

Critical Question: What are the details for each alert related to rate?

Clickable Chart: No

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Below, Unit, % Below, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Below Limit by Duration

Location: **Investigative Reports – Standard tab**

Critical Question: What are the details for each alert related to duration?

Clickable Chart: **No**

Attributes displayed: **Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Below, % Below, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration**
Below Limit by Concentration

Location: **Investigative Reports** – Standard tab

Critical Question: What are the details for each alert related to concentration?

Clickable Chart: **No**

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Below, Unit,% Below, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Above/Below Limit All Types [GC]

Location: *Investigative Reports* – *GoodCatch tab*

Critical Question: What are the details for each alert related to a Good Catch?

Clickable Chart: **No**

Attributes displayed: *Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Type, Above/Below, Drug Limit, Programmed, Amount Exceeded, Units, % Exceeded, Times Limit, Field Limit, Date, Device ID, Action Taken, Reprogrammed, Graph, More Reprogram Info for the Alert Group, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI (ml), Infusion Duration*
Above Limit by Dose [GC]

Location: Investigative Reports – GoodCatch tab

Critical Question: What are the details for each Good Catch related to dose?

Clickable Chart: No

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Exceeded, Unit, % Exceeded, Times Limit, Field Limit, Date, Device ID, Action Taken, Reprogrammed, Plot, More Reprogram Info for the Alert Group, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Above Limit by Rate [GC]

Location: Investigative Reports – GoodCatch tab

Critical Question: What are the details for each Good Catch related to rate?

Clickable Chart: No

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Exceeded, Unit,% Exceeded, Times Limit, Field Limit, Date, Device ID, Action Taken, Reprogrammed, Plot, More Reprogram Info for the Alert Group, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Above Limit by Duration [GC]

Location: *Investigative Reports – GoodCatch tab*

Critical Question: What are the details for each Good Catch related to duration?

Clickable Chart: *No*

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Exceeded, % Exceeded, Times Limit, Field Limit, Date, Device ID, Action Taken, More Reprogram Info for the Alert Group, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Above Limit by Concentration [GC]

Location: Investigative Reports – GoodCatch tab

Critical Question: What are the details for each Good Catch related to concentration?

Clickable Chart: No

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Exceeded, Unit, % Exceeded, Times Limit, Field Limit, Date, Device ID, Action Taken, Reprogrammed, Plot, More Reprogram Info for the Alert Group, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Below Limit by Dose [GC]

Location: Investigative Reports – GoodCatch tab

Critical Question: What are the details for each Good Catch related to dose?

Clickable Chart: No

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Below, Unit, % Below, Times Limit, Field Limit, Date, Device ID, Action Taken, Reprogrammed, Plot, More Reprogram Info for the Alert Group, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Below Limit by Rate [GC]

Location: Investigative Reports – GoodCatch tab

Critical Question: What are the details for each Good Catch related to rate?

Clickable Chart: No

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Below, Unit, % Below, Times Limit, Field Limit, Date, Device ID, Action Taken, Reprogrammed, Plot, More Reprogram Info for the Alert Group, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Below Limit by Duration [GC]

Location:  *Investigative Reports* – *GoodCatch tab*

Critical Question:  What are the details for each Good Catch related to duration?

Clickable Chart:  **No**

Attributes displayed:  *Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Below, % Below, Times Limit, Field Limit, Date, Device ID, Action Taken, More Reprogram Info for the Alert Group, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration*
Below Limit by Concentration [GC]

Location: Investigative Reports – GoodCatch tab

Critical Question: What are the details for each Good Catch related to concentration?

Clickable Chart: No

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Below, Unit, % Below, Times Limit, Field Limit, Date, Device ID, Action Taken, Reprogrammed, Plot, More Reprogram Info for the Alert Group, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Above/Below Limit All Types [MC]

Location: Investigative Reports – MissedCatch tab

Critical Question: What are the details for each alert related to a Missed Catch?

Clickable Chart: No

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Type, Above/Below, Drug Limit, Programmed, Amount Exceeded, Units, % Exceeded, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI (ml), Infusion Duration
Above Limit by Dose [MC]

Location: Investigative Reports – MissedCatch tab

Critical Question: What are the details for each Missed Catch related to dose?

Clickable Chart: No

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Exceeded, Units,% Exceeded, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Above Limit by Rate [MC]

Location: *Investigative Reports* – *MissedCatch tab*

Critical Question: What are the details for each Missed Catch related to rate?

Clickable Chart: **No**

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Exceeded, Units, % Exceeded, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Above Limit by Duration [MC]

Location:  *Investigative Reports – MissedCatch tab*

Critical Question:  What are the details for each Missed Catch related to duration?

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Attributes displayed:  Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Exceeded,% Exceeded, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Above Limit by Concentration [MC]

Location: *Investigative Reports – MissedCatch tab*

Critical Question: What are the details for each Missed Catch related to concentration?

Clickable Chart: No

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Exceeded, Unit,% Exceeded, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Below Limit by Dose [MC]

Location: **Investigative Reports – MissedCatch tab**

Critical Question: What are the details for each Missed Catch related to dose?

Clickable Chart: **No**

Attributes displayed: **Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Below, Unit,% Below, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration**
Below Limit by Rate [MC]

Location: **Investigative Reports – MissedCatch tab**

Critical Question: What are the details for each Missed Catch related to rate?

Clickable Chart: *No*

Attributes displayed: **Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Below, Unit, % Below, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration**
Below Limit by Duration [MC]

Location: Investigative Reports – MissedCatch tab

Critical Question: What are the details for each Missed Catch related to duration?

Clickable Chart: No

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Below, % Below, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Below Limit by Concentration [MC]

Location: Investigative Reports – MissedCatch tab

Critical Question: What are the details for each Missed Catch related to concentration?

Clickable Chart: No

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Hard/Soft, Drug Limit, Programmed, Amount Below, Unit,% Below, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Time to Override

Location: Investigative Reports – Other tab

Critical Question: How quickly were alerts overridden and for which drugs?

Clickable Chart: No

Attributes displayed: Drug, Profile, Therapy, Dataset, Facility, Time to Override (Seconds), Alert Timestamp, Override Timestamp, Hard/Soft, Drug Limit, Programmed, Amount Exceeded, Programming Type, Units, % Exceeded, Times Limit, Field Limit, Date, Device ID, Action Taken, Drug Amount, Diluent Vol, Concentration, Infusion Rate, VTBI, Infusion Duration
Alerts by Hard/Soft Limits

Location: *Investigative Reports* – *Other tab*

Critical Question: What is the number of hard and soft limit alerts for each drug?

Clickable Chart: No

### oxytocin

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### VANCOMycin

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### HYDROMorphone

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</tr>
</tbody>
</table>
Alerts Summary by Type

Location:  **Investigative Reports** – Other tab

Critical Question:  What is the number of alerts by type for each drug?

Clickable Chart:  No

Attributes displayed:  Drug, Profile, Hard/Soft, Drug Limit, Above/Below, Dose, Rate, Duration, Concentration, Total
Drugs by Profile

Location: Investigative Reports – Other tab

Critical Question: Which drugs are being used in each Profile/CCA?

Clickable Chart: No
Alerts Summary by Profile

Location:  *Investigative Reports* – Other tab

Critical Question:  What is the summary of alerts by Profile/CCA?

Clickable Chart:  No

<table>
<thead>
<tr>
<th>Profile/CCA</th>
<th>Total</th>
<th>Overrides</th>
<th>Reprograms/Edits</th>
<th>% Overrides</th>
<th>Reprograms/Edits</th>
<th>% Reprograms/Edits</th>
<th>Overrid. Hard</th>
<th>Soft</th>
<th>% Overrid. Hard</th>
<th>% Soft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Care/ED</td>
<td>6015</td>
<td>4764</td>
<td>1251</td>
<td>79.2</td>
<td>20.8</td>
<td>466</td>
<td>5516</td>
<td>7.75</td>
<td>9.0</td>
<td></td>
</tr>
<tr>
<td>Med/Surg</td>
<td>1765</td>
<td>1468</td>
<td>297</td>
<td>83.17</td>
<td>16.83</td>
<td>70</td>
<td>1689</td>
<td>3.97</td>
<td>9.0</td>
<td></td>
</tr>
<tr>
<td>Family Beginnings</td>
<td>1350</td>
<td>1289</td>
<td>61</td>
<td>95.48</td>
<td>4.52</td>
<td>24</td>
<td>1326</td>
<td>1.78</td>
<td>9.0</td>
<td></td>
</tr>
<tr>
<td>Oncology</td>
<td>566</td>
<td>480</td>
<td>106</td>
<td>81.27</td>
<td>18.73</td>
<td>15</td>
<td>545</td>
<td>2.65</td>
<td>9.0</td>
<td></td>
</tr>
<tr>
<td>NICU</td>
<td>411</td>
<td>268</td>
<td>143</td>
<td>65.21</td>
<td>34.79</td>
<td>87</td>
<td>324</td>
<td>21.17</td>
<td>9.0</td>
<td></td>
</tr>
<tr>
<td>Epidural</td>
<td>224</td>
<td>192</td>
<td>32</td>
<td>85.71</td>
<td>14.29</td>
<td>10</td>
<td>214</td>
<td>4.46</td>
<td>9.0</td>
<td></td>
</tr>
<tr>
<td>Acute Adaptable</td>
<td>114</td>
<td>90</td>
<td>24</td>
<td>78.95</td>
<td>21.05</td>
<td>7</td>
<td>101</td>
<td>6.14</td>
<td>8.0</td>
<td></td>
</tr>
<tr>
<td>Pediatrics</td>
<td>19</td>
<td>15</td>
<td>4</td>
<td>78.95</td>
<td>21.05</td>
<td>0</td>
<td>19</td>
<td>0</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Cath 3K</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>75</td>
<td>25</td>
<td>1</td>
<td>3</td>
<td>25</td>
<td>7.0</td>
<td></td>
</tr>
<tr>
<td>Cardiac Diagnostics</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>75</td>
<td>25</td>
<td>1</td>
<td>3</td>
<td>25</td>
<td>7.0</td>
<td></td>
</tr>
</tbody>
</table>

Attributes displayed:  Profile/CCA, Total, Overrides, Reprograms/Edits, % Overrides, %Reprograms/Edits, Hard, Soft, %Hard, %Soft
Alerts Summary by Month

Location: *Investigative Reports* – *Other tab*

Critical Question: What is the summary of alerts by Month?

Clickable Chart: No

Attributes displayed: Year, Month, Total, Overrides, Reprograms/Edits, % Overrides, %Reprograms/Edits, Hard, Soft, %Hard, %Soft
Pivot Charts

Navigating Pivot Charts

Selecting the **Pivot Charts** icon will take the user to the **Pivot Charts** screen.

Pivot Charts main screen.

Pivot Charts details

Each new report will be opened in a new tab. To return to the main Pivot Charts screen select the **Pivot Charts** tab.
The **Hospital** dialog defaults to the user’s hospital.

The **Datasets** option allows users to look at alert data against a specific limit library or across all limit libraries. The default is **All**.

The **Value Range** can be set to look at all the alerts for the selected drug or fluid or can be set to look at a subset of the alerts. As the tip indicates, selecting **Default** will result in an analysis looking at all the alerts.

Selecting **Enter Range** will open a secondary dialog prompting the user to enter the minimum (**Min**) and maximum (**Max**) values for the analysis.

This section determines the data range for analyzing pump data. Selecting **Max. Date Range** sets the **Start Date** and **End Date** to match the hospital’s pump data loaded into IPI. Selecting the arrow for the date range will set the **Start Date** to January 1 (1/1) of the current or previous year. Selecting the arrow for **End Date** will set the **End Date** to the date corresponding to the most recent pump data loaded into IPI.
Selecting Logs, the default, shows a histogram of alerts by month for the hospital selected for the entire duration of pump data uploaded to IPI.

Selecting on the Events tab will modify the display to show the dates for hospital upload of limit libraries.

Hovering over the symbol will identify the date of upload and left clicking on the symbol will open a dialog providing a URL to the limit library document.

This dialog provides the ability to analyze pump data specific to Field Limit Type.
Selecting *Drugs that apply for this chart* will open a new dialog with the list of drugs that are appropriate for the selected analysis chosen for *Field Limit Type*.

This is a reminder to the user that all Pivot Charts are clickable.

This dialog allows the user to generate reports for one or more profiles or Clinical Care Areas (CCA). The list of values are generated from the log files and will likely be unique for each hospital.
The Resolution option allows users the ability to generate reports based on action taken in response to the alert.

Preset Options allow each user to quickly apply preferred Analysis Chart settings.

Selecting the Save button captures the current analysis settings and opens a dialog requesting a name for the preset, a description for the preset, and a toggle box for allowing the preset to be used by others in the IPI community.

Selecting Load allows the user to apply settings saved in previously defined preset. To load one of your presets select the symbol. To delete a previously created preset, select the symbol. To load a preset defined by another IPI user, select the Shared by Others tab and then select the symbol for the desired preset.
Selecting the **Analyze** button will create the desired chart based on the current selections.

Reports will be generated for the drug selected from this list. The list of values is generated from the log files and will be unique for each hospital.

The **Facilities** dialog provides users the opportunity to generate reports for one or more hospital facilities.
Example 1: Continuous Dose Drill-down (Clickable Chart)

This sample workflow demonstrates the clickable chart feature.

- Select **Pivot Charts** from the IPI main page
- For **Hospital** select **Eskenazi Hospital**
- Set **Start Date** to **01-01-2013**
- Set **End Date** to **01-09-2014**
- Set **Field Limit Type** to **Continuous Dose**
- Leave remaining options at their default values

The image below shows the desired settings.

- Select **Analyze** to generate the chart
A message is displayed indicating that the drug selected, 0.9% Normal Saline, is not a valid drug for this report.

- Select **OK** to dismiss the message
- Select **Drugs that apply for this chart**

A window opens showing the **Drugs that apply for this selection**.
The analysis will focus on oxytocin as it has the most alerts

- Select the X to close the window
- Left-click anywhere inside the Drugs dialog
• Select *oxytocin*. This can be done several ways. 1) Type *oxytocin*, 2) Type the letter O until oxytocin is highlighted (5 times with this data) or 3) scroll to *oxytocin* and select it.

The image below shows the desired settings.

• Select **Analyze** to generate the chart
The chart is generated and displayed on a new tab titled **Continuous Dose**.

The **Alert Value Range** of 333.00 generated the most alerts (1005).

- Click anywhere on the 333.00 blue bar

The drilldown report with all possible details is opened in a new tab titled **Above/Below Limit All Types**.

This concludes the Continuous Dose Drill-down example.
<Titles Vary>
The pivot chart title matches the Field Limit Type selected

Location: Pivot Charts

Critical Question: What are the details of the alerts by drug?

Clickable Chart: Yes
Compliance Charts

Navigating Compliance Charts

Selecting the **Compliance Charts** icon will take the user to the **Compliance Charts** screen.

**Note** – The current version supports only compliance data from Alaris pumps.

Compliance Charts main screen.
Compliance Charts details

1. Each new report will be opened in a new tab. To return to the main Compliance Charts screen select the Guardrails Usage tab.

2. Selecting here presents the Compliance Data Upload interface.

Details on the Compliance Data Upload Interface are provided in the next section.

3. The Hospital dialog defaults to the user’s hospital.

4. The Chart Type section allows users to select the type of report to generate. There are 8 options available.

   Infusion Counts by Profile
   Infusion Counts by Month
   Infusion Counts by Month by Profile (All Infusions)
   Infusion Counts by Month by Profile (GR Only)
   Infusion Counts by Month by Profile (Non GR Only)
   Compliance Percentages by Profile
   Compliance Percentages by Month
   Compliance Percentages by Month (Line)

5. This section determines the data range for analyzing pump data. Selecting Max. Date Range sets the Start Date and End Date to match the hospital’s pump data loaded into IPI.

   Selecting the for the date range will set the Start Date to January 1 (1/1) of the current or previous year.
Selecting the for **End Date** will set the **End Date** to the date corresponding to the most recent pump data loaded into IPI.

Selecting **Logs**, the default, shows a histogram of alerts by month for the hospital selected for the entire duration of pump data uploaded to IPI.

Selecting on the **Events** tab will modify the display to show the dates for hospital upload of limit libraries.

Hovering over the symbol will identify the date of upload and left clicking on the symbol will open a dialog providing a URL to the limit library document.

This dialog allows the user to generate reports for one or more profiles or Clinical Care Areas (CCA). The list of values are generated from the log files and will likely be unique for each hospital.

Selecting the **Submit** button will create the desired chart based on the current selections.
Example 1: Compare Compliance Percentages

This sample workflow demonstrates the creation of a compliance report across multiple hospitals.

• Select **Compliance Charts** from the IPI main page

• For **Hospital** select all hospitals.
  
  o Select St. Francis Hospital

  o Scroll to the bottom of the **Hospital** dialog and <shift> - select **Indianapolis VAMC**

• For **Chart Type**, select **Compliance Percentages by Month (Line)**

• Select **Max. Date Range** by clicking the box (□)

• Leave remaining options at their default values

The image below shows the desired settings.

![Image of desired settings](image-url)

• Select **Submit** to generate the report
The chart is generated and displayed on a new tab titled **Compliance Percentages by Month (Line)**.

To zoom in on a specific area, click and drag the area of interest.
The chart rescales for improved chart viewing.

To return to the original scale, double-click anywhere within the chart.

This concludes the Compare Compliance Percentages example.
Compliance Charts

Infusion Counts by Profile

Location:  Compliance Charts

Critical Question:  What are the compliance numbers for each profile?

Clickable Chart:  No
Infusion Counts by Month

Location: **Compliance Charts**

Critical Question: What are the compliance numbers for each month?

Clickable Chart: **No**
Infusion Counts by Month by Profile (All Infusions)

Location: Compliance Charts

Critical Question: How many infusions are delivered and where?

Clickable Chart: No
Infusion Counts by Month by Profile (GR Only)

Location: **Compliance Charts**

Critical Question: How many Guardrail (GR) infusions are delivered and where?

Clickable Chart: **No**
Infusion Counts by Month by Profile (Non GR Only)

Location:  *Compliance Charts*

Critical Question:  How many Basic Infusions (Non Guardrail (GR) infusions) are delivered and where?

Clickable Chart:  No
Compliance Percentages by Profile

Location: **Compliance Charts**

Critical Question: What percentage of infusions are basic infusions and Guardrail infusions in each profile?

Clickable Chart: **No**
Compliance Percentages by Month

Location: Compliance Charts

Critical Question: What is the trend in percentage of infusions that are basic infusions and Guardrail infusions?

Clickable Chart: No
Compliance Percentages by Month (Line)

Location:  **Compliance Charts**

Critical Question: What is the trend in percentage of infusions that are Guardrail infusions?

Clickable Chart: **No**
Compliance Data Upload

The **Compliance Data Upload** screen provides users, with upload privileges, the ability to upload.

The Compliance Data Upload dialog is accessed via the **Compliance Charts** main screen. On the main screen selecting **here** presents the Compliance Data Upload interface.

![Click here to Upload Compliance Data]

The main screen for **Compliance Data Upload** is shown on the following page.

**Note** – The current version supports only compliance data from Alaris pumps.
Compliance Data Upload main screen.

1. Select hospital:
   - University of Wisconsin Hospital

2. Select month for upload:
   - 04  2013

3. File upload history:
   - Profile Updates
   - Data Collection

   - Day of the month you generated your file:
     - File: Browse
     - No file selected.

5. Did you have any new profile library updates this month?
   - Enter day or days (separate by commas, e.g., 3, 5, 15)
   - Or
   - If you do not know the dates, enter number of profile updates:

6. Comment:
   - 

7. Submit

8. My Uploads
   - Show 10 entries

Compliance Data Upload details

Select <<BACK TO COMPLIANCE>> to return to the main Compliance Charts screen.
This section provides instructions on how to generate the compliance data log file and upload to IPI. To see detailed instructions select More Info -> to open the dialog below.

Steps to upload:
1. Save one month of Counters by Profile to Excel spreadsheet
2. Open the spreadsheet and save Counters by Profile to CSV
3. Upload the CSV file to IPI

Select the desired hospital for loading compliance data.

This field is required.

Select the month and year for the compliance data to be uploaded.

This field is required.
The **File upload history** section shows the date the data was collected and any dates corresponding to profile updates for previously uploaded data for the month selected in the previous step.

The dates for data collection and profile updates are captured during the data upload process. See below.

The **Upload file** dialog has a field for capturing the day of the month the file was generated and the name and location of the compliance data file.

Both values are required fields.

This section captures either the day, or days, of the month corresponding to profile library updates or the number of profile updates occurring during the month.

**Note** – This information can be useful in understand the compliance charts generated. When a profile library update is made the compliance data counters are reset.
Enter any comments.

Select **Submit** to upload the selected file containing compliance data.

This section lists previously uploaded compliance data files.
Logs Upload

Selecting on **Logs Upload** provides users, with upload privileges, the ability to upload. The window changes slightly depending on the type of pump used. The screen shot below shows what Carefusion users will see.

![Logs Upload Screen Shot](image)

**Note:**
Refer to the appropriate documentation referenced on the page for details on preparing the CSV file from the Alaris CQI® Report Reviewer Tool or Hospira MedNet.
Administration

The Administration function allows for managing hospital users and events. This selection is available only to a single user at each hospital identified as the “Contact”. All other users selecting the Administration icon will get the following message, “You do not have administration access”.

Administration: Infusion Pump Analyst Group

[Admin Home]

Hospitals
- Community Health Network

Group Users

Event Contribution

Select Group Users to open the dialog for adding and removing hospital users.

Administration: Cameron Memorial Community Hospital

[Admin Home]

Hospital Users
- Scott Hirsch
- Andy Aldred (Uploader) (Contact)

New hospital user:
- Hub login
- Name
- Uploader
- Contact Person
- Submit

Remove hospital user:
- Select Name
- Update
To add a new hospital user fill in the required information in the **New hospital user** section.

The **New hospital user** section is also used for changing the hospital contact.
To remove a user, in the **Remove hospital user** section, use the pull-down to identify the user and then select **Update**.
Uploading Drug Limit Libraries

Following this process creates 1) an event corresponding to the new drug limit library that is displayed on the main report pages (Analysis Charts, Investigative Reports, Pivot Charts, and Compliance Charts), 2) Creates and entry for the new drug limit library in the IPI Drug Limit Libraries Viewer, and 3) uploads the drug limit library file to CatalyzeCare as a resource.

- Select **Administration** from the IPI Main page

- From the **Administration** home page, select **Event Contribution**
• Select **Add new event**

![Add new event image]

• Enter the **Date** when the new library was implemented.

![Date input image]
- Enter the Category, Title, and Description

- Select Add New Publication to begin the process of uploading the drug limit library
• Enter a Title and a brief Abstract for the drug limit library

• At the bottom of the page, select Next to open the attachment page

• Select Choose File and navigate to the location of your drug limit library dataset. Select Next 3 times to advance to the Review page.
• Check the **Required** box under Authorization followed by **Submit Contribution**

• Select **here** to get the URL to your document
• Capture the URL of the document

![Image of the website](https://catalyzecare.org/resources/659)

• Return to the Event Contribution page and enter the URL

![Image of the event contribution form](https://catalyzecare.org/resources/659)

The link from the resource goes here, now click Add New.

DONE.

• Select Add new to complete the task.
Clickable Charts

This section of the document identifies which charts are clickable and the option available.

The following charts are Clickable.

- Analysis Charts (Basic)
  - Alerts by Drug or Fluid
  - Alerts by Month
- Pivot Charts
  - All Pivot Charts

**Figure 1: Alerts by Drug or Fluid Clickable Decision Tree.**
Figure 2: Alerts by Month Clickable Decision Tree.
Figure 3: Pivot Charts Clickable Decision Tree.
Appendix A: Chart Features

Each chart or graph opens in a new window with the same functionality. This section describes the features available to users while working with charts and graphs.
Chart details

Chart or graph requested by the user.

Selecting the Download All-In-One CSV button opens a dialog to save the data used in the generation of the graph(s) or chart(s) on the current tab.

Selecting OK opens a Microsoft Excel spreadsheet with the chart data.
Clicking on the **Downloadable Chart** button opens a new window containing the chart or graph image.

Right-clicking on the image opens a dialog with the option to save the image.

Select **Save Image As...** to open a Save Image dialog allowing for saving the image as Portable Network Graphics (PNG) file on your computer.
Selecting the **Parameters** button expands the display to show the parameters used in the generation of the chart or graph.

```
Parameters
Start Date  1st, January 2013
End Date    9th, January 2014
Profiles    All profiles
Drugs       Top 10 drugs [VANCOMycin, oxytocin, HYDRO
             ampicillin, piperacillin/tazo, FENTany, Maint 3]
Resolutions All Resolutions
Alert Types  All Alert Types
Field Limit  All fieldlimits
Types        All Facilities
Anesthesia   All alerts including anesthesia
Mode         
Datasets     All Datasets
Facilities   
```

Select **Parameters** again to collapse the chart generation information.

Selecting the **Chart Data** button expands the display to show the data used in the creation of the chart or graph.

```
Chart Data

<table>
<thead>
<tr>
<th>Drugs</th>
<th>VANCOMycin</th>
<th>oxytocin</th>
<th>HYDROmorphine</th>
<th>propofol</th>
<th>potassium chloride</th>
<th>ampicillin</th>
<th>piperacillin/tazo</th>
<th>FENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancel</td>
<td>147</td>
<td>69</td>
<td>78</td>
<td>63</td>
<td>133</td>
<td>95</td>
<td>71</td>
<td>20</td>
</tr>
<tr>
<td>Override</td>
<td>997</td>
<td>1279</td>
<td>766</td>
<td>618</td>
<td>431</td>
<td>568</td>
<td>213</td>
<td>214</td>
</tr>
<tr>
<td>Other</td>
<td>110</td>
<td>1</td>
<td>7</td>
<td>10</td>
<td>139</td>
<td>26</td>
<td>281</td>
<td>3</td>
</tr>
<tr>
<td>Reprogram</td>
<td>245</td>
<td>15</td>
<td>48</td>
<td>194</td>
<td>127</td>
<td>50</td>
<td>94</td>
<td>173</td>
</tr>
</tbody>
</table>
```

Select **Chart Data** again to collapse the chart data.

The **Download CSV** button behaves similarly to the **Download All-In-One CSV** button except when there are multiple charts on the current tab, only the data for the selected chart is downloaded.

See **1** above for additional information.
Appendix B: Questions to Chart Mappings

This table identifies the chart and where to find it corresponding to IPI analysis questions.

<table>
<thead>
<tr>
<th>Question</th>
<th>Chart or Report Name</th>
<th>Type of Chart or Report</th>
<th>Tab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which Drugs get the most alerts?</td>
<td>Alerts by Drug or Fluid</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>How did the clinicians respond to alerts for these drugs?</td>
<td>Actions Taken by Drug or Fluid</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>What limits are being hit by these drugs</td>
<td>Field Limit Types by Drug or Fluid</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>What is the total volume of alerts and how are they trending?</td>
<td>Alerts by Month</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>What is the total volume of alerts and how are they trending?</td>
<td>Alerts by Month Line Graph</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>How did clinicians respond for total monthly alerts?</td>
<td>Alerts by Month by Resolution</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>What is the profile breakdown of all alerts by month?</td>
<td>Alerts by Month by Profile</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>What is the limit type breakdown for all alerts by month?</td>
<td>Alerts by Month by Type</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>What limits are being hit by these drugs and how are they trending?</td>
<td>Alerts by Month by Field Limit Types</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>What time of day are the alerts generated?</td>
<td>Alerts by Time of Day</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>What time of day are the alerts generated?</td>
<td>Alerts by Time of Day Line Graph</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>What time of day are the alerts generated and how do the clinicians respond?</td>
<td>Alerts by Time of Day by Resolution</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>What field limits are being hit in each area?</td>
<td>Field Limit Types by Profile</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>How quickly are alarms being overridden?</td>
<td>TTO Frequency Distribution</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>How quickly are alarms being overridden?</td>
<td>TTO Cumulative Distribution</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>How quickly are alarms being overridden?</td>
<td>TTO Alerts by Month</td>
<td>Analysis Charts (Basic)</td>
<td>Standard</td>
</tr>
<tr>
<td>Where in the hospital are the alerts being generated?</td>
<td>Alerts Profile Pie Chart</td>
<td>Analysis Charts (Basic)</td>
<td>PieChart</td>
</tr>
<tr>
<td>What is the breakdown of alerts by type?</td>
<td>Alerts Types Pie Chart</td>
<td>Analysis Charts (Basic)</td>
<td>PieChart</td>
</tr>
<tr>
<td>Question</td>
<td>Chart or Report Name</td>
<td>Type of Chart or Report</td>
<td>Tab</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------</td>
<td>-------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>What is the field limit breakdown for all alerts?</td>
<td>Alerts Field Limit Pie Chart</td>
<td>Analysis Charts (Basic)</td>
<td>PieChart</td>
</tr>
<tr>
<td>What is the limit type breakdown for all alerts?</td>
<td>Alerts Full Breakdown Pie Chart</td>
<td>Analysis Charts (Basic)</td>
<td>PieChart</td>
</tr>
<tr>
<td>How often does the clinician override the alert per device?</td>
<td>Overrides per Device</td>
<td>Analysis Charts (Basic)</td>
<td>Ratio</td>
</tr>
<tr>
<td>How often does the clinician reprogram per device?</td>
<td>Reprogram per Device</td>
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