Clinical Analytics Intermediate 2019

AXIOM SOFTWARE

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Introduction

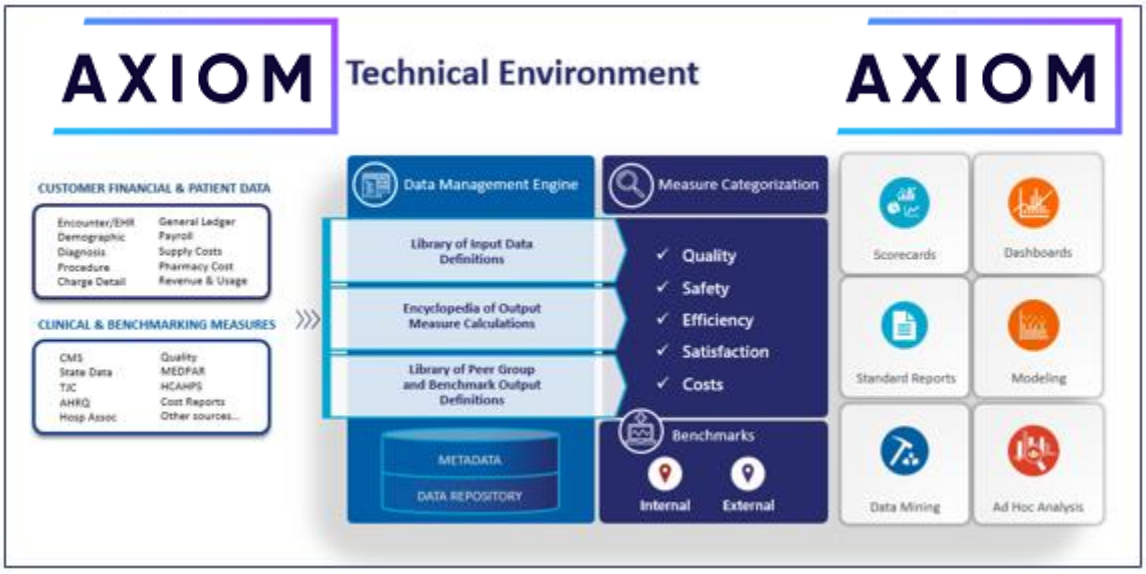
Welcome to Clinical Analytics Intermediate training!
Using Clinical Analytics is a powerful way to look at your data at many different levels and in many different dimensions against numerous benchmarks in search of opportunity for improvement. In order to maximize this opportunity it will be important to learn the mechanics of using the tool as well as establish a methodical way of progressing through the analysis process.

Clinical Analytics Intermediate is intended to quickly review the functionality you learned in Clinical Analytics Basic. Also, to build on Clinical Analytics Basic and learn about Clinical Analytics more complex analytic functions. The chapters in this training manual include learning objectives, key concepts, content with step-by-step information, key points to remember, questions for consideration, and practice exercises. The chapter topics will walk you through a brief review of fundamentals, scorecard navigation, customizing scorecards, profiles, accessing patient level data, system administration, basic data analytic tools and increasing your knowledge on a number of Clinical Analytics advanced data analytic tools.

The Clinical Analytics Technical Environment

Clinical Analytics Data Management System (DMS) receives client and public data inputs. In addition, the system uses categorizations, definitions, and calculations to arrive at measure reporting that is highly dynamic. Clinical Analytics measure results are both de-identified and secure, while remaining identifiable at the patient level, allowing the data to be actionable (See Figure 1.1). Measure output solutions are packaged in a variety of ways, including interactive scorecards, static reports, ad hoc queries, and flexible data mining formats.

FIGURE 1.1 THE CLINICAL ANALYTICS TECHNICAL ENVIRONMENT



Clinical Analytics Intermediate

Learning Objectives:
Following completion of this session you should be able to:

- Describe the available training tracks for Clinical Analytics software.

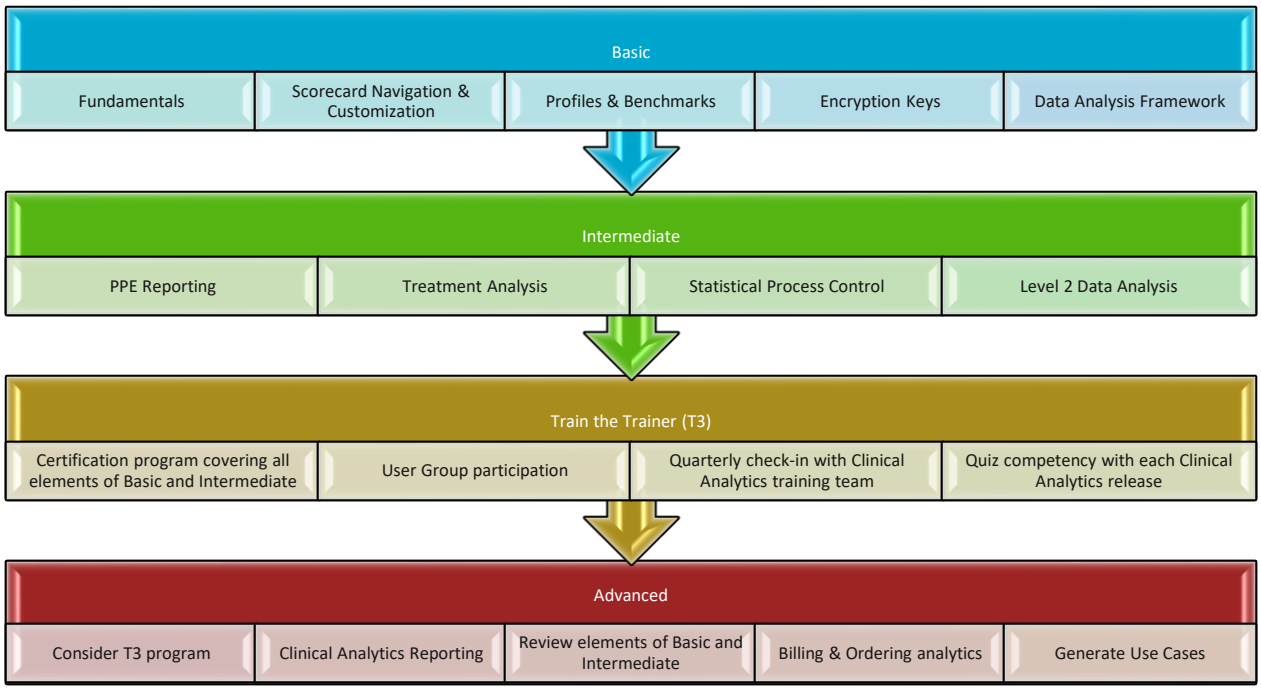
Key Concepts:

- Clinical Analytics tiered training is recommended in a sequential approach to build upon the skills learned within each training tier.
- Clinical Analytics Basic is required for every client, however additional training tracks are suggested for clients.
- Clinical Analytics Tiered Training options: Clinical Analytics Basic, Intermediate, Train the Trainer, and Advanced.
- Clinical Analytics Basic is offered in a computerized format and is stored in Clinical Analytics Documentation.

Tiered Training Opportunities

Clinical Analytics Training is customized to meet the needs of the adult learner through strategic options to "meet the clients where they are", among the multiple roles and responsibilities within the organizations (See Figure 2.1). All training opportunities include a power point guided overview, instructor guided demonstration in the system, and navigation of Syntellis Clinical Analytics. In addition, a training manual, training mastery assessment, and a training feedback survey.

FIGURE 2.1 CLINICAL ANALYTICS TIERED TRAINING OPPORTUNITIES



Basic Computerized: This computerized module introduces the end user to the functionality of the Clinical Analytics software. *It is designed for a new user and a novice analyst*. The content is delivered in a computerized module format, to be viewed in a sequential manner and is self-paced for schedule flexibility. The total computerized video viewing time is approximately 4 hours. The expected exercise review and completion time is approximately 2 hours.

Objectives:

The learning objectives include:

- Clinical Analytics fundamentals
- Navigating the Clinical Analytics home page and scorecards
- Creating custom scorecards
- Building analysis profile groups and peer benchmark groups
- Encryption Keys to access patient level secure data
- Modifying detail data elements and completing an analysis
- Stepping through a data analysis framework
- Completion of all recommended training manual exercises

For the computerized modules, the end user is highly encouraged to contact the Clinical Analytics training team to discuss module questions, review the completed analysis, and provide continuous improvement feedback.

Intermediate Training: This module is designed for the analyst who is passionate on progressing from novice to expert and has mastered basic training. *In addition, it is designed for the advanced beginner with a minimum of 6 months Clinical Analytics experience.* The content is delivered in one four-hour session.

Objectives:

The learning objectives include:

- Creating and revising custom scorecards
- Building additional analysis profile groups and peer benchmark groups
- Continue modifying detail data elements and saving details templates
- Level 2 Analytics
- PPE Reporting if applicable
- Clinical Analytics Reporting if applicable
- In addition, successful completion of an analysis presentation as evidenced by presenting the analysis for shared learning and demonstrating understanding.

Upon completion of this session, the instructors will provide a written feedback form for continuous improvement of content, faculty, and logistics.

Train the Trainer (Clinical Analytics T3) Certification: *This certification module is designed for the analyst who is passionate on continuing to progress from novice to expert, and has mastered basic training*. The content is delivered in one four to eight-hour day. This certification module is a collaborative session with the training team and will be customized based on your current knowledge base to help you successfully complete and pass the Clinical Analytics T3 certification exam. Keep in mind, the T3 program was designed to provide an onsite resource for the Clinical Analytics Basic user and provide an onsite extension or resource in addition to the Clinical Analytics support team.

Objectives:

- Scorecards review: navigate and customize
- Building additional analysis profile groups and peer benchmark groups
- Continue modifying detail data elements and saving details templates
- Encryption Keys: Accessing and resetting encryption keys
- System Administration role review
- The participant identifies a problem of interest, conducts a basic analysis, and presents the analysis for shared learning, utilizing the case study framework to complete the analysis.
- Successful completion of the Clinical Analytics T3 certification exam.
- Upon successful completion of the Train the Trainer (Clinical Analytics T3) certification program, the instructors will provide a written feedback form for continuous improvement of content, faculty, and logistics.
- In addition, a certificate of completion for the Train the Trainer (Clinical Analytics T3) program.
    - To maintain Clinical Analytics T3 status the client must successfully pass scheduled Clinical Analytics enhancement quizzes made available with each scheduled system release.
        - The Clinical Analytics training team will send the quiz with associated release notes to each Clinical Analytics T3 certified client.
    - The Clinical Analytics T3 client will participate in user group meetings as defined by their facilities schedule.
    - The Clinical Analytics T3 client will participate in quarterly meetings with the Clinical Analytics training team to ensure ongoing collaboration and proactively identify upcoming training needs.

Advanced Training: This module is designed for the autonomous analyst, who has mastered basic and intermediate training. The content is delivered in one four to eight--hour day, depending on the client's identified analytic topic needs.

Objectives:

The applications and sections covered include:

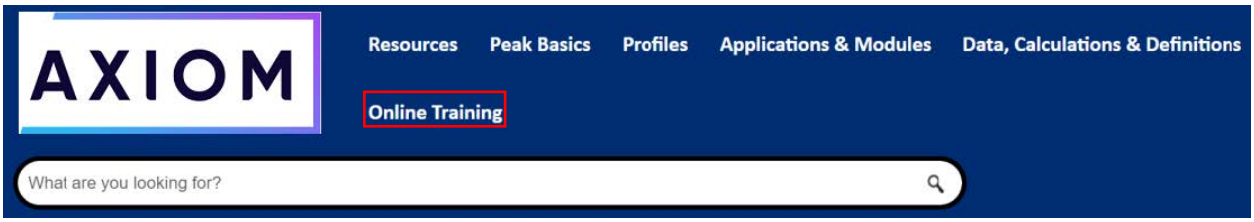
- Care Variation Performance
- Physician Service Details for cost/charge overage driven by physician preferences
- CPT Analytics
- Treatment Analysis
- Trend Analysis
- Coding Analytics
- Pharmacy Analytics

Upon completion of this session, the instructors will provide a written feedback form for continuous improvement of content, faculty, and logistics.

Documentation Resource in Clinical Analytics

Once you are signed into Clinical Analytics you will be able to click on the Documentation tab, or hyperlink to access online training resources. Click the *Online Training* hyperlink in the header section and select from the training video options (See Figure 2.2).

FIGURE 2.2 DOCUMENTATION: ONLINE TRAINING

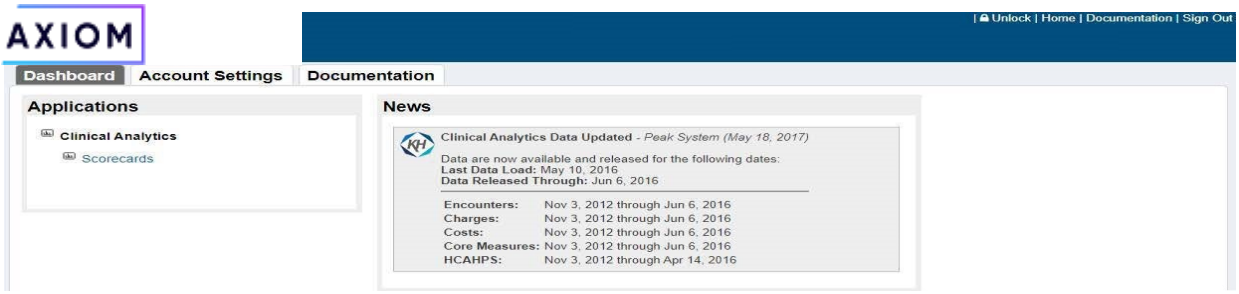


Documentation is an excellent resource within Clinical Analytics software which provides measure definitions, measure calculations, pre-recorded webinars, FAQ's, tip sheets, and Clinical Analytics Basic online training. Feel free to explore and use the cascading titles, enter keywords in the search field, or simply click on popular links included on Documentation home page. Once you click on the Documentation tab or link, it opens in a second tab so that you can easily navigate back and forth between your open Clinical Analytics session and the second Documentation session or tab.

Clinical Analytics Home Page

Signing into the Clinical Analytics system takes you directly to the Dashboard tab on the Clinical Analytics Home Page (See Figure 2.3). Here you will be able to access your listing of available Clinical Analytics applications (e.g. Scorecards, Physician Practice Evaluation (PPE) Reporting, and Clinical Analytics Reporting). The Account Settings tab and the Documentation tab are also available from the Clinical Analytics home page. The second tab, Account Settings, allows the user to *change their password or unlock the system with the user assigned encryption key*. We will review Encryption keys and System Administration functions in upcoming chapters. As mentioned above, Documentation will open a new web-based tab allowing the user to easily navigate Clinical Analytics searchable online resources. Here you will find technical notes describing each of the Clinical Analytics features along with release notes, online training videos, and helpful information such as Clinical Analytics webinar recordings. Finally, in the upper right-hand corner you will always see your sign-in email ID (helpful if you will be emulating others in your permissioned role), the Unlock icon, the Home link and the Sign Out link.

FIGURE 2.3 DASHBOARD TAB ON THE CLINICAL ANALYTICS HOME PAGE



- ✓ **Available applications are specific to the user permissions in Clinical Analytics.**
- ✓ **The News window displays helpful data load information specific to your hospital system.**

Study Questions (Refer to Appendix D for answers)

1. True or False: Clinical Analytics offers Basic training as a computerized option.

2. Passwords in Clinical Analytics expire every (with traditional sign-in functionality):
    A. 30 days
    B. 60 days
    C. 90 days
    D. year

3. Where can you change your password (if your system uses traditional sign-in method)?
    A. Scorecard Home
    B. Account Settings tab
    C. Gear icon on any scorecard
    D. Clinical Analytics Home

Scorecards Navigation and Customization

Navigation

Learning Objectives:
Following completion of this session you should be able to:

- Navigate your way through a Clinical Analytics scorecard, recognizing consistent patterns across scorecards and customizable sections within each scorecard.
- Review the data displayed in pie charts, tables, line charts, and speedometers.

Key concepts:

- The Scorecards tab is your workspace where active Clinical Analytics Scorecards are available to you.
- The Scorecard Templates tab, available to users with Health System Coordinator (HSC) scorecard permissions, lists all scorecards that have been downloaded to your server.
- HSCs can access additional Clinical Analytics Scorecards for users on the Clinical Analytics Library tab.
- A scorecard will always have: Time Periods, Tabs, Profiles, Sections, Customizing Function, Profile Build Function, Change Settings Function, and PDF Creation Function. There may be variation in how the data or opportunity is displayed based on how you choose to customize your scorecard.

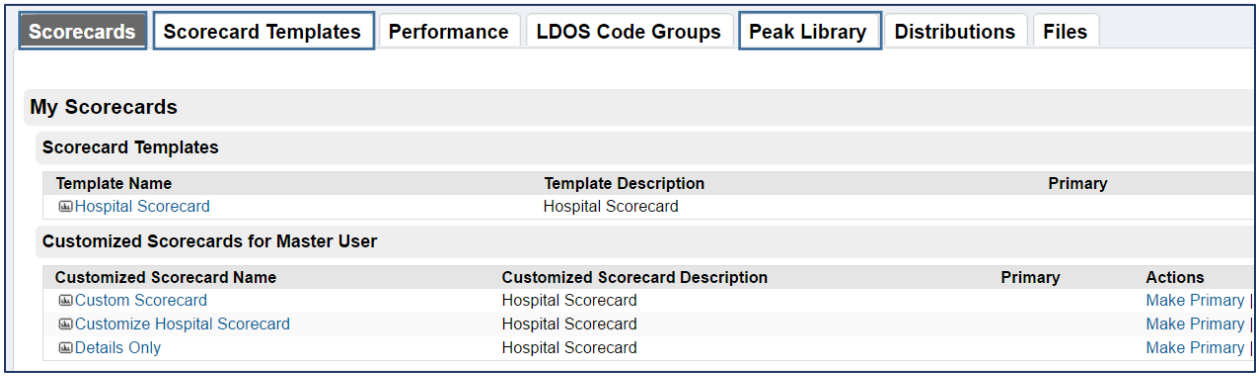
The Scorecard application represents Clinical Analytics dynamic, user interface which allows for a magnitude of customization opportunities. Clinical Analytics Scorecard's interactive nature contribute heavily to its analytic power as well as its complexity.

In the next session we will focus specifically on the features and relationship between of a custom scorecard and a template scorecard. For the purposes of basic navigation, we will focus on a standard Hospital Scorecard listed in the Scorecard Templates section.

When you select the Scorecard application from your Clinical Analytics Home Page, it opens to the Scorecards Dashboard. Depending on your permissions level, you will see up to, or at least three tabs on the Scorecards Dashboard which provide access to:

- Scorecards
- Scorecard Templates
- Clinical Analytics Library (Health System Coordinator access for Scorecards)

FIGURE 3.1 THREE TABS PROVIDE ACCESS TO SCORECARDS:

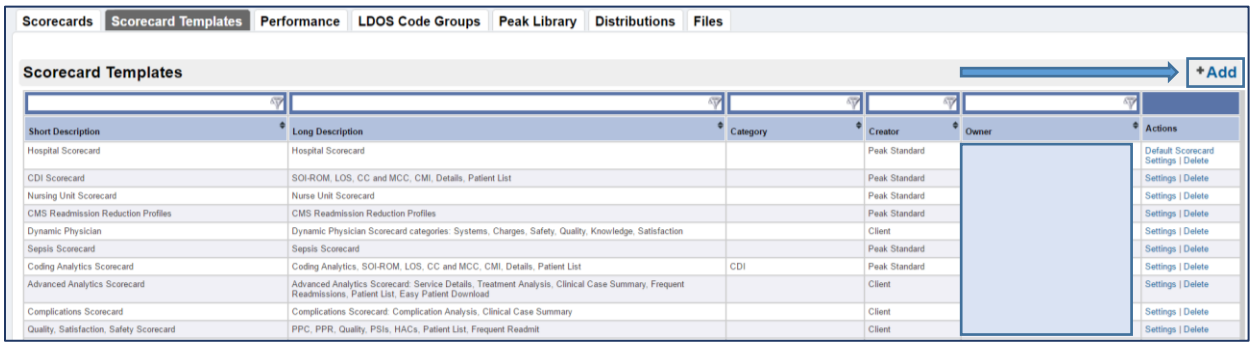


The *Scorecards tab* provides a workspace to keep frequently used Scorecards—both Scorecard Templates and Customized Scorecards. (We will discuss Scorecard Templates in greater depth in the next section "Scorecard Customization"). By default, the scorecards on this tab are listed in alphabetical order. On this dashboard, you will

see on the far, right hand side an *Add a Folder* hyperlink—this allows you to sub-group scorecards in Scorecard Templates or Customized Scorecards sections. Scorecard Templates can be removed from your list by clicking *Unsubscribe* under the Actions column. You can convert a Custom Scorecard to a Scorecard Template by selecting the *Convert to Template* link under the Actions column. Additional change options are available, including the *copy, edit or delete* links under the Actions column.

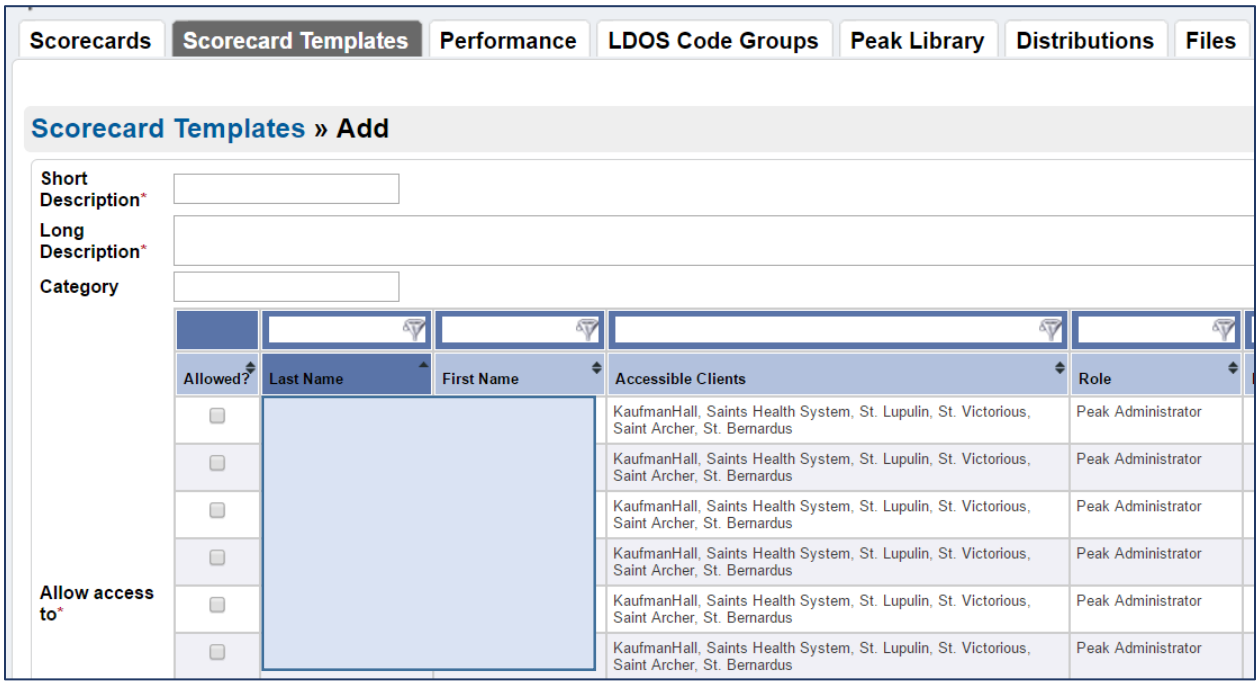
The *Scorecard Templates tab* provides a dashboard listing of the scorecard templates available on *your local server*. These scorecards have either been downloaded from the Clinical Analytics Library or created by a user and saved as a template. The Scorecard Templates tab allows you to filter and manage templates that are local to your own server.

FIGURE 3.2 SCORECARD TEMPLATES DASHBOARD; NOTE *+ADD* IN THE UPPER RIGHT CORNER



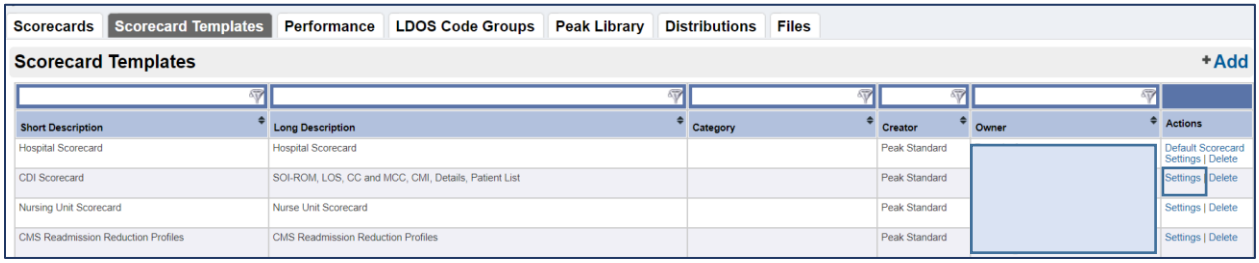
New blank scorecards can be generated by clicking the +Add hyperlink in the upper right hand corner of the Scorecard Templates dashboard (See Figure 3.2). Selecting the +Add hyperlink provides a listing of all users on that server (See Figure 3.3). Scorecard descriptors must be entered into the appropriate fields and the identified user is selected. Clicking save in the bottom right hand corner will populate a new blank scorecard on the selected user(s) Scorecards tab when they sign into Clinical Analytics.

FIGURE 3.3 USER LIST FOR ADDING NEW SCORECARD TEMPLATES



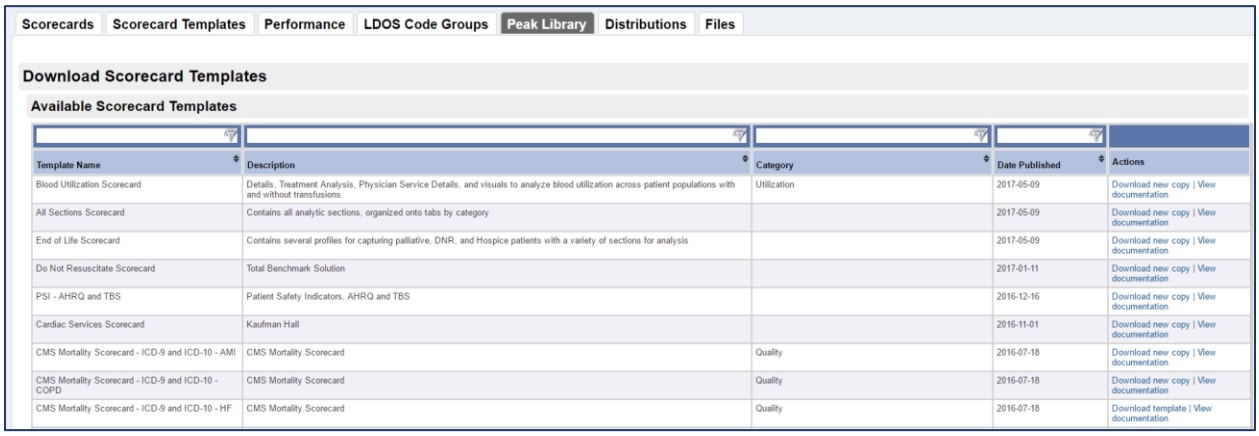
The owner of an existing Scorecard template can give access to other users by clicking on the *Settings* hyperlink under the Actions column (See Figure 3.4). The setting link opens an Edit window, allowing the user to select one or multiple users to gain access to the existing scorecard template.

FIGURE 3.4 USER LIST FOR SHARING EXISTING SCORECARD TEMPLATES



The *Clinical Analytics Library* tab displays scorecards that are only available to be downloaded from the Clinical Analytics Central Server and is accessible to users who have a *Health System Coordinator* level of permissions for Scorecards. This dashboard allows you to filter and select centrally located template scorecards for downloading. The dashboard displays and can filter by the scorecard's *Template Name, Description, Category, and Date Published* (See Figure 3.5). The template scorecards can generally be grouped into three foundational or focus types: Service Lines (e.g. Ortho or Cardio), Sections (e.g. Coding Analytics or Readmission Reports), or Target Analysis (e.g. Last Day of Service Charges). This serves as the basis for the scorecard *Category* distinctions. In most cases, the *Description* will provide a basic indication of what the scorecard analyzes and how it is configured. On the *Clinical Analytics Library* tab, the dashboard also displays an *Actions* column for each scorecard entry (far right column). There are two hyperlinks, *Download new copy/Download new template* and *View documentation. Download new copy* allows you to download another copy of the template onto your server and show on the *Scorecard Templates* tab. *Download new template* allows you to download a new templated onto your *Scorecard* tab. With *View documentation* you are able to download a PDF describing the scorecard's inclusion and exclusion criteria as well as its profiles and sections.

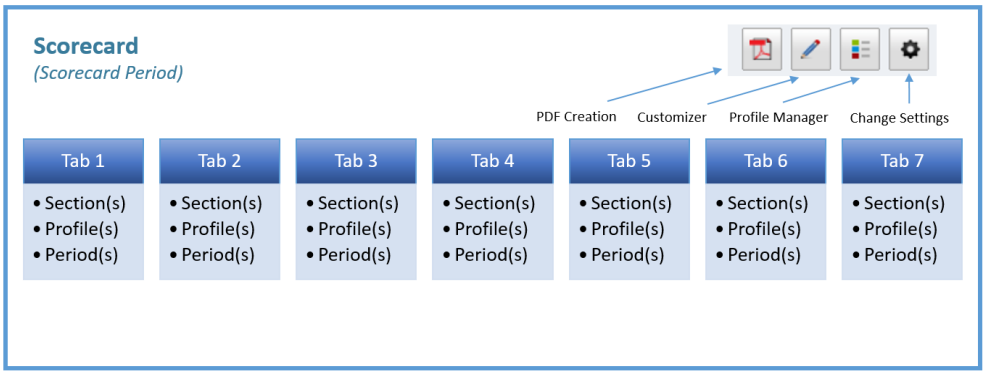
FIGURE 3.5 CLINICAL ANALYTICS LIBRARY DASHBOARD



What is common across scorecards?

As described earlier Clinical Analytics scorecards are highly interactive with almost every feature allowing for client customization. The purpose of this section is to review the basic framework of the scorecard, common displays, and features that are consistent across all scorecards. (See Figure 3.6). You learned how these features work during the Clinical Analytics Basic training sessions.

FIGURE 3.6 BASIC SCORECARD FEATURES CONSISTENT ACROSS ALL SCORECARDS



For the time being it will be helpful to understand that when you open a scorecard, it will always have:

- ✓ ***Time Periods:*** You will always see a static time period at the top of your scorecard. It is also possible to modify time periods using the gear icon in the upper right-hand corner of your scorecard. Additional time period modification can be accomplished through clicking on a point in the line chart which displays the details table.
- ✓ ***Tabs:*** You will always have at least one tab on your scorecard, but the system allows up to seven tabs per scorecard. The tab names and associated content is modifiable.
- ✓ ***Sections:*** The section feature applies measures to your *Tab* in your scorecard. Without at least one *Section*, your *Tab* will be blank, and a yellow bar will display at the top of the scorecard. The yellow bar indicates that you don't have any sections included on that particular tab.
- ✓ ***Profiles:*** When using an existing scorecard template, you will always have *Profiles*, analysis profiles and benchmarks, when you have a *Tab* with *Sections*. However, if you add a blank new scorecard, you will have to create a profile as a first step
- ✓ ***PDF Creation icon:*** Scorecards can be converted to a PDF using the PDF icon in the upper right-hand corner of the scorecard screen.
- ✓ ***Customization icon:*** Every scorecard can toggle between customization and interactive analysis mode.
- ✓ ***Profile Manager icon:*** Every scorecard can toggle between *Profile* building and interactive analysis mode.
- ✓ ***Scorecard Settings icon:*** Every scorecard allows adjustment for time period, missing data point connection, and type of data shown (i.e. including data that your IT processing lead has not reviewed yet).

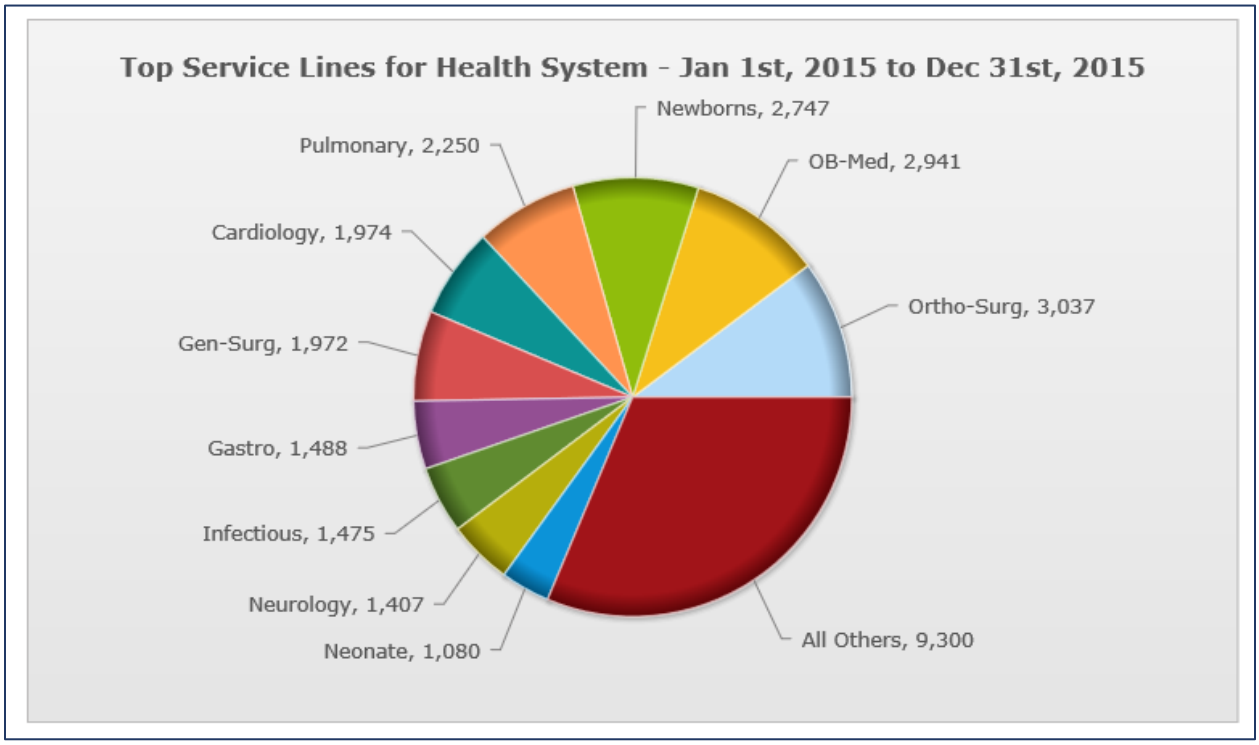
What are the ways data is displayed in Clinical Analytics?

Clinical Analytics displays your data in a multitude of formats. These include pie charts, tables, line charts, and speedometers.

Pie Charts

In Clinical Analytics, pie charts are relatively static and generally accompanied by a table. Hovering over the pie chart sections will display additional information about the data, including the complete label, the numerical value, and the percentage.

FIGURE 3.7 CLINICAL ANALYTICS PIE CHART

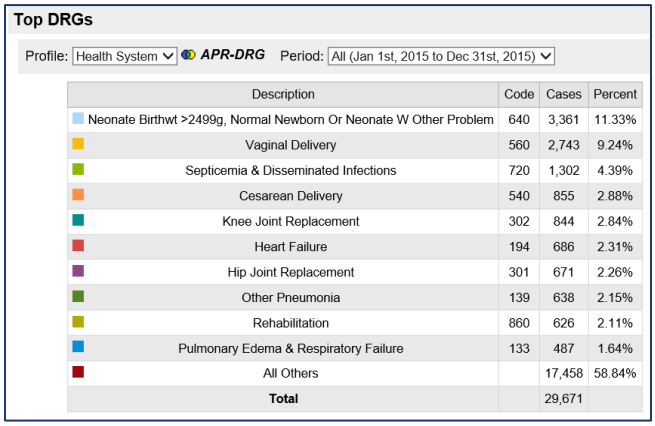


Tables

The tables in Clinical Analytics are either entirely static or have additional dynamic, interactive features. See the three illustrations below (Figure 3.8) as examples. In example A the data display is static though there is opportunity for modifying the Profile and Time Period. In example B, the table itself allows for column sorting, reflects areas with opportunity for improvement, and is hyperlinked to another sub-level of detail data. In addition, the capability for modifying things such as the *Profile*, *Period*, and selected *Benchmark*. In example C, the details table allows for stratification of data, exporting to Excel for further data analysis and the ability to save settings for future use. The practice questions for this chapter will illustrate this in more detail.

FIGURE 3.8 CLINICAL ANALYTICS DATA TABLE DISPLAY

Example A

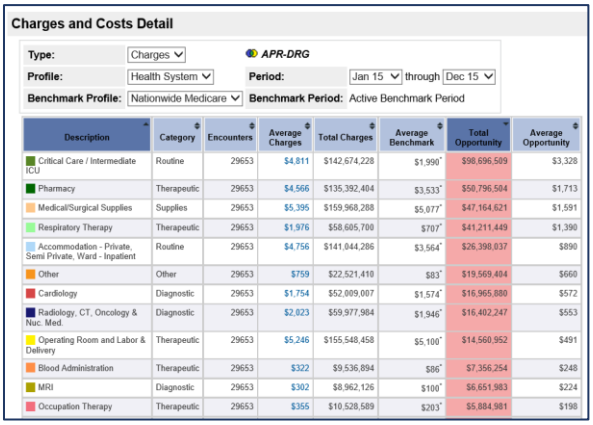


Top DRGs

Profile: Health System | APR-DRG | Period: All (Jan 1st, 2015 to Dec 31st, 2015)

Description	Code	Cases	Percent
Neonate Birthwt >2499g, Normal Newborn Or Neonate W Other Problem	640	3,361	11.33%
Vaginal Delivery	560	2,743	9.24%
Septicemia & Disseminated Infections	720	1,302	4.39%
Cesarean Delivery	540	855	2.88%
Knee Joint Replacement	302	844	2.84%
Heart Failure	194	686	2.31%
Hip Joint Replacement	301	671	2.26%
Other Pneumonia	139	638	2.15%
Rehabilitation	860	626	2.11%
Pulmonary Edema & Respiratory Failure	133	487	1.64%
All Others		17,458	58.84%
Total		29,671	

Example B

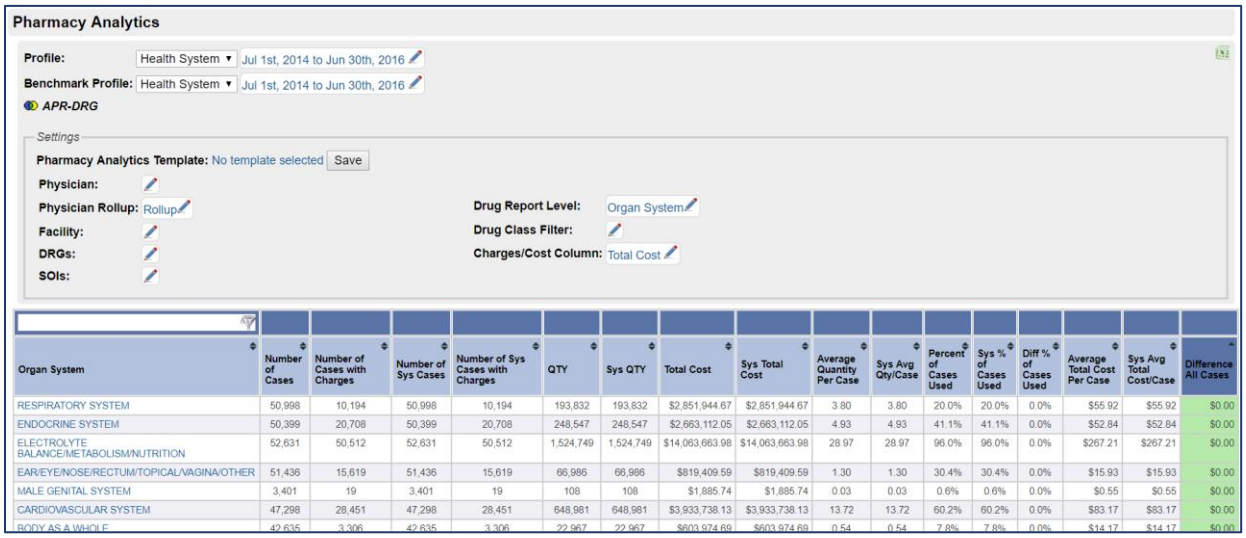


Charges and Costs Detail

Type: Charges | APR-DRG
Profile: Health System | Period: Jan 15 through Dec 15
Benchmark Profile: Nationwide Medicare | Benchmark Period: Active Benchmark Period

Description	Category	Encounters	Average Charges	Total Charges	Average Benchmark	Total Opportunity	Average Opportunity
Critical Care / Intermediate ICU	Routine	29653	$4,811	$142,674,228	$1,990*	$98,696,509	$3,328
Pharmacy	Therapeutic	29653	$4,566	$135,392,404	$3,533*	$50,796,504	$1,713
Medical/Surgical Supplies	Supplies	29653	$5,395	$159,968,288	$5,077*	$47,164,621	$1,591
Respiratory Therapy	Therapeutic	29653	$1,976	$58,605,700	$707*	$41,211,449	$1,390
Accommodation - Private, Semi Private, Ward - Inpatient	Routine	29653	$4,756	$141,044,286	$3,564*	$26,398,837	$890
Other	Other	29653	$759	$22,521,410	$83*	$19,569,404	$660
Cardiology	Diagnostic	29653	$1,754	$52,009,007	$1,574*	$16,965,880	$572
Radiology, CT, Oncology & Nuc. Med.	Diagnostic	29653	$2,823	$59,977,984	$1,946*	$16,402,247	$553
Operating Room and Labor & Delivery	Therapeutic	29653	$5,246	$155,548,458	$5,100*	$14,560,952	$491
Blood Administration	Therapeutic	29653	$322	$9,536,894	$86*	$7,356,254	$248
MRI	Diagnostic	29653	$302	$8,962,126	$100*	$6,651,983	$224
Occupation Therapy	Therapeutic	29653	$355	$10,528,589	$203*	$5,884,981	$198

Example C



Pharmacy Analytics

Profile: Health System | Jul 1st, 2014 to Jun 30th, 2016
Benchmark Profile: Health System | Jul 1st, 2014 to Jun 30th, 2016
APR-DRG

Settings
Pharmacy Analytics Template: No template selected | Save
Physician:
Physician Rollup: Rollup
Facility:
DRGs:
SOIs:
Drug Report Level: Organ System
Drug Class Filter:
Charges/Cost Column: Total Cost

Organ System	Number of Cases	Number of Cases with Charges	Number of Sys Cases	Number of Sys Cases with Charges	QTY	Sys QTY	Total Cost	Sys Total Cost	Average Quantity Per Case	Sys Avg Qty/Case	Percent of Cases Used	Sys % of Cases Used	Diff % of Cases Used	Average Total Cost Per Case	Sys Avg Total Cost/Case	Difference All Cases
RESPIRATORY SYSTEM	50,998	10,194	50,998	10,194	193,832	193,832	$2,851,944.67	$2,851,944.67	3.80	3.80	20.0%	20.0%	0.0%	$55.92	$55.92	$0.00
ENDOCRINE SYSTEM	50,399	20,708	50,399	20,708	248,547	248,547	$2,663,112.05	$2,663,112.05	4.93	4.93	41.1%	41.1%	0.0%	$52.84	$52.84	$0.00
ELECTROLYTE BALANCE/METABOLISM/NUTRITION	52,631	50,512	52,631	50,512	1,524,749	1,524,749	$14,063,663.98	$14,063,663.98	28.97	28.97	96.0%	96.0%	0.0%	$267.21	$267.21	$0.00
EAR/EYE/NOSE/RECTUM/TOPICAL/VAGINA/OTHER	51,436	15,619	51,436	15,619	66,986	66,986	$819,409.59	$819,409.59	1.30	1.30	30.4%	30.4%	0.0%	$15.93	$15.93	$0.00
MALE GENITAL SYSTEM	3,401	19	3,401	19	108	108	$1,885.74	$1,885.74	0.03	0.03	0.6%	0.6%	0.0%	$0.55	$0.55	$0.00
CARDIOVASCULAR SYSTEM	47,298	28,451	47,298	28,451	648,981	648,981	$3,933,738.13	$3,933,738.13	13.72	13.72	60.2%	60.2%	0.0%	$83.17	$83.17	$0.00
BODY AS A WHOLE	42,635	3,306	42,635	3,306	22,967	22,967	$603,974.69	$603,974.69	0.54	0.54	7.8%	7.8%	0.0%	$14.17	$14.17	$0.00

Line Charts

Line charts in Clinical Analytics reflect trending data measured over the period of time defined by the scorecard (visible at the top of the screen along with the scorecard name). As described in the above section, this time period can be modified by using the *Scorecard Settings* icon in the right upper corner of the scorecard screen. In considering examples A (Figure 3.9) and B (Figure 3.9) shown below, you will see some similarities as well as differences between these two-line charts. In Clinical Analytics, all line chart titles display a definition when you hover over them. In addition, each line chart displays a green/red polarity indicator  (e.g. which direction is trending favorable) in the top right corner of the line chart and data points which will take you to a detailed view of your data in the chart when selected.

For measures that are grouped by DRG (Diagnosis Related Group), there is an icon in the left upper corner of the line chart (See Figure 3.9, example A) reflecting the risk adjusted grouping assignment selected, either the MS-DRG grouping type or the APR-DRG type. This will be helpful to recognize as we discuss another feature called *details template and details view*, in Chapter 6. Line charts may or may not reflect benchmarks. The benchmarks used and selected when customizing the scorecard is dependent on whether Clinical Analytics has benchmark data available or not to use for any given measure. Example A illustrates a line chart that also displays benchmark

percentile results. You will be able to select and remove any of the data groups (either analysis profile or benchmark comparison group) simply by clicking on the benchmark label in the legend beneath the graph. When there is a gear icon in the upper left corner of the line chart, it can be used to change line chart settings including the *Profile, Calculation Method, and option for placement of control chart x or p-bars*. One final comment, for measures that are bundled or grouped, you will see a *Drill* icon in the upper right-hand corner, as in Figure 3.9, Example B. Selecting this icon will take you to another layer of data which displays the individual measures of the selected bundle or grouping. If there is additional sub-grouping involved, you will see additional *Drill* icons in those particular line charts.

FIGURE 3.9 LINE CHART EXAMPLE A

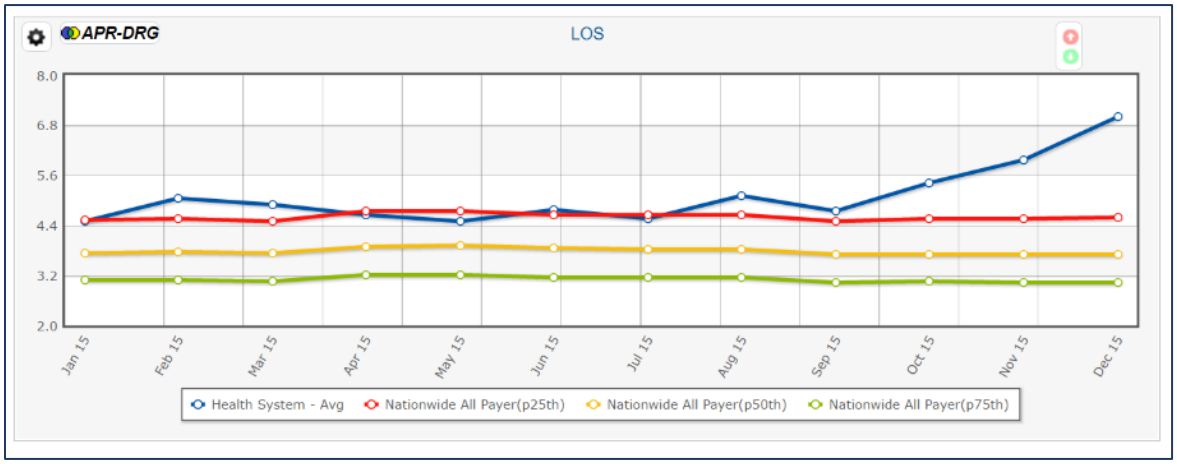
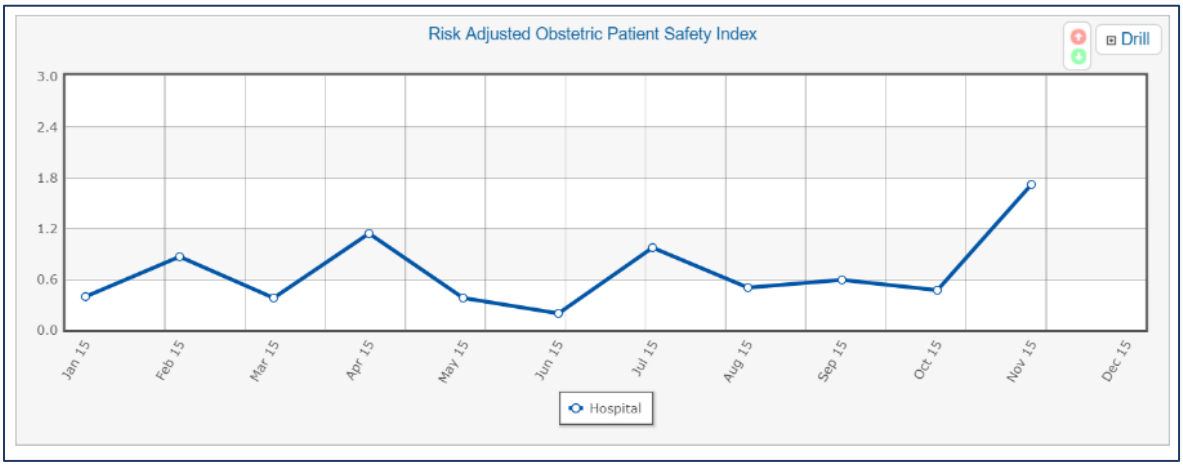


FIGURE 3.4 LINE CHART EXAMPLE B

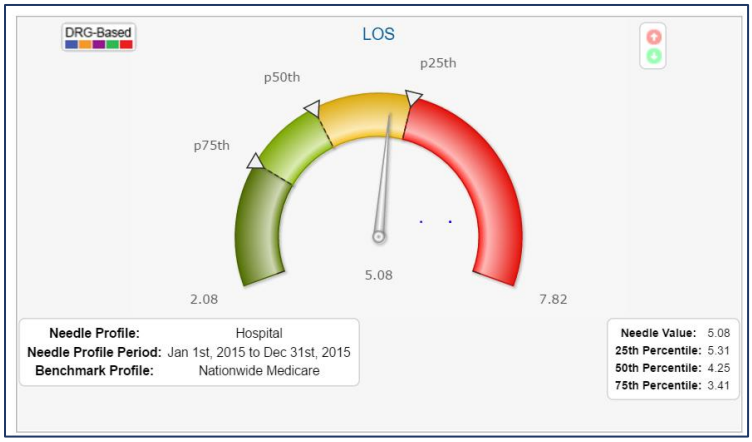


Speedometers

In Clinical Analytics, speedometers are used to reflect a stoplight color scheme to provide at-a-glance performance status for any given measure. Percentiles generally default to 75th, 50th, and 25th percentiles. These may be modified, including the addition of the 90th percentile when the scorecard is in customizer mode. Actual percentile values, including the needle value (i.e. the measure value itself) can be obtained from the legend in the lower right-hand corner of the graph. As with the *line charts*, all speedometer graphs reflect measure polarity, noted by the red/green arrow icon in the right upper corner of the graph. In addition, like the line charts, DRG-Based

measures are labeled with an icon in the graph's upper left-hand corner. Speedometer internal profiles (your analysis profile), benchmarks, and the graph's profile period are labeled in the legend in the lower left corner. These are also modifiable when the scorecard is in customizer mode. In the Speedometer below (Figure 3.10) we can see that the needle profile (Hospital) is performing between the 25th and 50th percentiles for Length of Stay (LOS) compared to the Nationwide Medicare benchmark. Note in the lower right corner of the speedometer graph the legend reflecting the actual needle value along with percentile cutoffs. The percentile options are pre-selected at the time the speedometer is added as a Block to the Two-Column Section.

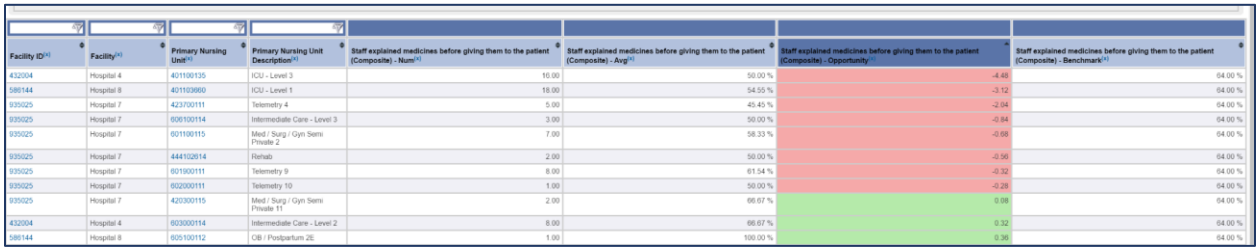
FIGURE 3.5 CLINICAL ANALYTICS SPEEDOMETER



Highlighted Opportunity

As described in the Introduction, the primary purpose of Clinical Analytics is to evaluate your data against credible benchmarks and uncover documented opportunities for improvement. "Opportunity" is reflected in the Details View tables, which will be reviewed in depth in Chapter 6. As you learn to navigate scorecards, it is important to note the basic concept that *red* opportunity conveys poor performance compared to the benchmark and *green* opportunity conveys improved performance compared to the benchmark. (See Figure 3.11)

FIGURE 3.6 CLINICAL ANALYTICS EXAMPLE OF *RED* AND *GREEN* OPPORTUNITY



- ✓ **Time periods can be adjusted at the level of the entire scorecard, or at the level of most sections within the scorecard (e.g. Two Column section and Trend Analysis).**
- ✓ **When searching for scorecard templates, remember to use the Filter functionality to help you find items quickly.**
- ✓ **In order to share a scorecard with a peer, you must "Add" the user to grant access. This can be done through the Scorecard Template tab.**

Customization

Learning Objectives:
Following completion of this session you should be able to:

- Distinguish the difference between scorecard templates and customized scorecards.
- Customize existing scorecards.
- Grant access to existing scorecards through the Add functionality in the Scorecard Templates tab.

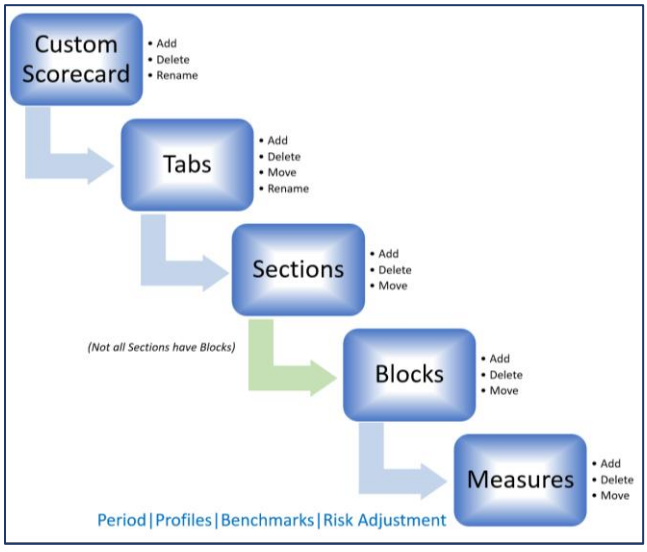
Key Concepts:

- Custom Scorecards, Tabs, Sections, Blocks (with their associated Measures) can all be added, deleted, and moved.
- Periods for measurement and risk adjustment type can be selected.
- Populations of interest, for measurement of performance and/or benchmarking, can be defined.
- Clinical Analytics template and custom scorecards have a dynamic relationship where a template can be saved and used as a custom scorecard and a custom scorecard can easily be published as a template scorecard.
- Any place that you see the pencil icon, you can edit or customize.

Customizing your Clinical Analytics Scorecard

As mentioned earlier, customization of Clinical Analytics scorecards plays a significant role in the analytic power that Clinical Analytics is known for as well as its complexity when first starting to learn how to use the scorecard application. As a reminder from Clinical Analytics Basic training, Figure 3.12 illustrates at a high-level the degree of variability that exists across Clinical Analytics scorecard components.

FIGURE 3.7 THE CASCADE OF CUSTOMIZATION CAPABILITIES



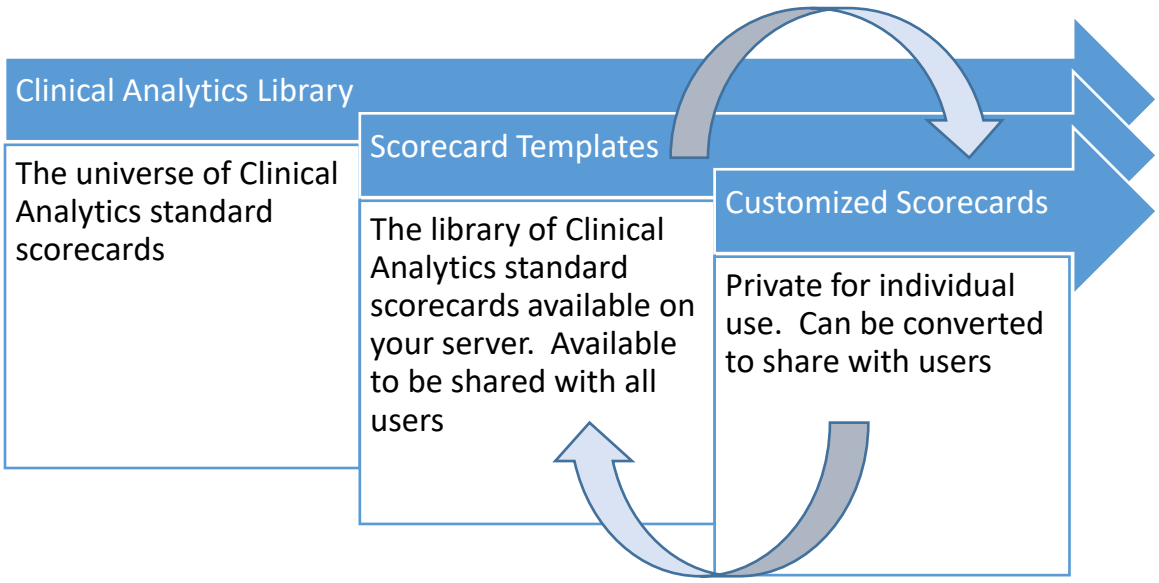
In the Navigation section we introduced changing a scorecard template to a user customized scorecard as well as converting an existing customized scorecard as a scorecard template. A discussion of Clinical Analytics measures and their application in each scorecard will be included in an upcoming chapter as we look more closely at a progressive analysis framework for using the *details template.* You are already knowledgeable about how to

adjust the measurement period of either the scorecard or the individual measures. Profiles, including Benchmarks, can also be customizable and will be explored in the next chapter.

Scorecard Templates and Customized Scorecards

The Clinical Analytics Library tab, on the scorecard home page, represents the universe of Clinical Analytics template scorecards available to your hospital/health system. The list of available scorecard templates can be downloaded by anyone on your team with Health System Coordinator (HSC) scorecard permissions. Once the HSC user downloads a copy of the template, they can assign the templates to any given user. Once a user has access to a given scorecard template, the user then saves the scorecard template as a custom scorecard. This step guarantees the changes made by the user in the custom version only affects the user's custom scorecard. An exception to this rule is that original template authors may make changes in a scorecard when it is a scorecard template. A scorecard template is available to be shared across users; a custom scorecard exists for modification and analysis by one user only. (See Figure 3.13)

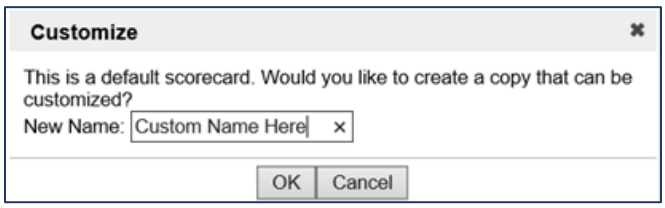
FIGURE 3.8 THE BACK-AND-FORTH RELATIONSHIP BETWEEN SCORECARD TEMPLATES AND CUSTOM SCORECARDS



Creating a Custom Scorecard

When you first open a scorecard template and use the pencil customizer icon, the system will ask you if you want to customize the scorecard (See Figure 3.14). This allows you to name your custom scorecard. This custom scorecard will then show up in the *Customized Scorecards* list on your *Scorecards* tab.

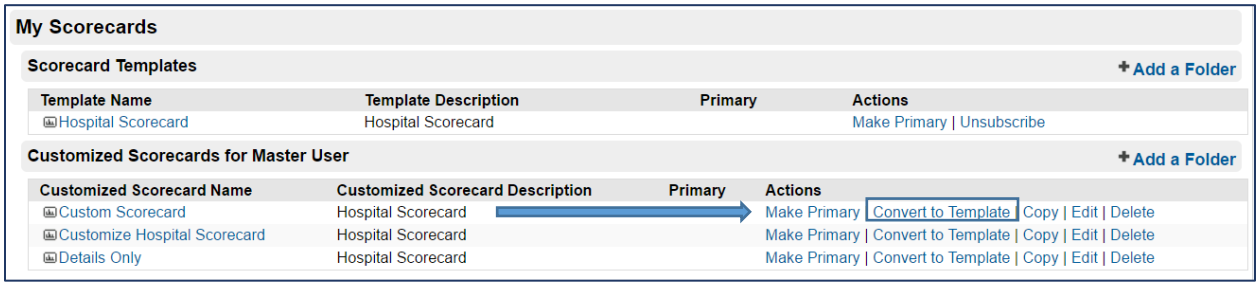
FIGURE 3.9 SCORECARD CUSTOMIZATION SCREEN



Saving a Customized Scorecard to a Scorecard Template

When you have modified a customized scorecard and want to make it available to other users, go to the scorecard home page, find your custom scorecard in the list of customized scorecard names, click on the *Convert to Template* hyperlink on the right and name the customized scorecard (see Figure 3.15). You should then see the scorecard template in the in the *Template Name* list. The scorecard with your modifications can now be used as a starting point by other team members. However, one final step must be completed for other users to view the converted scorecard on their My Scorecards tab. The creator of the converted scorecard must grant access to the other user(s), and then the scorecard template will automatically show up in the Scorecard Templates section in their Clinical Analytics session (see Figure 3.2 & Figure 3.3). Sharing scorecards is a great tool to help other new users benefit from your knowledge and not have to create useful scorecards from scratch.

FIGURE 3.15 CUSTOM SCORECARD CONVERT TO TEMPLATE



Tabs

As described earlier, the tabs within each Clinical Analytics scorecard can be added, deleted, moved and renamed. The maximum number of tabs on a Clinical Analytics scorecard is seven. In the customizer view, when there are less than seven tabs on the scorecard, you will see a tab labeled *+Add Tab*, indicating an opportunity to an additional tab. Clicking *+Add Tab* creates a new tab which then has the same modification capabilities as the other pre-existing tabs. Figure 3.15 illustrates the customization functions of Clinical Analytics Tabs.

FIGURE 3.10 CLINICAL ANALYTICS TAB CUSTOMIZATION FUNCTIONS

Tabs may be customized when you:

- ✓ ***Name*** a new tab or ***Rename*** a pre-existing tab: Pick any tab and click the customization pencil. **Type** a new name and **select** *Apply*. If you change your mind, **select** *Cancel***.**
- ✓ ***Delete*** a Tab: **Click** the trash can icon.
- ✓ ***Move*** a Tab: **Click** on the two-way arrow to the left side of the tab name; grab the Tab with the arrow cross and slide it into the desired tabular sequence.

Sections

In the Clinical Analytics application, *Sections* provides the functionality for assigning basic or starter data analyses frameworks within any given Tab. In a sense, the naming of a *Tab* assigns a name without a function. The contents of a tab remains blank until a Section is added. (See Figure 3.16)

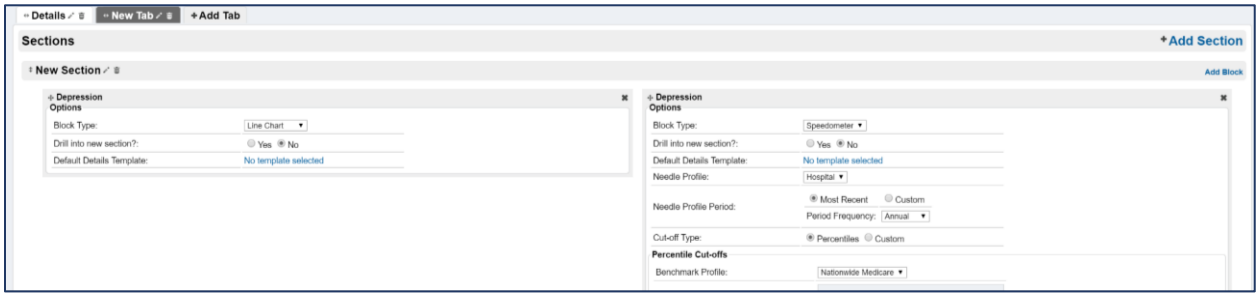
FIGURE 3.11 A NEW TAB WITHOUT ASSIGNED SECTIONS

Whenever in customizer mode, it is always possible to select and add a section. This is accomplished by selecting the *+Add Section* on the right upper portion of the Sections screen (See Figure 3.16). This will open a dropdown to use in choosing a Section. Many of the Sections incorporate the use of a *details template* to support the data analysis. Sections can be organized on your screen by hovering over the two-way arrow on the left end of the gray margin and rearranged like the individual tab movement we just discussed. Once you have captured the section you would like to rearrange, move the section and drop it into place signaled by a light-yellow highlight strip, visible in the background. The light-yellow highlight strip is where the relocated section can be attached. Adding a Section will display the dashboard for whichever analytical tool you would like to use.

Blocks

Just as Scorecards, Tabs, and the assignment of Sections can be modified, the use of one particular type of section, referred to in Clinical Analytics as the *Two-Column Section* allows for the addition, naming and movement of yet one more customizable feature, the *Block* (See Figure 3.17). The addition of the Block on a Two-Column Section offers you the chance to select specific measures and have your data results reflected in either a trending line chart or a speedometer. Blocks in a Two-Column section can be re-arranged on the screen by hovering over the gray margin and grabbing the measure and posting it to the light-yellow strip highlighted in the background of the Section screen.

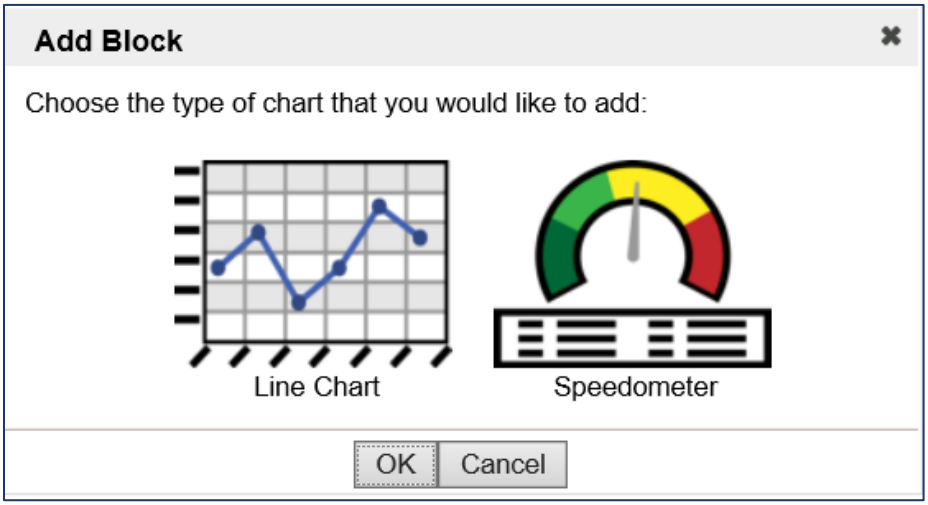
FIGURE 3.12 THE USE OF BLOCKS, ILLUSTRATING BOTH THEIR CUSTOMIZABILITY AS WELL AS ADDITION OF MEASURES



When adding a Block you will want to:

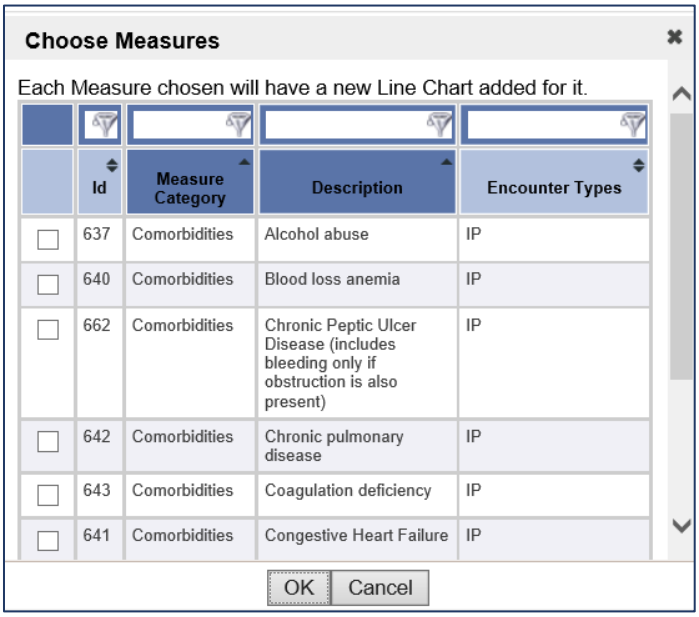
- ✓ ***Select*** the pencil icon to open to the customizer mode.
- ✓ ***Select*** or ***Add*** the tab that you would like the new measure(s) to be displayed.
- ✓ ***Select*** **+Add Section** choose the *Two-Column Section* option from the *Select a section* menu.
- ✓ ***Scroll down*** to the bottom of your screen where the *New Section* has been added.
- ✓ ***Click on*** the pencil customizer icon. Type the name of your new section. **Click** on *Apply*.
- ✓ ***Click on*** *Add Block*
- ✓ ***Choose*** the line chart or the speedometer (Figure 3.18). ***Click*** on *OK*.

FIGURE 3.13 ADD BLOCK POP-UP



- ✓ ***Select*** the measure(s) which you would like to add using the Block (See Figure 3.19). (This screenshot reflects adding a line chart; the same choose measures menu options are available for speedometers.)

FIGURE 3.14 EXAMPLE BLOCK-ASSOCIATED MEASURES



- ✓ ***Complete*** the addition of the measure(s) to your Two-Column Section by reviewing the default measure options and adjusting, if necessary.
  - *Drilling into new section?*
  - *Noting the Default Details Template*
  - *For line charts, which internal Profiles to use and whether you will be using comparison benchmarks, or not.*
  - *For speedometers, which internal profile (represented by the Needle Profile), Needle Profile period, Cut-off Type (e.g. Percentile or Custom) to use and, if selecting the Percentile cut-off type, which Benchmark Profile to use.*
- ✓ ***Click*** *on the green checkmark in the upper right-hand corner to* ***Save*** *changes and* ***Close*** the customizer mode.

- ✓ **Don't be afraid to delete any tabs that are not relevant to the analysis. Deleting unnecessary tabs will keep your scorecard clean and free up tab space as you customize the scorecard to meet your needs**.
- ✓ **Review existing scorecard options in the Scorecard Templates tab before creating a scorecard from scratch.**
- ✓ **Challenge yourself and find one new scorecard template that is specific to your service line or measure of choice.**

Guided Practice Exercises:

Before moving on to the next chapter, let's take some time to reinforce the various ways you can customize a scorecard. Also, we will walk through the necessary steps to grant access to existing scorecards.

- Instructor Guided: Demonstration in Clinical Analytics reinforcing how to customize a scorecard.
- Self-Guided: Client customizes scorecard(s) of choice with instructor assistance if needed.

Study Questions (Refer to Appendix D for answers)

1. Which roles have permissions to create custom and template scorecards?
   - A. Any user
   - B. Health System Coordinator
   - C. Clinical Analytics team member
   - D. Clinical Analytics Administrator

2. Which roles have access to download Scorecard Templates from the Clinical Analytics Library?
   - A. any user
   - B. Health System Coordinator
   - C. Clinical Analytics team member
   - D. Clinical Analytics Administrator

3. True or False: When a scorecard is downloaded from Clinical Analytics Library to your server, it becomes a custom scorecard.

4. True or False: Scorecard Home is where I can find lists of all scorecards I have access to.

5. True or False: The person who downloaded a scorecard template to the server or converted a custom scorecard to a scorecard template is the author. The author is the only person who can make edits directly to the scorecard template itself.

6. If I want to edit a scorecard template (for which I am not the author), I can _____.
   - A. Copy and rename it
   - B. Ask the owner to Add me as a user
   - C. Call Clinical Analytics Support and ask for help
   - D. Make one from scratch

7. Match each display type with the associated data type:

Column A—Display Type	Column B—Data Type
Pie Chart	At-a-glance overall performance in one value
Table	Percentage of the whole
Speedometer	Trends over time
Line Chart	Opportunity

8. Match each icon with the actions:

Column A--Icons	Column B--Actions
Profile Manager	Change the scorecards, tabs, sections or blocks
Settings (Gear) icon	Export your entire scorecard to PDF or just selected tabs
PDF Export icon	Change the encounters included in or excluded from your population of interest
Customizer (Pencil) icon	Change the default date, missing data behavior, or type of data shown in your scorecard

Profiles

Learning Objectives:
Following completion of this session you should be able to:

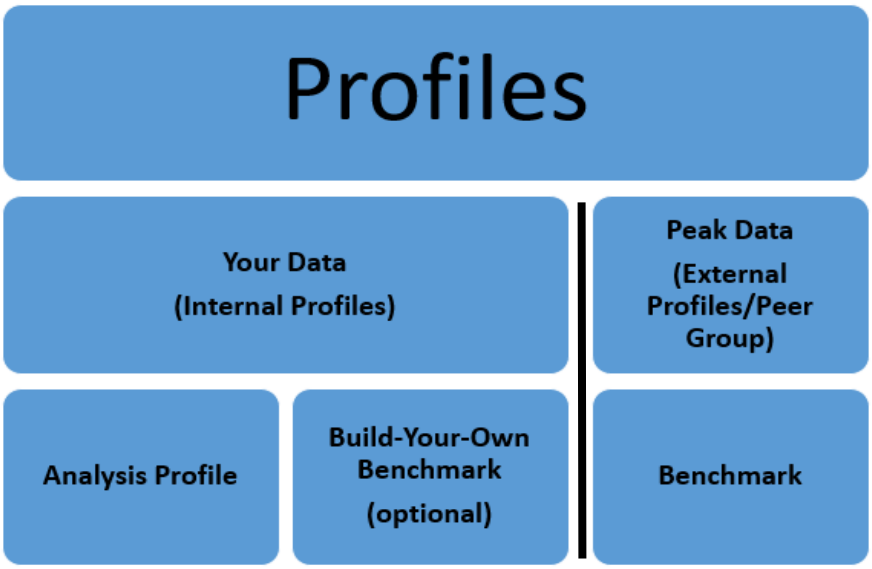
- Distinguish between an internal and external Profile, their uses and how they relate to a benchmark.
- Locate and use Peer Groups.
- Create an internal or external profile to use for analysis.
- Customize existing Profiles.

Key Concepts:

- In Clinical Analytics, *Profiles* define a population; either an internal population for analysis, an internal comparison group used for benchmarking, or an external benchmark peer group.
- Profiles are always associated with a unique scorecard. Saving a customized scorecard as a scorecard template allows others to benefit from using the same profiles.
- Profiles are highly customizable in terms of available filters in addition to grouping types.

Answering the question "What patient population am I looking at?" focuses the user on identifying the commonalities of a group of patients (represented by encounters) receiving services in an associated facility to be used for further analysis. In Clinical Analytics, the creation of this grouping that then can be further analyzed for opportunity is accomplished by building *Profiles*. The creation of *Profiles* can be based on using either your data (referred by Clinical Analytics as "Internal Profiles") or Clinical Analytics data (referred to as External Profiles/Benchmarks/Peer Groups) (See Figure 4.1).

FIGURE 4.1 PROFILES IN CLINICAL ANALYTICS-THE SOURCE AND RELATIONSHIP BETWEEN INTERNAL PROFILES AND BENCHMARKS



Your Data—Internal Profiles: Building Analysis Profiles

Thinking back to what you learned in Clinical Analytics Basic, the analysis profiles (or internal profiles) that you are able to build for analysis are based on the standard source data files (e.g. CDM, Charges, and Encounters) that Clinical Analytics receives from your organization. Currently Clinical Analytics can configure internal profile types (e.g. analysis profiles) a number of different ways based on the application of the data elements and filter settings.

Internal Profiles: Analysis Profile Types

Once inside the Profile manager and viewing the *+Add Profile* screen, you will note a data field labeled Type (See Figure 4.2). There are different Profile Types which can be selected when assembling an analysis profile for reporting; some depending on the user's role assignment in Clinical Analytics or available module(s).

FIGURE 4.2 PROFILE TYPE DROPDOWN DATA FIELD INSIDE *+ADD PROFILE*

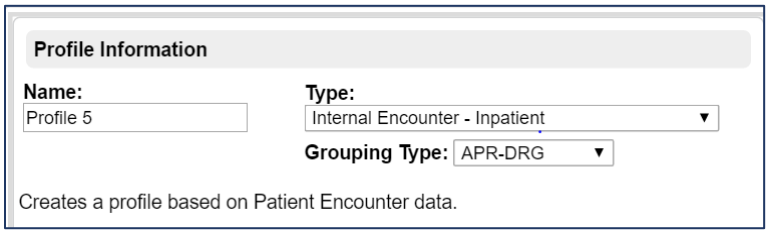


Table 1 outlines the full scope of Profile Types available in Clinical Analytics. The most common types appearing in the dropdown menu for selection are the Inpatient, Facility and Peer Group options. Peer Groups are classified separately and will be discussed in the External Data section of this chapter. The Outpatient Diagnostics and Ambulatory Surgery Center, Emergency Department, and Inpatient and Observation types all belong to the recently released Clinical Analytics Outpatient Module. These three profile types function similarly to the Inpatient and Facility profile types, except for their Grouping Types (further discussed below in the Grouping Types section). The Dynamic profile types are specifically associated with the Clinical Analytics physician user role.

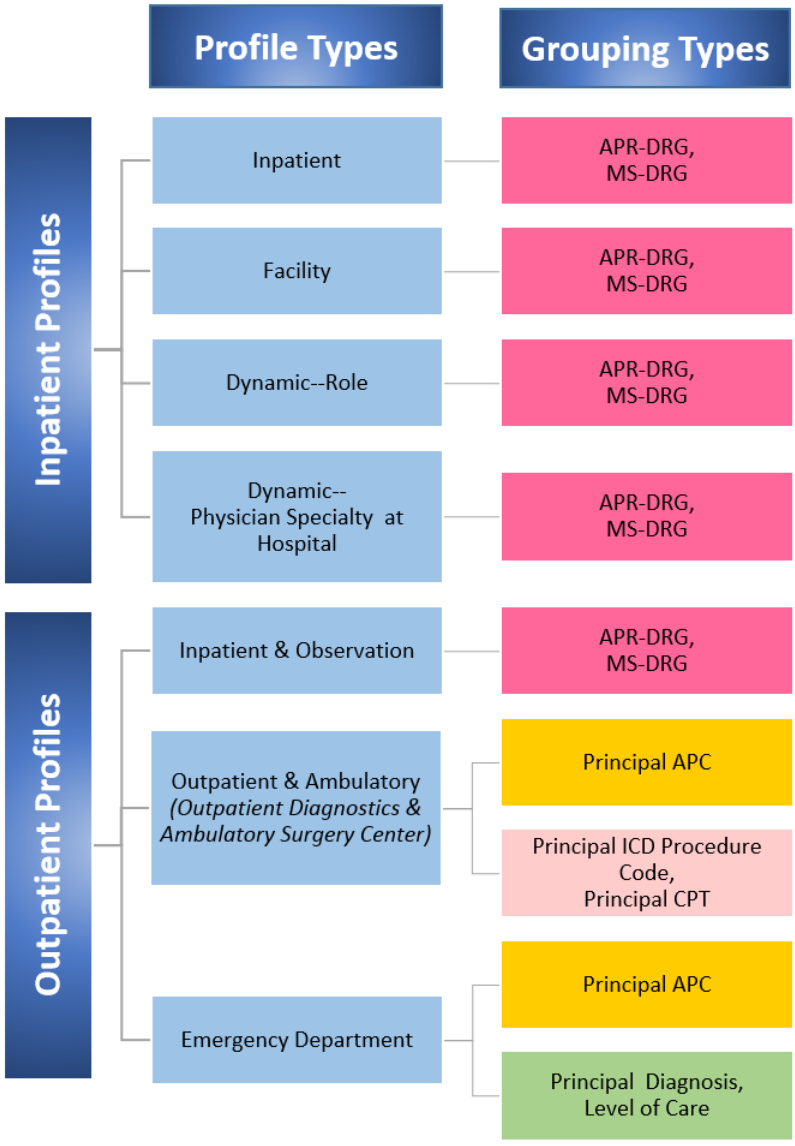
TABLE 1 PROFILE TYPES WITH BRIEF DESCRIPTIONS

Profile Type		Description
Internal Encounter	Inpatient	Profile based on inpatient encounter data
	Outpatient Diagnostics and Ambulatory Surgery Center (add-on)	Profile based on outpatient diagnostic and ambulatory surgery center encounter data
	Emergency Department (add-on)	Profile based on Emergency Department encounter data
	Inpatient and Observation (add-on)	Profile created on Inpatient encounter data; including observation patients
Dynamic	Role	Profile specific to Clinical Analytics physician user role; scales user data view to only include encounters associated with services provided by the physician signed in to Clinical Analytics
	Physician Specialty at Hospital	Profile specific to Clinical Analytics physician user; includes de-identified data for all physicians of the same specialty
Peer Group	Peer Group	Benchmark Profile using external encounter data

Internal Profiles: Grouping Types

The majority of the Grouping Types associated with the profiles are Diagnosis Related Group (DRG)-based; either Medicare Severity DRG (MS-DRG) or All-Payer Revised DRG (APR-DRG)-based. Two profile types, the Outpatient Diagnostics/Ambulatory Surgery Centers and Emergency Department profiles, use non-DRG-based Grouping Types (See Figure 4.3). Under the Medicare Outpatient Prospective Payment System (OPPS), the unit of payment is typically Medicare's Ambulatory Payment Classification (APC) (https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/HospitalOutpaysysfctsht.pdf) in contrast to the DRG-related payments associated with inpatient services. The Principal APC grouping type is based on CMS's standard APC weightings which then allows the data to be used for opportunity calculations and other analyses.

FIGURE 4.3 AVAILABLE CLINICAL ANALYTICS PROFILE AND GROUPING TYPES



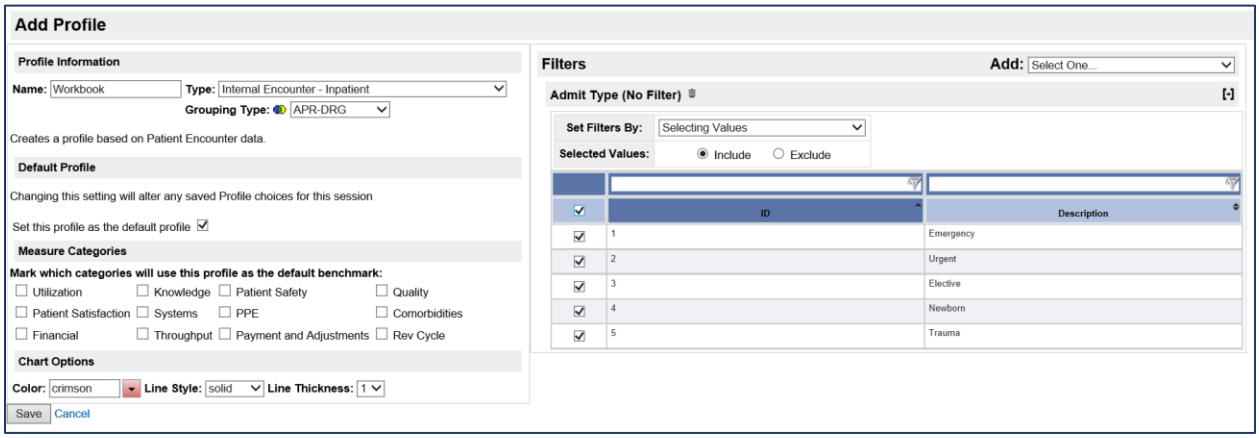
Internal Profiles: A Step-by-Step Approach to Building Your Analysis Profile

Using the Inpatient profile type as an example, creating an analysis profile will include these steps:

- ✓ ***Open*** the Clinical Analytics Scorecard application and select your desired scorecard or scorecard template.
- ✓ ***Open*** your Profile Manager.
- ✓ ***Select*** *+Add Profile*.
- ✓ ***Name*** your profile and select *Internal Encounter-Inpatient* (for the purposes of this example) as your Profile Type.
- ✓ ***Select*** your preferred *Grouping Type*; the system defaults to *APR-DRG*. Two additional grouping types are available, where applicable, the Client MS-DRG and the Clinical Analytics MS-DRG grouping type.
- ✓ ***Determine*** your need to make this your *Default Profile* (meaning that the system will default to this Profile throughout the scorecard you are building in, unless you specify otherwise as you are setting up your Sections). Check box, if necessary.
- ✓ **Measure Categories:** This function will pertain to when Profiles are built for the purposes of using them as benchmarks, internal comparison groups.
- ✓ ***Select*** appropriate Chart Options, such as color selection, line style and line thickness.

- ✓ Move to the right hand side of the screen and open the Filters dropdown. ***Select*** the appropriate Filter grouping. For example, select the Admit Type filter option. The grouping will be added to the screen. ***Set*** the Profile's filters by either selecting the values directly from the table or by entering the values directly (see Set Filters By dropdown). The system is also capable of limiting available filters to only those that are represented by data file data elements.
    - Repeat the process for ***selecting*** additional filters until the filter definition for the Profile has been met.
    - Keep in mind, you have the option to ***Include*** or ***Exclude*** selected filter values.
    - You also have the option to ***Enter Values Directly*** from the ***Set Filters By:*** menu list. You can copy and paste values from an Excel document in the Enter Values Directly field. This functionality is helpful when needing to create profiles with lengthy codes or charges.

FIGURE 4.4 EXAMPLE LAYOUT INTERNAL PROFILE CUSTOMIZATION SCREEN WITH FILTER SELECTION



- ✓ ***Save*** your new Profile by **clicking** Save down in the lower left hand corner. See that it appears now on your Profile Dashboard.
- ✓ ***Close*** your Profile Manager icon by **clicking** on the green check mark in the upper right hand corner.

Your Data—Internal Profiles: Building Your Own Benchmarks

The methodological approach to using a subset of your own internal population members as a benchmark to compare your analysis profile against an internal comparison group involves sorting your initial analysis profile into both high and low performers in specific categories (e.g. measures) related to opportunity and then creating a profile using the results. You can use this approach to compare one profile (e.g. nursing unit or ICD-10 diagnosis codes) to the whole hospital or one facility within the health system, where applicable. There will be periodic occasions when you are analyzing your data that this approach will present itself as a more appropriate or acceptable alternative to using the peer groups available to you. The process for building your own benchmark, or Internal Comparison Group, will be introduced and reviewed in depth in the Clinical Analytics Intermediate Training Module.

Clinical Analytics Data—External Profiles: Benchmarks--Peer Groups

External Profiles: Benchmark Sources

Clinical Analytics benchmarks are either based on national *MedPAR* (Medicare Provider Analysis and Review) data or state-level *All-Payer* data. The MedPAR files contain claims data for services provided to Medicare beneficiaries admitted to Medicare-certified inpatient hospitals. Data elements include beneficiary demographic characteristics, diagnosis and surgery information, accommodation and departmental charge data, and number of days of care (https://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/IdentifiableDataFiles/MedicareProviderAnalysisandReviewFile.html). There is about a 12 month time lag at the time the annual data set is published by Medicare. All fifty states are represented in this national data set.

State-level *All-Payer* data sets have variable availability based on the policies and restrictions of each state entity holding accountability for the data. In instances where All-Payer data is not available to third-party entities such as Clinical Analytics, the data is secured by the sponsoring organization, forwarded to Clinical Analytics, and Clinical Analytics processes it along with its other benchmarking data. In addition, Clinical Analytics can process the state discharge data for specific states on behalf of the hospital for only that hospital to use.

Clinical Analytics has over 2000 standard peer groups, (e.g. Health Grades 100 Best Hospitals, Nationwide-Critical Access, 200-299 Beds, etc.) created from the benchmark data described above; these then make up the benchmark that comparisons can be made against. In addition to the standard peer groups, custom peer groups defined by the organization can also be generated by Clinical Analytics. A complete list of Peer Groups can be accessed in Clinical Analytics Documentation.

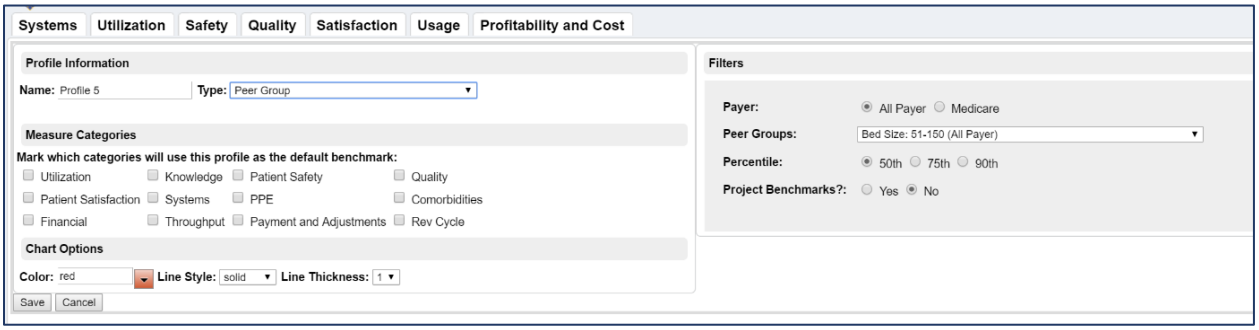
External Profiles: Downloading Peer Groups into your Scorecard

A key concept to remember is that profiles, either internal or external, are unique to each scorecard and will require re-building, re-downloading, or saving within a template scorecard in order to be shared across users or scorecards. Unless you are opening a scorecard template that has been saved for these purposes, you will likely need to create a new profile and associate it with a desired peer group into your scorecard after you've saved it as a custom scorecard. See Exercise 1: Downloading Clinical Analytics Standard Peer Groups, on page 33, for step-by-step instructions.

When selecting and downloading Clinical Analytics Peer Groups you will want to:

- ✓ ***Select*** Home to view the Dashboard home page.
- ✓ ***Select*** Clinical Analytics Administration under Applications on the Clinical Analytics Dashboard.
- ✓ ***Locate and select*** the Benchmarks tab on the Clinical Analytics Administration Dashboard.
- ✓ ***Review*** the currently loaded benchmarks listed on the *Loaded* tab.
- ✓ If the benchmark you are looking for is not listed, ***select*** the Load New tab which will pull up the full listing of available Clinical Analytics Standard Peer Groups.
- ✓ ***Filter*** or ***scroll*** through the list to review and/or locate your preferred peer group.
- ✓ ***Select*** "*Add All Payer Benchmarks*" or "*Add Medicare Benchmarks*." This peer group will now display as an option under the *Loaded* tab peer group column. (Note: The *Re-Sync All* hyperlink in the upper right corner of the *Loaded* tab will purge any Peer Groups which are not being used within a scorecard, and update the ones that are being used to the most recent year of date Clinical Analytics software has loaded.)
- ✓ ***Switch*** to the Scorecard Dashboard and ***open*** your preferred scorecard that you need to work in and ***open*** the profile customizer icon. (Hint: Select Home to view the Dashboard home page and access the Scorecard application.)
- ✓ ***Select*** *+Add Profile*.
- ✓ Under Profile Information ***name*** this profile the same as the benchmark you are downloading. Under Type ***select*** *Peer Group*. In addition, include the percentage and Payer type in the naming convention.

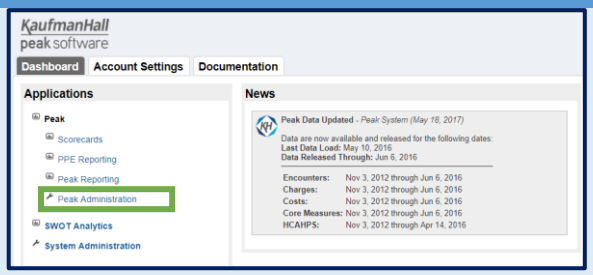
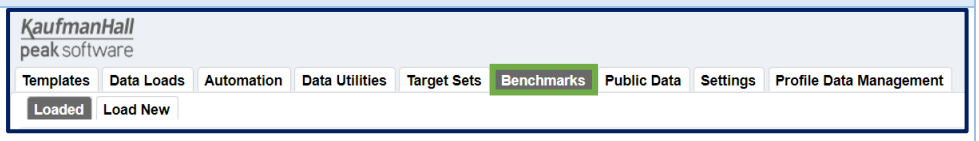
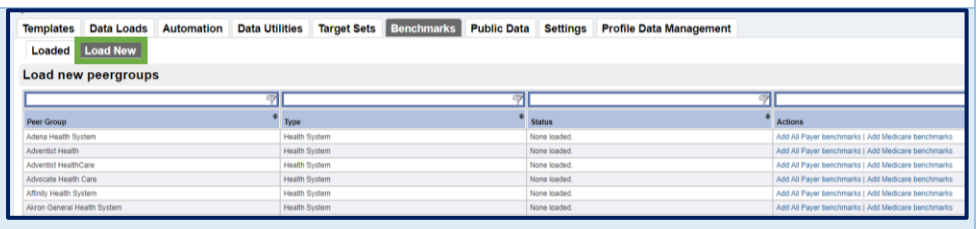
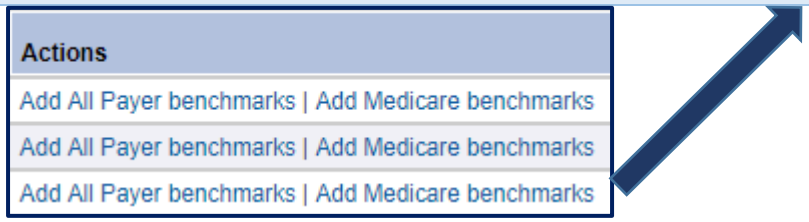
FIGURE 4.5 BUILDING A PROFILE AS A PEER GROUP



- ✓ For this Peer Group, ***determine*** your needs related to the payer, percentile and whether or not the benchmark values should be projected on the chart; in addition, ***select*** the appropriate Peer Group filter from the drop-down menu options. After you have selected the Peer Group from the menu list, ensure the Payer radio button above is the appropriate selection.
- ✓ ***Select*** relevant *Chart Options*. (A solid line and thickness of 3-4 is recommended.)
- ✓ ***Close*** out of Profile customizer, by clicking on the *Save* button in the lower left-hand side of the screen. The new peer group you just created should be in the Profiles list and is now available in measures that have a *Benchmark Profile* dropdown field (e.g. Charges and Cost Detail).

Practice Exercise

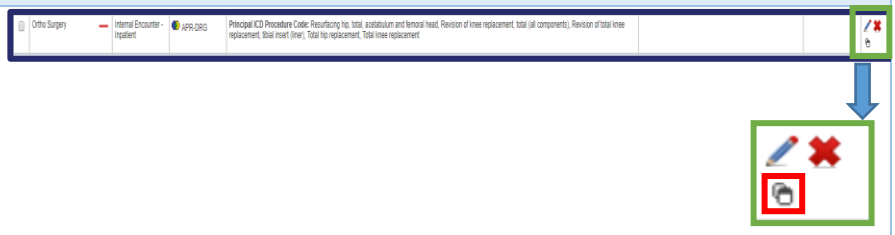
Exercise 1: Downloading Clinical Analytics Standard Peer Groups (** IF you have Clinical Analytics Administration access **)

Steps	Images
1. ***Select*** the Clinical Analytics Administration application from Clinical Analytics homepage.	
2. ***Click*** on the Benchmark tab. Review peer groups already loaded to the server.	
3. If need is different, select and download new peer group from the Load New tab.	
4. ***Select*** the action of choice in the far, right column. • Keep in mind, depending on the state only Medicare may be available.	

If you still can't find the Peer Group you need, call Clinical Analytics Support to have a custom peer group created or made available to you on the Load New tab.

You have completed the Downloading Clinical Analytics Standard Peer Groups exercise.

Exercise 2: Copy and Customize an Existing Profile

Steps	Images
1. *Open* the Details View Scorecard from My Scorecards and *click* on the profile manager icon.	
2. *Copy* a profile you would like to customize.  Customize profile  Delete profile  Copy profile • Note: You do NOT need to check the profile box in order to perform the action functions.	
3. *Select* copy icon:	
4. *Customize* the profile by adding or removing filters. *When you are done customizing, click on the Save button.*	
You have completed the Copy and Customize an Existing Profile exercise.	

Study Questions (Refer to Appendix D for answers)

1. True or False: In Clinical Analytics, my *performance profile* is the population of interest for my analysis.

2. True or False: In Clinical Analytics, my *benchmark profile* is the population I am comparing my *performance profile* data against.

3. True or False: I can only benchmark my internal data against external (peer group) benchmarks.

4. True or False: I can create an analysis profile using external data.

5. A particular profile you have built can be used:
    A. In any scorecard on your server
    B. In any scorecard you see on the Scorecards tab
    C. In any of your custom scorecards
    D. Only in the scorecard it was built in

6. If my scorecard does not have the *external* profile I want and I cannot load a new one, I should first contact:
    A. Clinical Analytics Support
    B. My facility's Clinical Analytics Administrator
    C. No one, just use a different benchmark profile
    D. Bob, because Bob will know what to do.

7. True or False: I have permissions to load new peer group profiles.

8. True or False: I can create inpatient or outpatient profile types.

9. If I want to create a profile _____, I would select the Profile Type _____.

Encryption Keys: Resource Review Only (Basic content)

Learning Objectives:
Following completion of this session you should be able to:

- Identify the process for gaining access to patient level data.
- Set up use of your encryption key.
- Successfully access patient level data.

Key Concepts:

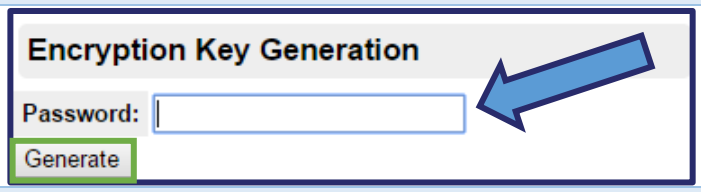
- Use of the encryption key allows access to patient level data and full use of Details View analysis functionality.
- You will need assistance from a team member with system administration privileges or a Clinical Analytics Support team member to set up your encryption key.
- You will want to save your encryption key on a drive that is always accessible to you. This is a text file, if it is not saved or accessible on your primary Clinical Analytics machine you will not be able to access patient level data. We recommend saving your key to a system folder that can be accessed from multiple computers.

The Clinical Analytics scorecard application requires a second level of authorized access (beyond the system's username and password access) in order to be able to view and use patient level data. In Clinical Analytics this access is obtained by using a downloadable encryption key. Unlocking in Clinical Analytics will allow you to access patient level data in the Clinical Case Summary, Frequent Readmission, and Patient Lists sections. In addition, encryption key access and unlocking is required when using profiles containing Medical Record Number, Patient Account Number, and All Diagnosis Code and All Procedure Code fields. Users having the *Health Systems Coordinator* or *Basic* permissions role (for System Administration) will have access to unlocking/locking the scorecard in order to be able to review patient level data.

- ✓ ***Unlocking*** **can make your data analysis steps proceed smoothly, as you won't need to stop your critical thinking workflow to retrieve your password.**
- ✓ ***Save*** **your encryption key to a flash drive or local drive. If you can't find your encryption text file, then your System Administrator or Clinical Analytics Support can reset your encryption key.**

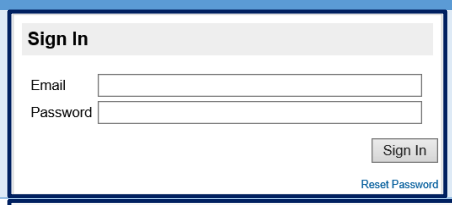
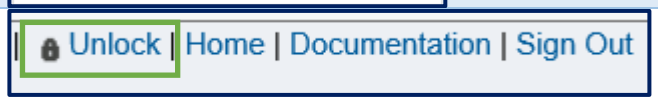
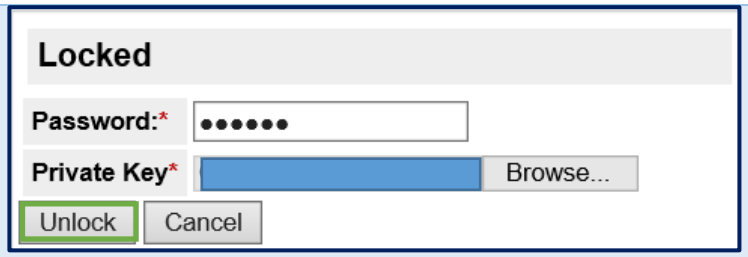
Guided Practice

Exercise 1: Obtaining Encryption Key and Unlocking in Clinical Analytics

Steps		Images
1.	***First Time Only:*** ***Select*** the Unlock hyperlink in the upper right corner	
2.	***Enter*** a password. This is a user specific password, does not expire and does not require special characters.	
3.	***Select*** Generate after you enter a user specific password as described in step 2.	
4.	***Select*** Download Private Key and ***Save*** the private key text file to a flash drive or local drive that you will always have access to.	
5.	***Select*** the Lock Facility button after you have saved the private key text file.	
6.	***Contact*** your local Clinical Analytics Administrator or Clinical Analytics Support to grant you privileges.	

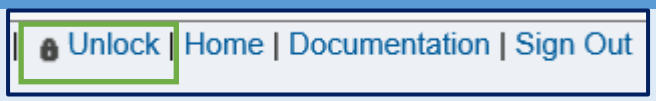
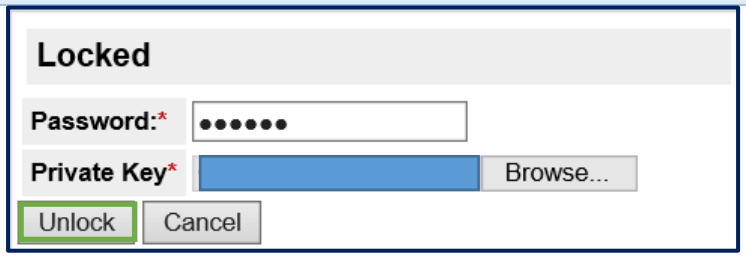
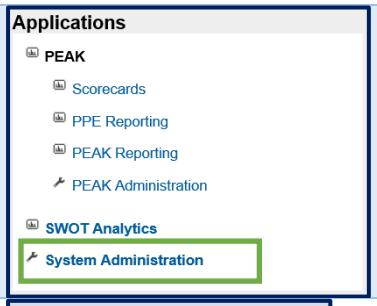
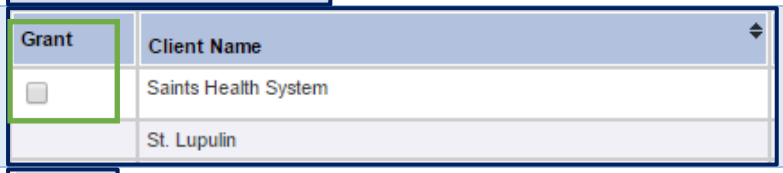
You have completed the First Time Obtaining Encryption Key and Unlocking Clinical Analytics exercise.

Exercise 2: Unlocking in Clinical Analytics, General Instructions

Steps		Images
1.	*Unlock* Clinical Analytics using your own key	
2.	*Unlock* Clinical Analytics using your key	
3.	*Enter* password *Browse* and *select* the Encryption key file you saved in Exercise 1. *Click* Unlock	
4.	You will now have access to encounter level patient data and other secure functions in Clinical Analytics that require unlocking.	

You have completed the Unlocking Clinical Analytics general instructions exercise.

Exercise 3: System Administration – Granting Unlocking Privileges

Steps		Images
1.	***Unlock*** Clinical Analytics using your own key	
2.	***Enter*** password and ***select*** the Encryption key file. ***Click*** Unlock	
3.	***Click*** on the System Administration application to access User list	
4.	From the Users Tab, ***Find*** the user name and ***Select*** Manage Encryption Keys, under the Actions column header.	
5.	***Check*** the box for the client you wish to give access to. The access should align with the facilities listed as accessible in the user's profile.	
6.	***Click*** Submit and Validate that the user can Unlock in Clinical Analytics	

You have completed the System Administration – Granting and Unlocking exercise.

Study Questions (Refer to Appendix D for answers)

1. True or False: As System Administrator, I can reset a co-workers encryption key.

2. True or False: Every time I sign in to Clinical Analytics, I must unlock with my encryption key.

3. True or False: The password I use with my encryption key when I unlock Clinical Analytics must be the same password I use when signing in to Clinical Analytics.

4. True or False: My encryption password will expire when my sign-in password expires.

5. When I load a page in Clinical Analytics and see "The scorecard must be unlocked to enable this feature," this means:
    A. The page I am trying to view contains PHI
    B. I must enter my encryption password and key
    C. My facility has not purchased the license for this feature
    D. A and B

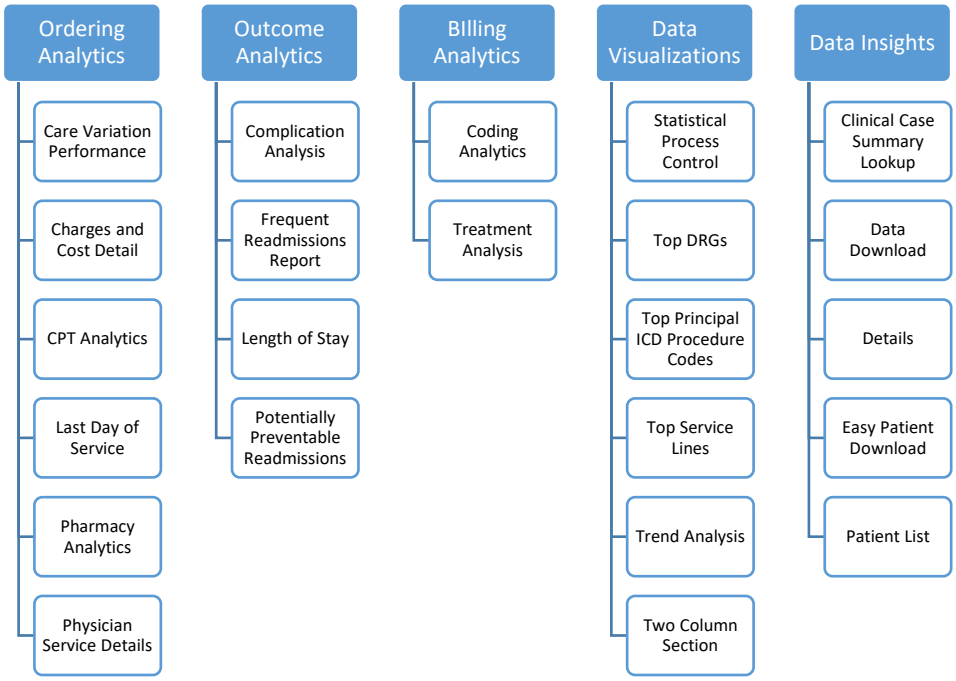
Clinical Analytics Analytic Tools: The Concept of Sections

Introduction

The pinnacle of Clinical Analytics customizing capabilities and subsequent analytical power results from the architecture of its analytical tools—or otherwise referenced as its *Sections.* The scorecard navigation chapter reviewed the mechanics of Sections, including the relationship between Tabs, Sections, and Blocks; and how to use the system's customizing features to assign a Section to a Tab. This chapter digs deeper into the mechanics of using measures in Clinical Analytics, both as a place to focus an initial visual analysis and also to provide additional information about your Analysis Profile following application of your selected analytic tools. Also, the review of several more advanced analytic sections will be introduced to you during this chapter. Finally, you will begin to use the advanced analytic sections in your own analysis framework.

Figure 6.1 illustrates the current analytic tools or Sections in Clinical Analytics and their respective groupings. It is intended to mirror the *+Add Section* dropdown menu options when you have Customizer open. The Sections in Clinical Analytics are organized under six general categories: Ordering Analytics, Outcome Analytics, Billing Analytics, Data Visualizations, Data Insights, and Performance Workstation.

FIGURE 6.1 CLINICAL ANALYTICS ANALYTIC TOOLS USING SECTION-SPECIFIC TEMPLATES



The Ordering Analytics section includes a grouping of Clinical Analytics analytic tools which all focus ordering patterns and their associated opportunity analyses for various inpatient and hospital facility care and services. Outcomes of the patient encounter can be analyzed using the Outcome Analytic set; documentation, coding and billing data can be examined with the Billing Analytics tools. A unique feature of Clinical Analytics is its capability to provide interactive, dynamic representations of the data analysis; this is supported by the Data Visualizations sections. Finally, further insights related to the analyses can be additionally produced, particularly with the use of Excel export functionality available in the Data Insights grouping.

Learning Objectives:
Following completion of this session you should be able to:

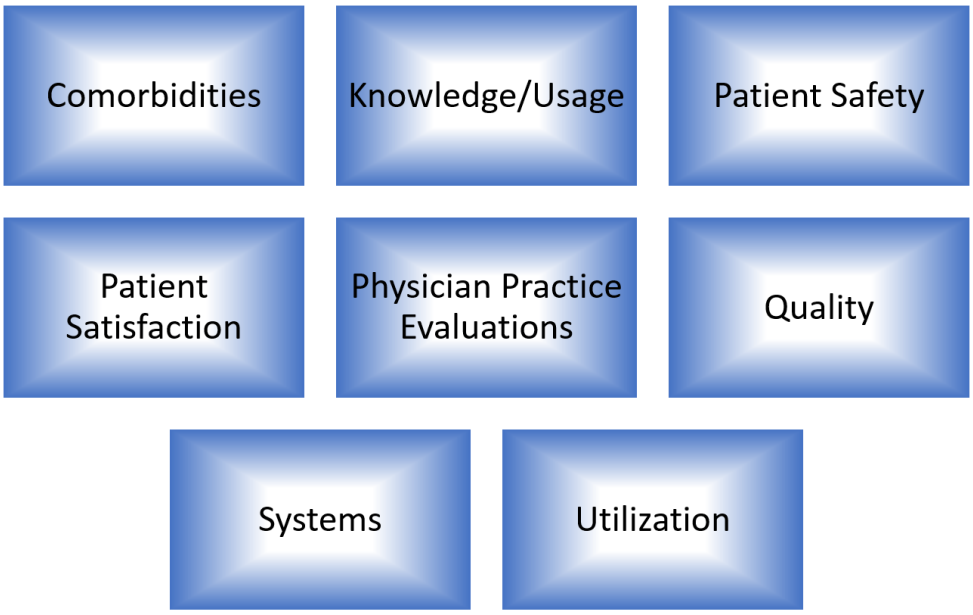
- Recognize the eight different Clinical Analytics Measure categories, cite a few examples of the measures grouped in each category, Clinical Analytics to how their use is incorporated in the Clinical Analytics Scorecard application, and locate additional information in Documentation regarding each measure.
- Recognize basic features associated with using analytic tools that have a section-specific template, using the Details Section as an example.
- Customize an existing scorecard by adding the two advanced analytic sections to it and understand the functionality provided by these tools.

Measures in Clinical Analytics

The Clinical Analytics Scorecard application is designed to apply the use of the system's measures in two separate ways. The first way is to directly visualize individual measure results of a selected analysis profile by setting up a Two-Column Section. This was introduced in the Scorecards Navigation chapter, in the *Blocks* discussion and will be further considered later in this chapter. The second way that the use of measures are applied in Clinical Analytics is during the process of moving through a progressive analysis cycle using the system's analytic tools, or *Sections*. A framework for working through this analysis cycle will be presented in the next chapter.

As outlined in Chapter 1 (See Figure 1.1) the Clinical Analytics system relies on a variety of sources from both your organization's data and public input data in producing measure performance results and benchmarks. As illustrated in Figure 6.2, Clinical Analytics measures are grouped into eight categories. Across each category the measures can be characterized in terms of favorable polarity, whether or not benchmarks are available, and finally, whether or not the measures are DRG-based values.

FIGURE 6.2 CLINICAL ANALYTICS MEASURES SORTED INTO EIGHT CATEGORIES



For a detailed categorical listing of current Clinical Analytics measures including reference to its favorable polarity, whether or not it is benchmarked, and its recognition as a DRG-based measure, refer to Clinical Analytics internal documentation resource.

Keyword search:

- ***Definitions***
- ***Measure Categories***

Using Analytic Tools with a Section-Specific Template

Key Concepts:

- Section-Specific Template elements and the use of them to manipulate performance data is common across many of the analytic tools in Clinical Analytics Scorecard making it of high importance to become familiar with using them. Remember from Basic training, the template for the Details Section is a great place to start because it is relatively simple yet highly flexible.
- You can get to the Details Template four different ways; by way of a profile data point on a line chart, a Speedometer needle, linked data from a table, or by creating a Details tab and attaching a Details Section.
- Details Template in Basic relies on user modification of the Profile, Benchmark, DRG type, Measures, and Groupings.
- Custom Section-Specific Templates can be saved which makes them accessible across users. This makes very specific groups of data found by customized Templates easy to recover and replicate.

In Clinical Analytics, the functions of the section-specific template is foundational to a majority of the analytic tools available to use for analyzing your data (See Figure 6.1). These section-specific templates are dynamic and highly interactive. We will build on the use of the Detail Section template during Clinical Analytics Basic Refresher to reinforce the power of the section-specific templates. In this session we will continue to see that the Details template organizes custom data reports defined by selected Profiles, Benchmarks, Time Periods, Measures, and Grouping parameters as well as additional filters and exclusions. This additional intermediate training in Clinical Analytics will introduce using analytics tools while adding additional parameters and/or more complex comparisons.

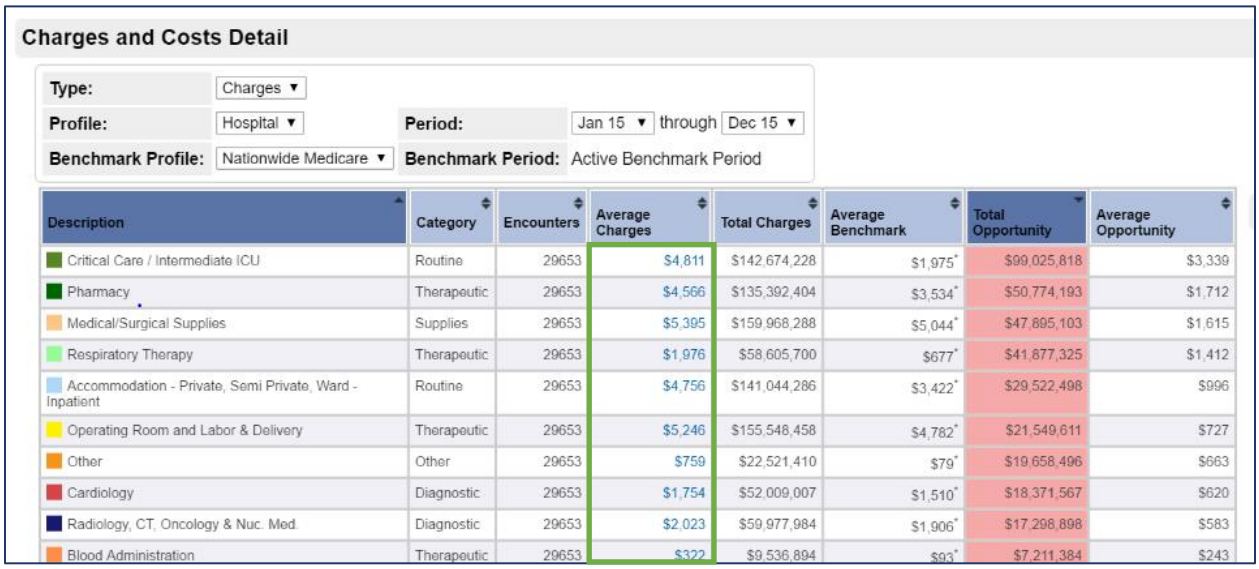
Navigating Around the Section-Specific Template:

As you become more proficient in Clinical Analytics and setting up for more advanced data analysis, it will be useful to keep in mind the four different ways to access a Detail Template. These four access options include:

- ✓ ***Tables:***

  Of the two types of tables represented in Clinical Analytics, the dynamic, interactive tables reflect opportunity and allow further drill down into the Detail Template where there is access to additional analytic elements including filters such as the Clinical Analytics Encounter ID. Selecting a hyperlinked data value (such as a value in the Average Charges column in Figure 6.3) brings you to a Details Section screen.

FIGURE 6.3 EXAMPLE DYNAMIC TABLE PROVIDING AN ACCESS POINT TO A DETAIL TEMPLATE



Charges and Costs Detail

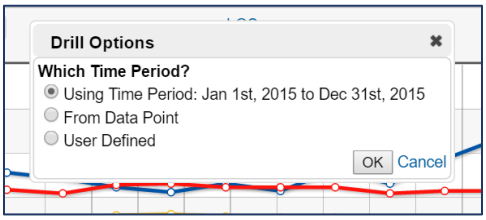
Type: Charges ▾
Profile: Hospital ▾ **Period:** Jan 15 ▾ through Dec 15 ▾
Benchmark Profile: Nationwide Medicare ▾ **Benchmark Period:** Active Benchmark Period

Description	Category	Encounters	Average Charges	Total Charges	Average Benchmark	Total Opportunity	Average Opportunity
Critical Care / Intermediate ICU	Routine	29653	$4,811	$142,674,228	$1,975*	$99,025,818	$3,339
Pharmacy	Therapeutic	29653	$4,566	$135,392,404	$3,534*	$50,774,193	$1,712
Medical/Surgical Supplies	Supplies	29653	$5,395	$159,968,288	$5,044*	$47,895,103	$1,615
Respiratory Therapy	Therapeutic	29653	$1,976	$58,605,700	$677*	$41,877,325	$1,412
Accommodation - Private, Semi Private, Ward - Inpatient	Routine	29653	$4,756	$141,044,286	$3,422*	$29,522,498	$996
Operating Room and Labor & Delivery	Therapeutic	29653	$5,246	$155,548,458	$4,782*	$21,549,611	$727
Other	Other	29653	$759	$22,521,410	$79*	$19,658,496	$663
Cardiology	Diagnostic	29653	$1,754	$52,009,007	$1,510*	$18,371,567	$620
Radiology, CT, Oncology & Nuc. Med.	Diagnostic	29653	$2,023	$59,977,984	$1,906*	$17,298,898	$583
Blood Administration	Therapeutic	29653	$322	$9,536,894	$93*	$7,211,384	$243

✓ ***Line Charts:***

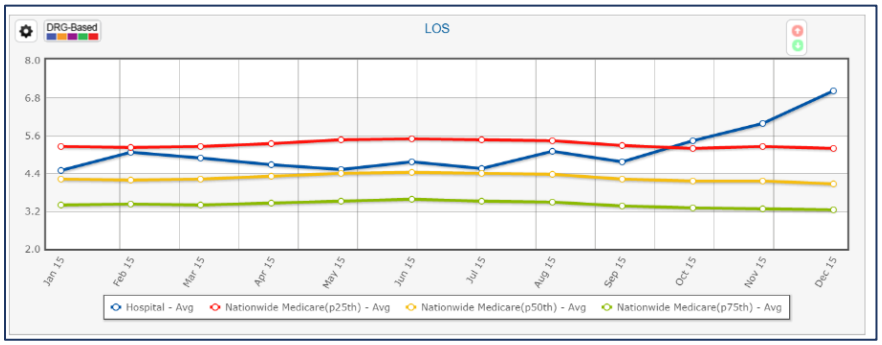
A second way to easily access the Detail Template when setting up an analysis is by way of a measure's line chart (See Figure 6.4).

FIGURE 6.4 TIME PERIOD SELECTION FOR DETAIL TEMPLATE WHEN ACCESSING THROUGH LINE CHART DATA POINT



The different features for how to modify line charts were introduced in the Scorecard Navigation chapter. Selecting any one of the analysis profile data points on the line chart will open a screen for time period selection (Figure 6.4) including the default scorecard time period, the time period for a selected data point, or a custom user-defined time period.

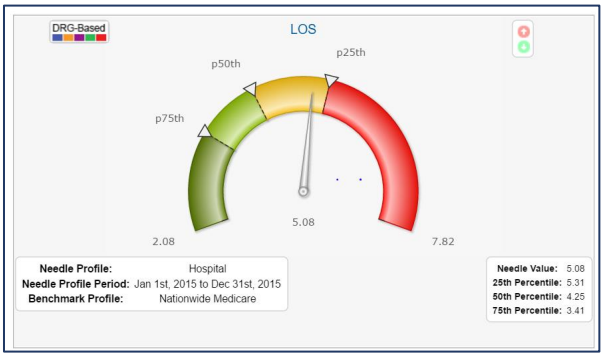
FIGURE 6.5 EXAMPLE OF A LINE CHART IN CLINICAL ANALYTICS WITH DYNAMIC DATA POINTS



✓ ***Speedometers:***

The speedometer represents a different way to view the measures in Clinical Analytics. Though it is not a trended graph with individual data points as is the line chart, it still allows for access to a Details Section for additional data analysis. Remember, hovering over and clicking on the speedometer needle will open up a similar dialogue box as illustrated in the line chart discussion above, again taking the user to a Details Section following selection of a desired measure time period.

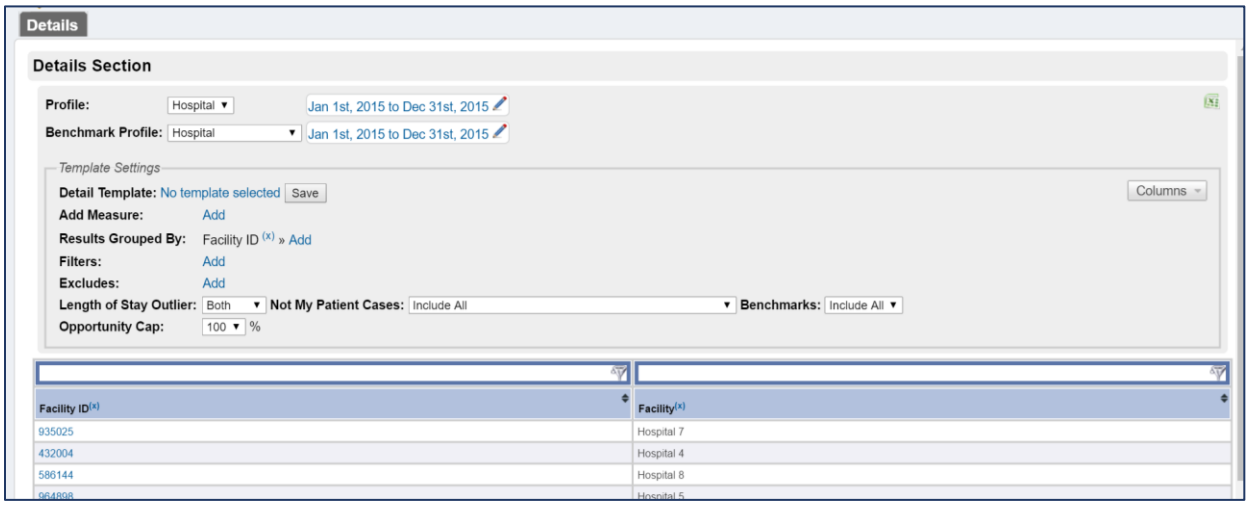
FIGURE 6.6 EXAMPLE MEASURE REPRESENTED BY A SPEEDOMETER. THE NEEDLE IS A DATA ENTRY POINT



✓ ***Details Section:***

Many Clinical Analytics users find that having a scorecard designated as a "Details Scorecard" with just a Details tab and a Details Section attached provides easy access to ad hoc data analysis or querying capability. The Details View scorecard was created in your exercises included in Clinical Analytics Basic training. Because application of a section-specific template is fundamental to most of the analytic tools in scorecards, let's take a closer and remind ourselves of how it is constructed.

FIGURE 6.7 EXAMPLE OF A DETAILS SECTION AND TEMPLATE IN CLINICAL ANALYTICS



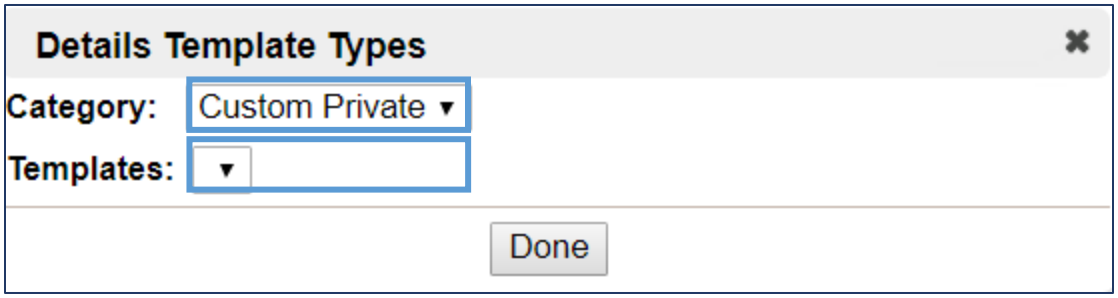
Take a look at Figure 6.7. The Details Section attached to this tab opens with four modifiable fields including Profile, Benchmark Profile and their respective time periods. The Profile and Benchmark Profile fields default to categories set in the profile customizer. As in other scorecard Sections, the time periods are modifiable within the timeframe set by the Scorecard Time Period. An Excel icon is located in the upper right corner, which allows you to export the data, in the Details Section table, to Excel allowing you to further manipulate the data once you've achieved grouping and filtering to your satisfaction. Clicking and grabbing any of the column headers allows you to arrange column order across the screen. Column filtering is a standard function in Clinical Analytics. In the right hand corner of each column header is a toggle arrow which allows you to sort the items in that column in ascending or descending order. The data elements within the Template Settings field are the only fields that save to a Saved Details Template. The profiles and time periods do not carry across in each Saved Detail Templates. The profiles and time periods will need to be selected each time. In addition, in the right hand corner, below the Excel icon, is an alternative for column filtering and arranging, labeled *Columns*. Finally, selecting the superscript x by any data element Facility ID (x) » APR-DRG (x) » will remove that element.

<u>The Detail Template:</u>

When using the Detail Template (or any of the other section-specific templates), you have several options. You may choose to use the default Clinical Analytics Standard template, a Custom template created by another user, or create your own template and save it for future use.

To access a Clinical Analytics Standard or a Custom template:

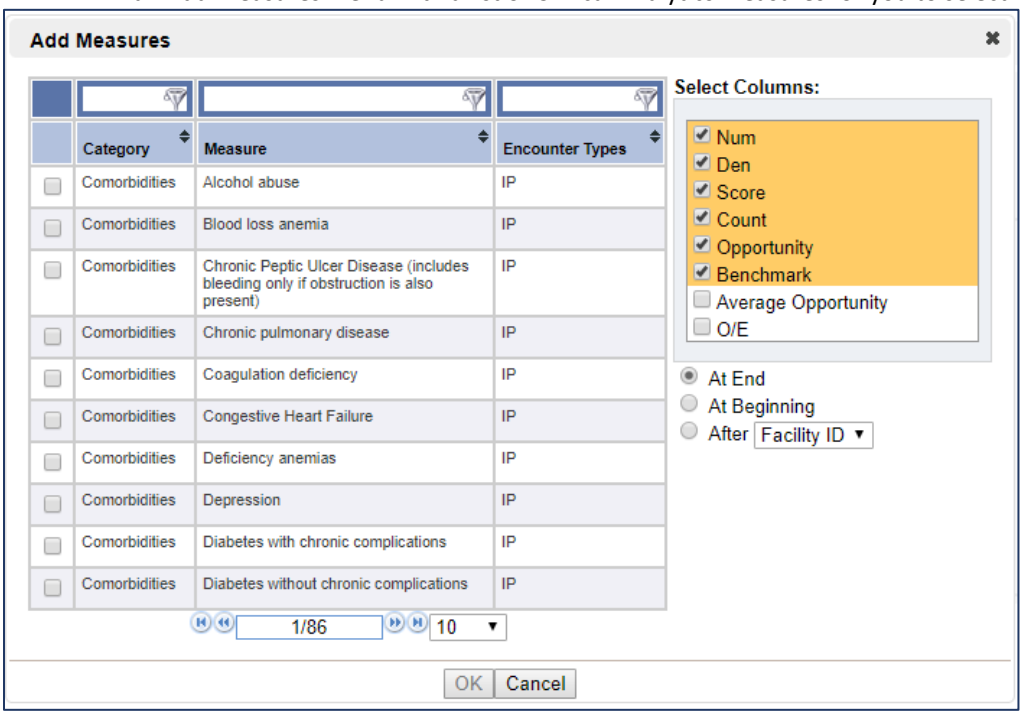
- Underneath Template Settings ***select*** the Details Template hyperlink, titled "No Template selected", or the name of the template already selected.
- In the dialogue box that opens***, select*** either the Clinical Analytics Standard or the Custom radio button.



Use the dropdown arrow to show your alternatives for selection.

Customization changes to the section-specific template, in this case the Details Template, allows you to progress through the analysis and make modifications based on results. Data elements which you may customize vary with the Section (or analysis tool) which you are working with. Details Template elements include:

- ***Add Measures:*** You will recognize the categories and their measures. Selecting *Add* will open an Add Measures menu with a list of Clinical Analytics measures for you to select.



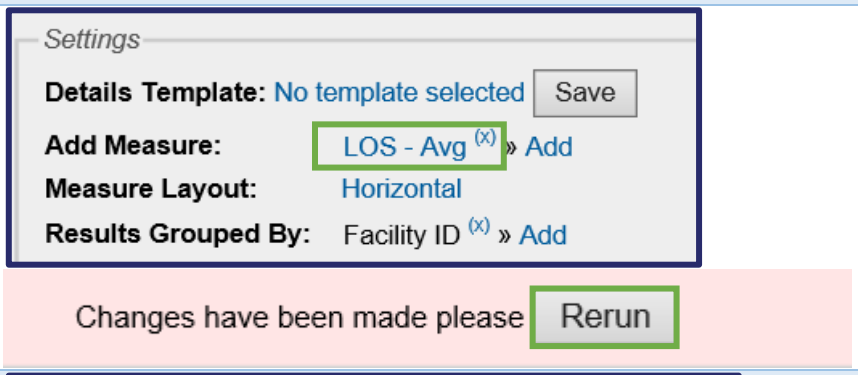
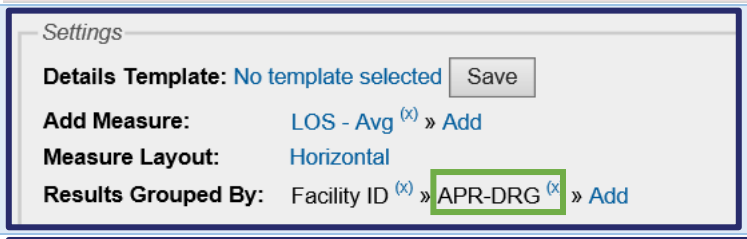
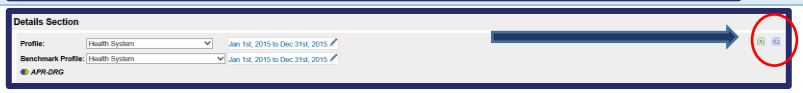
Once you've selected your measure(s) then select the measure(s) columns you want to be added at the end or the beginning of your Details display or following a column specified by you.

- ***Results Grouped By:*** Selecting *Add* will open a Group Options menu with available groupings. This list will mirror the Filters list within the active Profile for which this analysis was based on.
- ***Filters***: In a Details Template, you may specify filters either by adding filters or using the filter fields above each column. Keeping in mind you can only filter on the group bys you have selected in the settings field.
- ***Excludes:*** Use this function to specify exclusions from the analysis; functions in the inverse of adding Filters. Exclusions are available based on the filters you have selected within the settings field.
- ***Length of Stay Outlier:*** Allows selection of Inliers, Outliers, or Both. Based on the definition of an outlier as being two standard deviations from the mean.

- ***Not My Patient Cases:*** This feature allows for the filtering or exclusion of patients that have been manually identified at the individual encounter level as not being attributed to a given physician.
- ***Benchmarks:*** Use this field to specify the inclusion or exclusion of individual encounters when a matching benchmark encounter is not available.
- ***Opportunity Cap:*** This caps the opportunity value at the specified percentage.

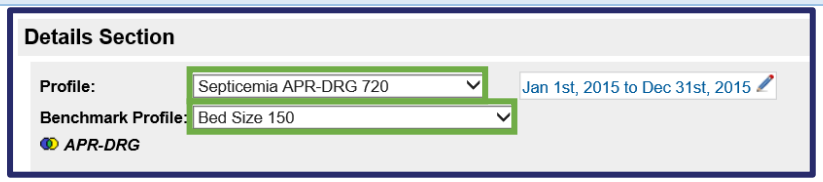
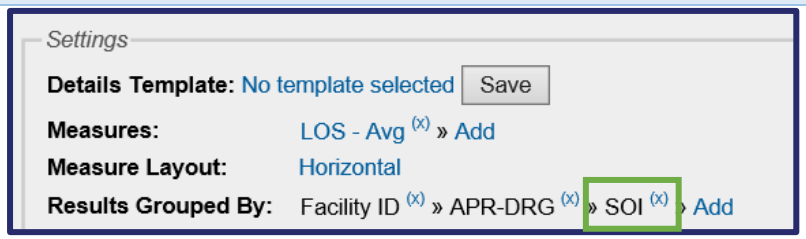
For those Template settings which you would like to use again, click Save and name the template. Use the Custom radio button and dropdown to find and use it again in the future. It is important to note that each individual Section (e.g. Charges and Costs Detail) has its own list of standard and custom templates available. Keep in mind that Saved Detail Templates can be utilized across all scorecards. In addition, Saved Detail Templates can be set as defaults within two column sections.

Exercise 1: Comparison of your Hospital's LOS to the Nationwide All-Payer LOS

Steps		Images
1.	*Open* the Details View Scorecard from My Customized Scorecards list	
2.	*Add* the LOS measure in the Details Template Settings box • Click on the Rerun button to view the filter results. • What is the LOS opportunity for your facility?	
4.	*Add* the APR-DRG in the Results Grouped By filter • What is the APR-DRG has the highest opportunity for your facility?	
5.	*Export* this data to Excel	

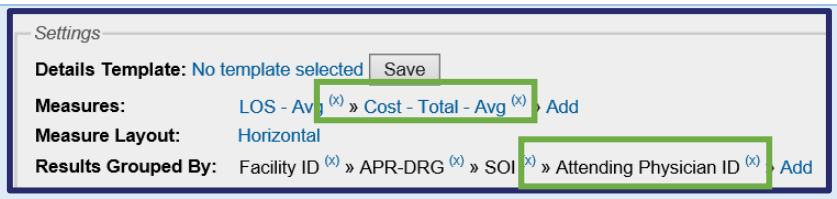
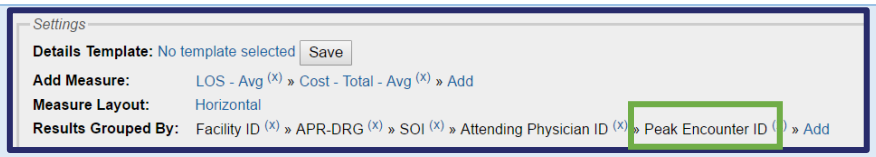
You have completed the Comparison of your hospital's LOS to the Nationwide All-Payer LOS exercise.

Exercise 2: Comparison of your Septicemia APR-DRG 720 profile to the State by Bed Size benchmark

Steps		Images
1.	*Open* the Details View Scorecard from My Customized Scorecards list	
2.	*Select* the Septicemia profile in the Profile menu *Select* your State by Bed Size profile in the Benchmark Profile menu	
3.	*Click* the Rerun button to view the filter results. • What is the overall LOS opportunity for the Septicemia APR-DRG?	
4.	*Add* SOI in the Results Grouped By filter • Which SOI has the highest LOS opportunity within the Septicemia APR-DRG for your hospital?	

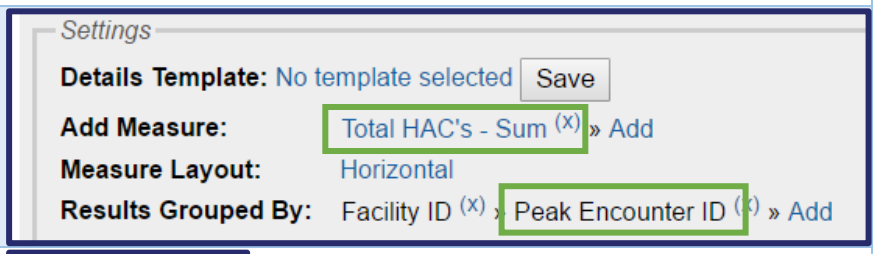
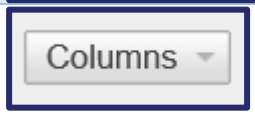
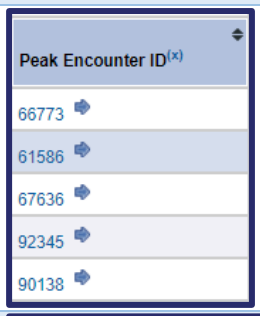
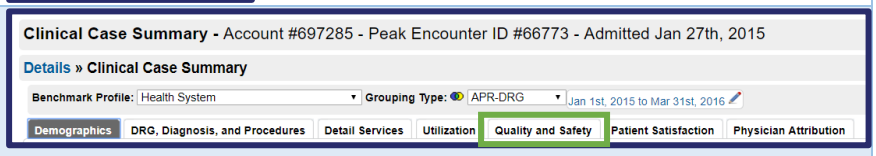
You have completed the Comparison of your Septicemia profile to the State by Bed Size benchmark exercise.

Exercise 3: Comparison and Cost Opportunity of Septicemia APR-DRG against the Your Hospital benchmark

Steps		Images
1.	*Open* the Details View Scorecard from My Customized Scorecards list	
2.	*Unlock* your scorecard	
2.	*Add* the Total Cost measure in the Measures field *Add* Attending Physician ID in the Results Grouped By filter	
3.	*Click* the Rerun button to view the filter results. • What is the overall cost opportunity for your hospital? (Consider export to Excel option) • Which physician has the highest cost opportunity? (Keep in mind this will be split up by APR-DRG/SOI)	
4.	*Add* Clinical Analytics Encounter ID in the Results Grouped By filter • Which encounter has the highest/lowest cost opportunity?	

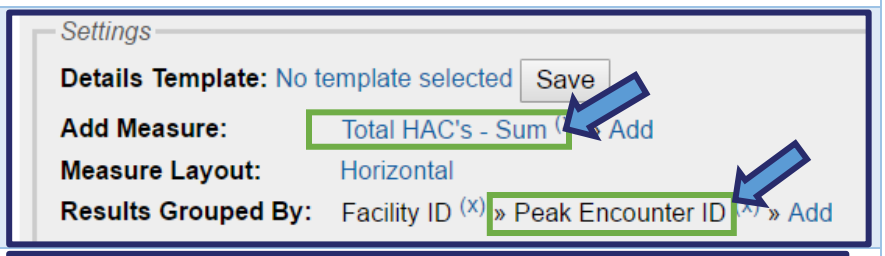
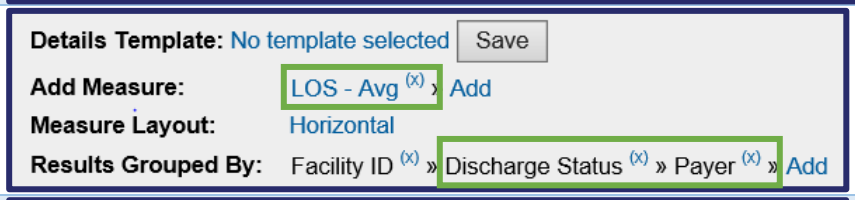
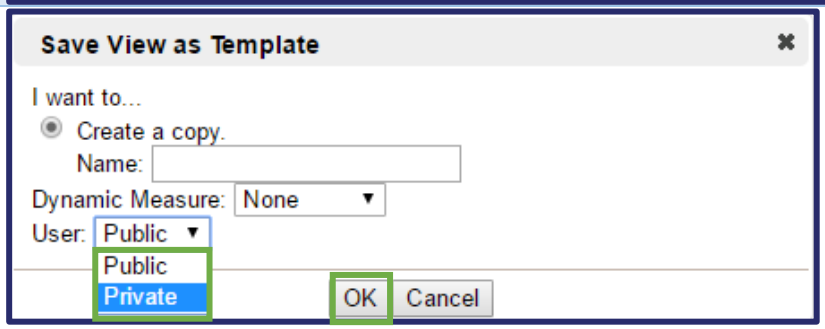
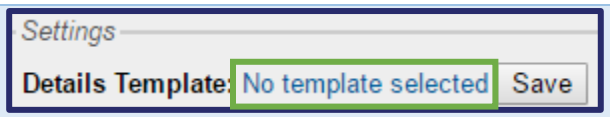
You have completed the Comparison and Cost Opportunity of your Septicemia profile to Your Hospital exercise.

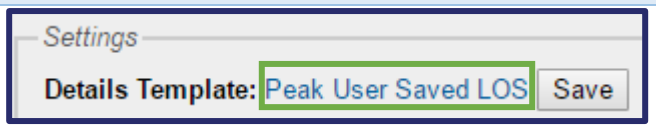
Exercise 4 – Comparison of Total HACs at the patient encounter level

Steps		Images
1.	*Open* the Details View Scorecard from My Customized Scorecards list	
2.	*Unlock* your scorecard if you haven't done so already.	
2.	*Add* the Total HACs measure in the Measures field *Add* Clinical Analytics Encounter ID in the Results Grouped By filter	
3.	Using the Columns dropdown, in the top right corner of the Settings box, *Add* Account Number, All Secondary ICD Diagnosis Codes, Attending Physician ID, Discharge Date MM YYYY, and Medical Record Number.	
4.	*Click* the Rerun button to view the filter results.	
5.	Find an encounter with a HAC and drill into the Clinical Analytics Encounter ID.	
6.	Using the Clinical Case Summary, which HAC did the patient have? (Hint: Use the Quality and Safety tab in the clinical case summary.)	

You have completed the Comparison of Total HACs at the patient encounter level exercise.

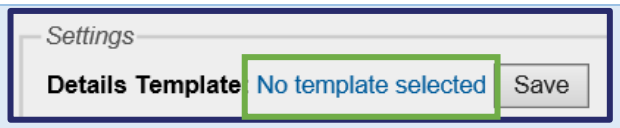
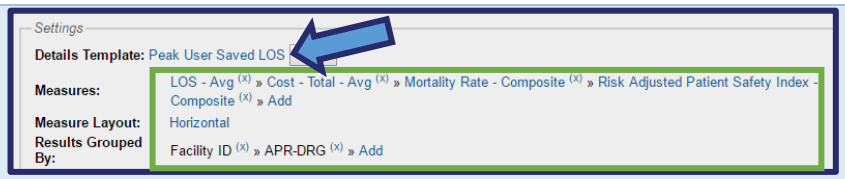
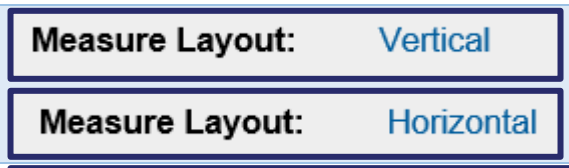
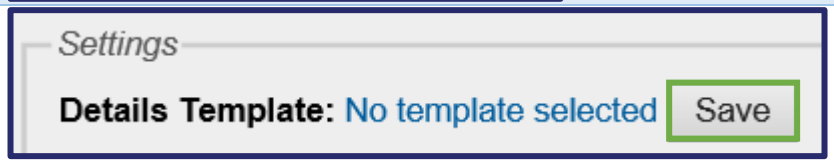
Exercise 5—Comparison of LOS by Discharge Status using Hospital profile against Nationwide All Payer benchmark

Steps		Images
1.	*Open* the Details View Scorecard from My Customized Scorecards list	
2.	*Unlock* your scorecard if you haven't done so already.	
2.	*Remove* previously added Measures and Results Grouped By filter, by clicking on the blue X next to each filter item.	
3.	*Add* LOS in the Measures filter *Add* Discharge Status and Payer in the Results Grouped By filter	
4.	*Save* the details template, by *selecting* the Save button.	
5.	*Name* the details template, [your initials] LOS by Discharge Status. Choose public or private from the User menu, and click on OK to save the changes. • Public allows users to view and use your details template. • Private blocks users from accessing your details template.	
6.	*Do not perform this step, FYI only:* The No templates selected hyperlink is the default. To access the list of previously created Clinical Analytics or Custom templates available, you can *click*	

	on the No templates selected hyperlink.	
7.	*Using* your saved LOS template: • Which discharge status had the largest LOS opportunity? (Keep in mind these could be affected by the Payer group) • Which discharge status and payer combination has the largest LOS opportunity?	

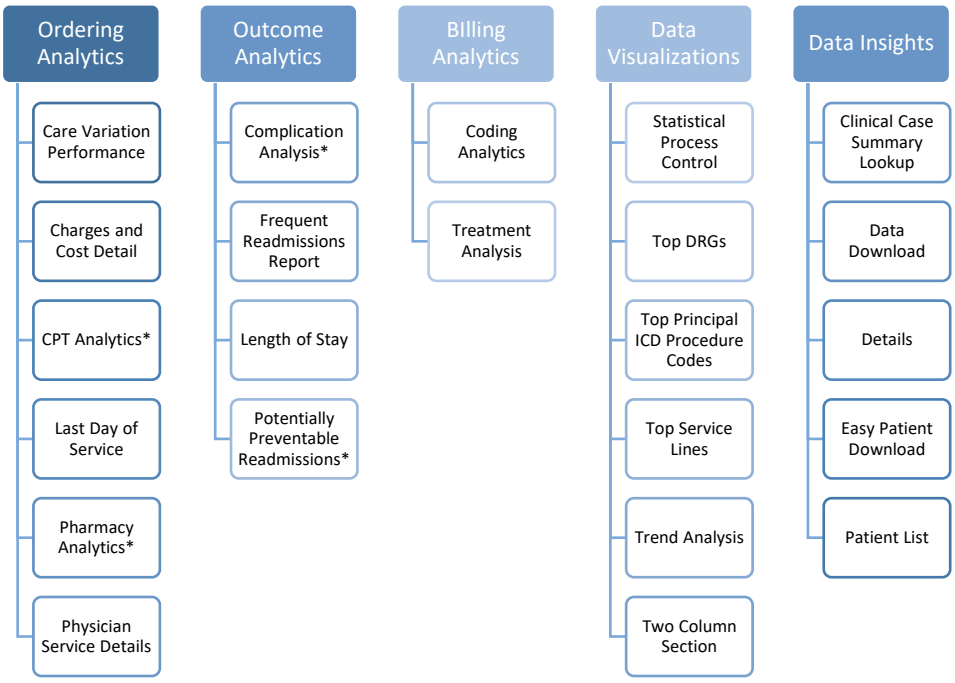
You have completed the Comparison of LOS by Discharge Status using Hospital Profile against Nationwide All Payer benchmark exercise.

Exercise 6—Comparison of APR-DRGs across LOS, Total Cost, Mortality Rate, and Risk Adjusted Patient Safety Index

Steps		Images
1.	*Open* the Details View Scorecard from My Customized Scorecards list	
2.	*Unlock* your scorecard if you haven't done so already.	
2.	*Select* the saved Details Template from Exercise 5. Note the blue arrow in step 4.	
3.	*Add* LOS, Total Cost, Mortality Rate, and Risk-Adjusted PSI in the Measures filter.	
4.	*Add* APR-DRG in the Results Grouped By filter. • Which APR-DRG performed best across these metrics? (Hint: Use the column headers to sort the different opportunity columns.)	
5.	*Click* the Rerun button to view the filter results.	
6.	*Change* the measure layout to Vertical for a different view. (Hint: Use the column filters to filter on an individual APR-DRG.)	
7.	*Save* the view as a custom Detail Template by *selecting* Save in the Details Template settings box. Name your copy and determine public or private access. *Click* OK.	
You have completed the Comparison of APR-DRGs across LOS, Total Cost, Mortality Rate, and Risk Adjusted Patient Safety Index exercise.		

Advanced Analytic Sections

Data Visualizations, Ordering Analytics, and Outcome Analytics



The following provides a discussion regarding Clinical Analytics analytic tools which present access to the Detail Template as described above and patient level data discovery.

Learning Objectives related to the review of the available analytic sections.
Following completion of this portion of the session, you should be able to:

- Locate and apply the available analytic sections to a tab on either your template scorecard or your custom scorecard.
- Identify the appropriate profile, benchmark and time period for use on the sections that have been applied to the tab on your template scorecard or custom scorecard.
- Use the hyperlinked data within available tables to access the Details Template that sits behind the tables.

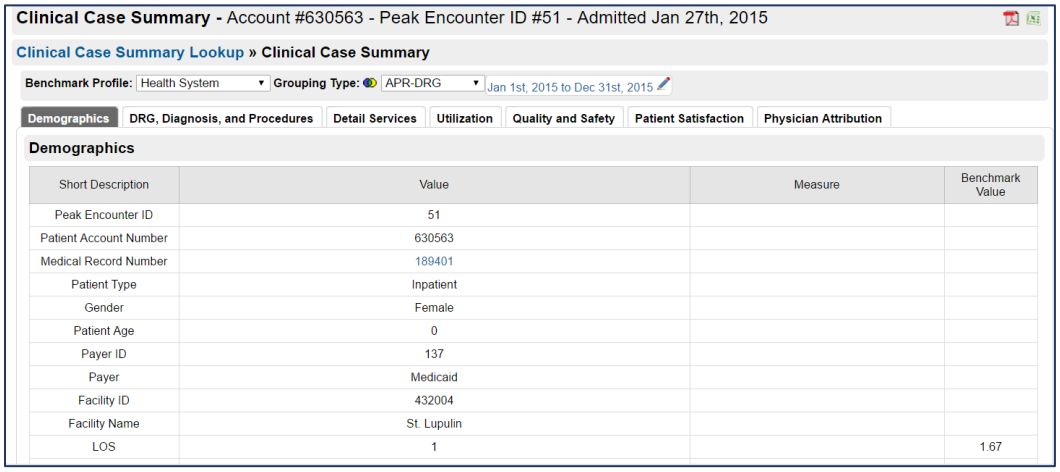
Sections in Review

Clinical Case Summary Lookup

Purpose: Primarily for the purposes of reviewing all patient level data including demographics, diagnosis, detail services, quality, utilization, patient satisfaction and physician attribution.

Key Concepts:

- Clinical Case Summaries display all patient level data which Clinical Analytics has for any given Encounter ID.
- Accessing Clinical Case Summaries requires that you unlock your Clinical Analytics session.
- Using Clinical Case Summary allows you to directly access patient level Clinical Summary data with the Encounter ID number or Account Number.



Basic Features:

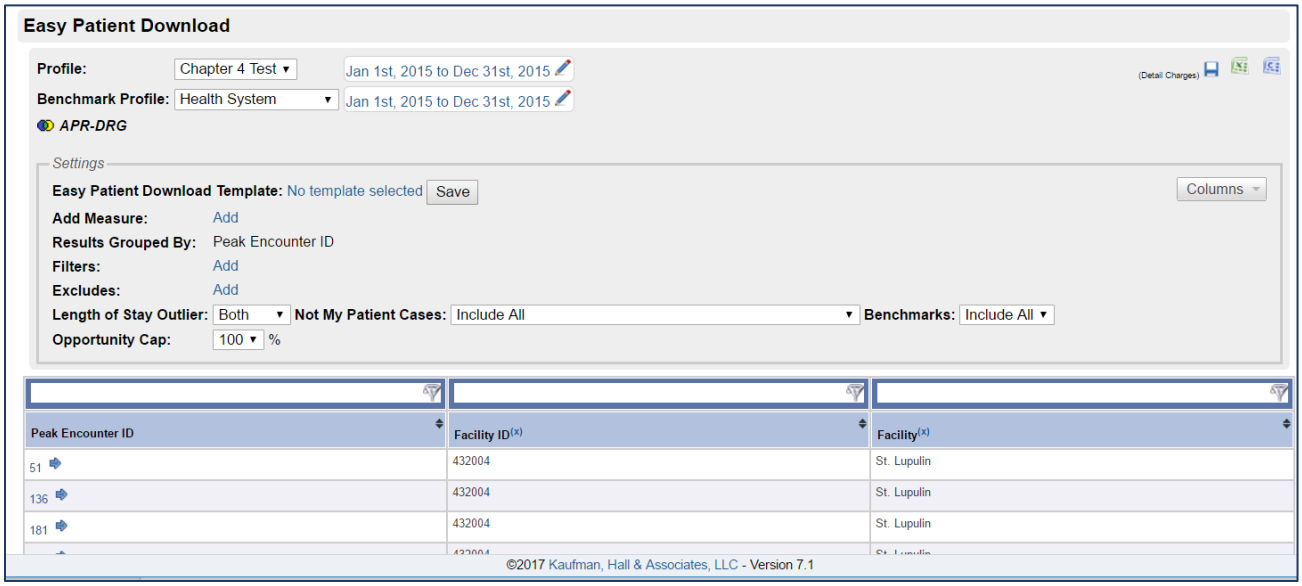
- Downloadable into a formatted PDF report or to an Excel file
- Summary content sorted into seven tabs:
    - Demographics
    - DRG, Diagnosis, and Procedures
    - Detail Services
    - Utilization
    - Quality and Safety
    - Patient Satisfaction
    - Physician Attribution (where applicable)
- Links to other Encounters for the specific Medical Record Number
- Lists familial records (i.e. mom/baby)
- Identifies coder of record
- Interactive Detail Services tab

Easy Patient Download

Purpose: Primarily for the purposes of exporting patient level data grouped by Clinical Analytics Patient Encounter into an Excel file for further use and analysis. A key part of this section is the ability to filter on and see Present on Admission (POA) for every diagnosis code.

Key Concepts:

- Easy Patient Download allows for a Profile-based, patient download grouped by Clinical Analytics Encounter ID which can then be exported to Excel. The export to Excel automatically includes the patient diagnosis, associated procedures and physicians associated with the encounter, in addition to the standard Details View export.
- Definition of the group of patient allows for selection based on profile and benchmark, additional measures, DRG type, grouping of results, filters and exclusions, and time period.
- Easy Patient Download may require that you unlock your Clinical Analytics facility or session if you choose to export.

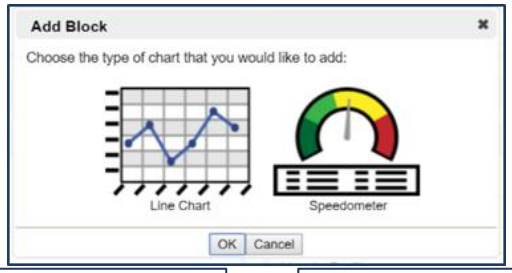


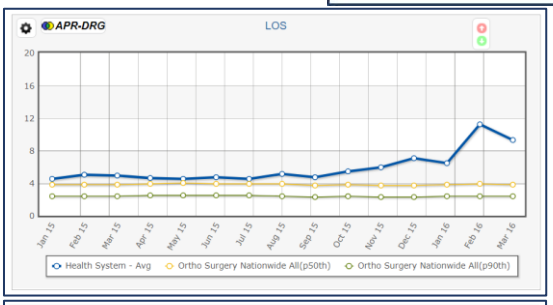
Two Column Section

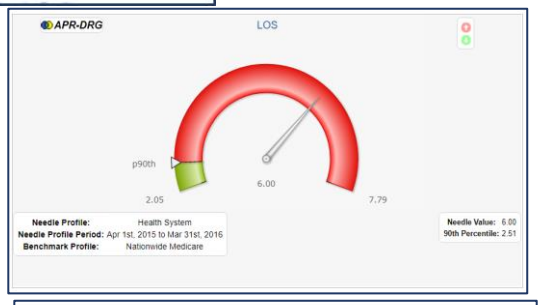
Purpose: Flexibility in assigning specific Measures to any given *Section* allowing for visual representation of results—either by a line chart or a speedometer.

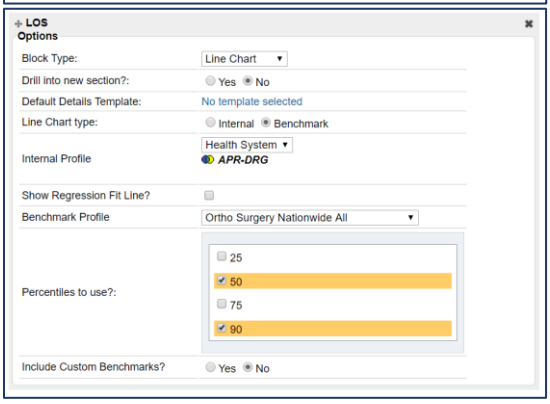
Key Concepts:

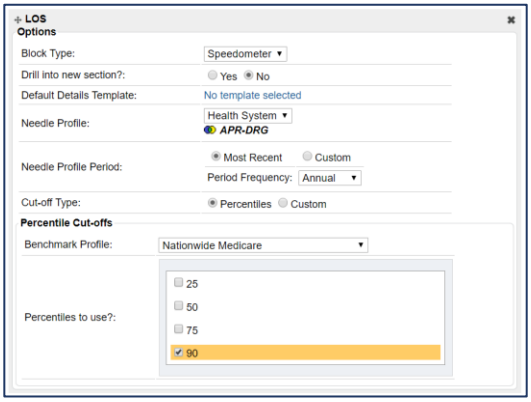
- In Clinical Analytics, while in customizer mode, measures that are assigned within a *Block* are attached to a *Section*.
- The *Two Column* section allows for side-by-side placement of individual blocks, choosing from the line chart and the speedometer.











Keyword search:

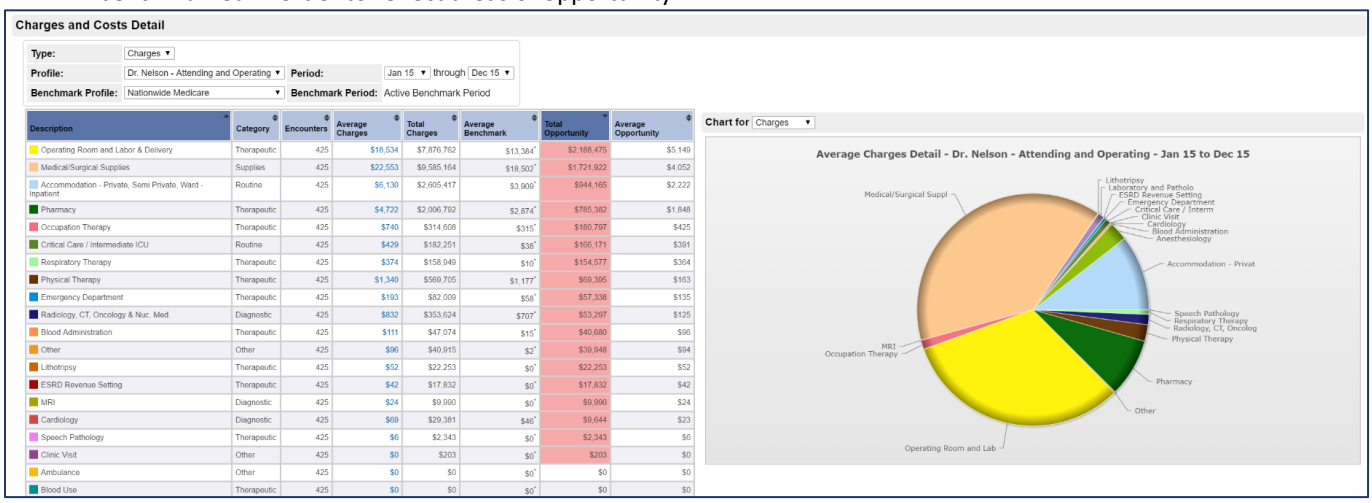
- ***Scorecard Sections***
- ***Two Column***

Charges & Costs Detail

Purpose: Quick way to visually and numerically review revenue code groupings and associated opportunity in terms of charges or cost.

Key Concepts:

- Charges and Costs Detail section is typically found on the Utilization tab in Clinical Analytics, in the Hospital Scorecard, but can be added to any preferred tab in additional scorecards.
- Data are represented by both an interactive table and pie chart.
- Charges and Costs Detail are sorted into revenue code groupings, as defined by CMS, and then benchmarked in order to reflect areas of opportunity.

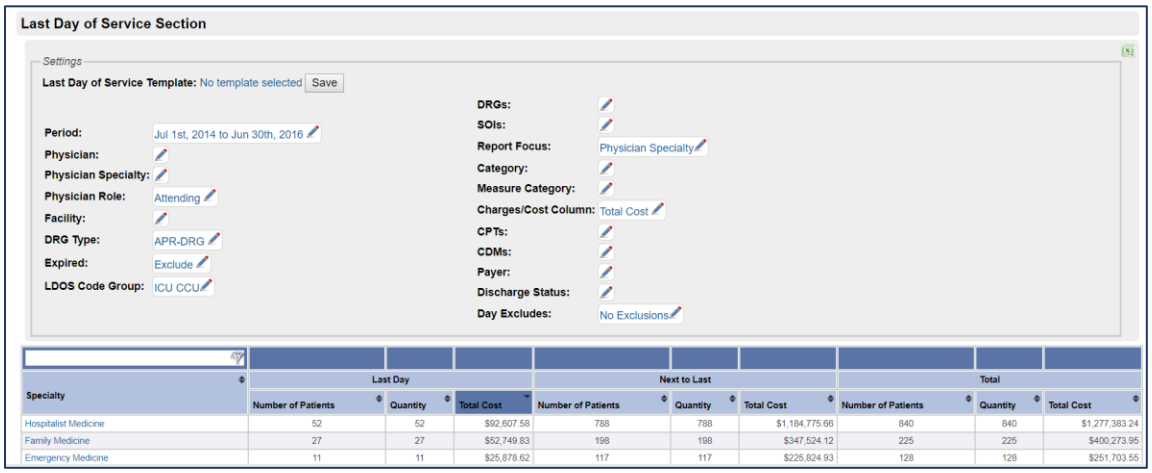


Last Day of Service

Purpose: Analyze services completed on the last and next to last days of the inpatient encounter.

Key Concepts:

- Designed to help analysts understand the services delivered on the last and next to last days of a patient's stay.
- This can help hospital staff identify services that could potentially be performed on an outpatient basis.

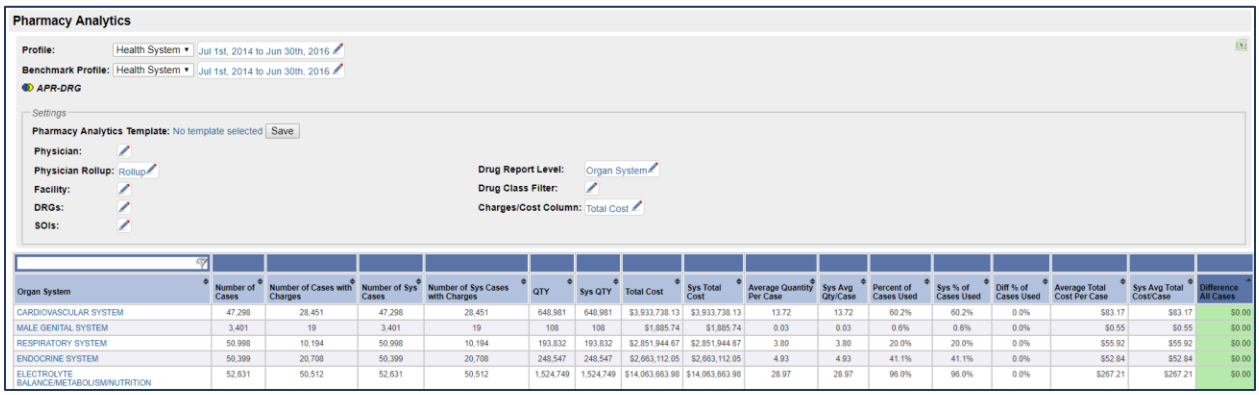


Pharmacy Analytics

Purpose: Allows hospitals and health systems the ability to analyze the medications used by physicians based on various patient populations.

Key Concepts:

- *It also allows users to identify any potential over-utilization of pharmaceuticals.*
- *Profile based section.*
- *Hierarchy: Organ System, Pharmacological, Therapeutic, Generic, Specific Generic and NDC report levels.*

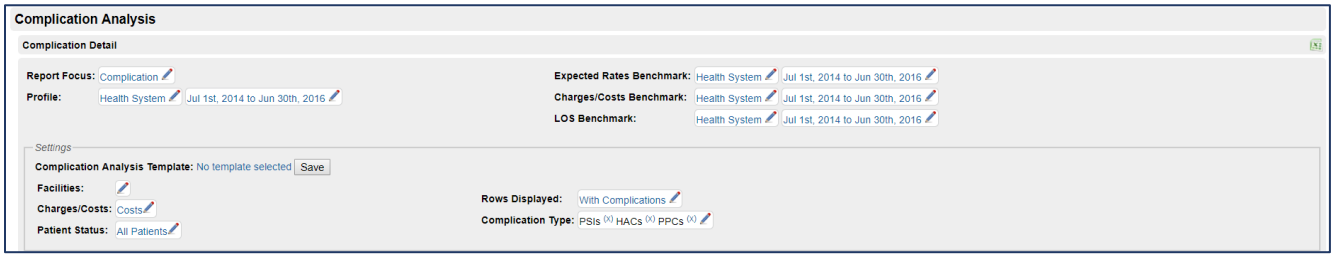


Complication Analysis

Purpose: Specifically designed to analyze PPCs, PSIs and HACs.

Key Concepts:

- *Only available to clients licensing 3M PPC Software through Syntellis/Clinical Analytics Software.*
- *Profile based section that allows you to identify complications and their outcomes.*
- *Additional report focus options*

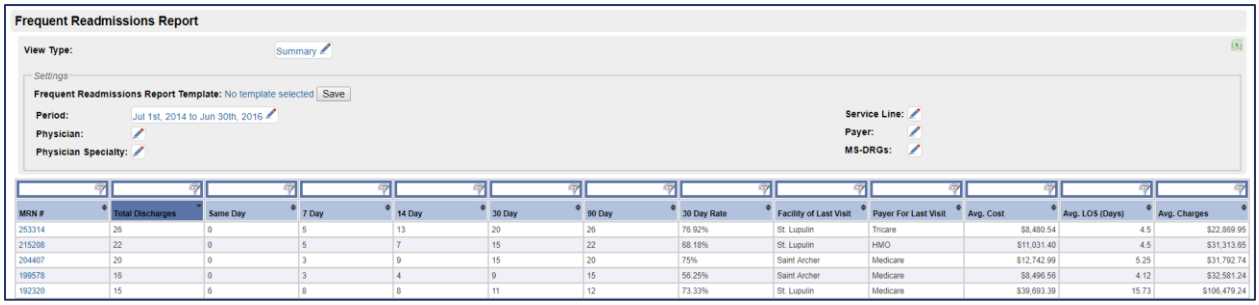


Frequent Readmissions Report

Purpose: MRN level data including 0-30 day ranges. Data can be viewed in Detail or Summary types.

Key concepts:

- Must be unlocked to run this report.
- Allows you to see outcomes associated with each admission.
- Detail level allows you to see each admission for a particular MRN.

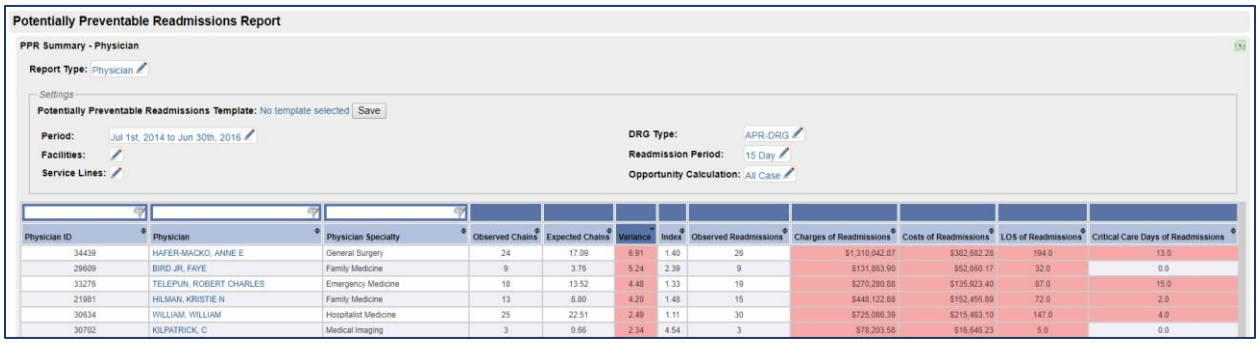


Potentially Preventable Readmissions

Purpose: Analyzes preventable readmissions by physician, specialty, cost, charges, and LOS categories.

Key concepts:

- Syntellis Clinical Analytics Software licenses software from 3M for classifying Potentially Preventable Readmissions.
- Report types available in Physician, Specialty, Physician Group, Service Line, Clinical Analytics MS-DRG, Client MS-DRG and APR-DRG formats.

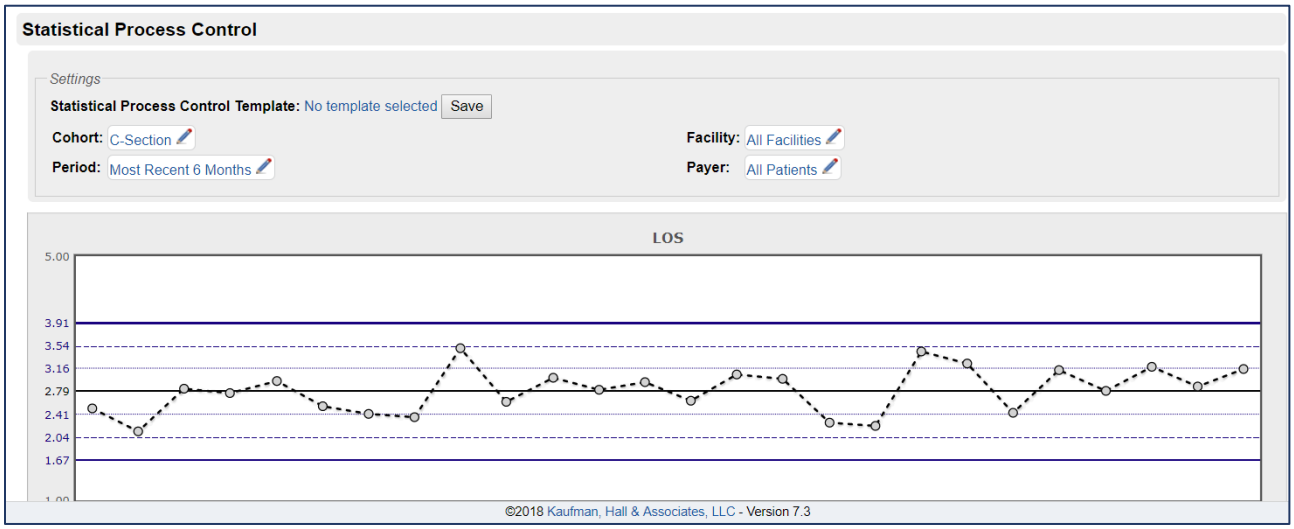


Statistical Process Control (SPC)

Purpose: The SPC section was designed to guide your targeted analysis of specific patient cohorts so you can focus your process improvement efforts.

Key Concepts:

- Cohorts
- SPC Measure Definitions
- Adjustment Calculations
- Control Chart Methodology
- Types of Variation
- Signals



Coding Analytics

Purpose: Analyzes overall documentation opportunity.

Key concepts:

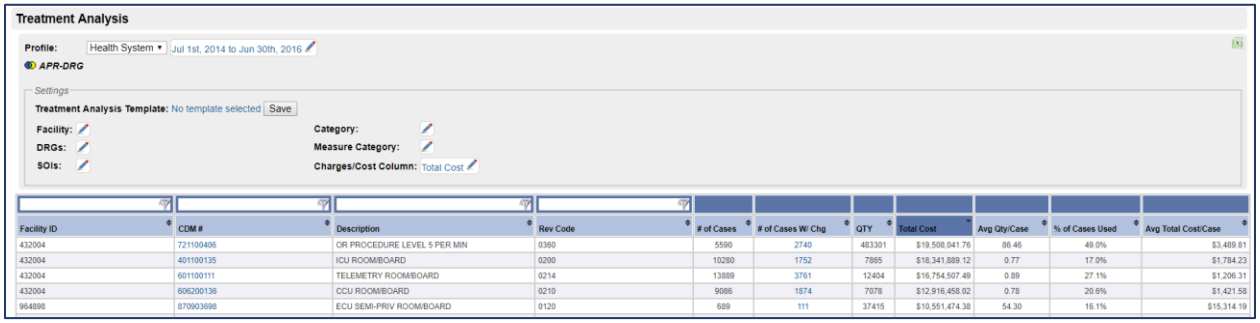
- *Report types are Hospital-Level, Physician, Specialty and Overall Diagnosis formats.*
- *Ability to identify over and under documentation reflected in total reimbursement opportunity.*

Treatment Analysis

Purpose: Allows hospitals to see data for all treatments across the hospital.

Key concepts:

- *The Treatment Analysis section in Clinical Analytics Scorecards allows hospitals to see data for all treatments across the hospital. The data can be sorted by treatment, charge/cost, number of cases, and other attributes.*
- *Treatment Analysis can identify procedures that may be overused.*
- *For example, a large number of CT scans may require investigation to better understand utilization. CT scans may be overused in certain DRG groups. Understanding this helps lower costs for the facility by reducing medically unnecessary CT scans.*

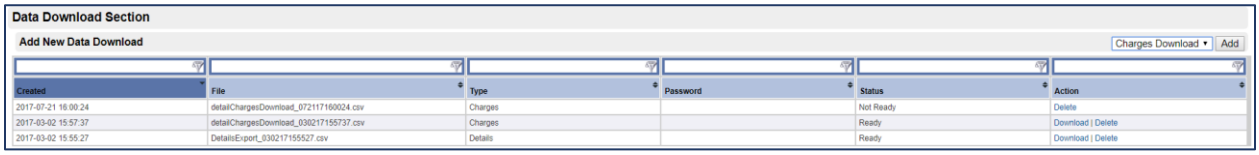


Data Download

Purpose: Enables a user to continue working Clinical Analytics while exporting large data files.

Key concepts:

- *You must unlock Clinical Analytics before exporting patient-level details.*
- *Click the blue CSV export icon in a Details or Easy Patient Download section.*
- *To retrieve an export, you will see the files downloaded in this section.*

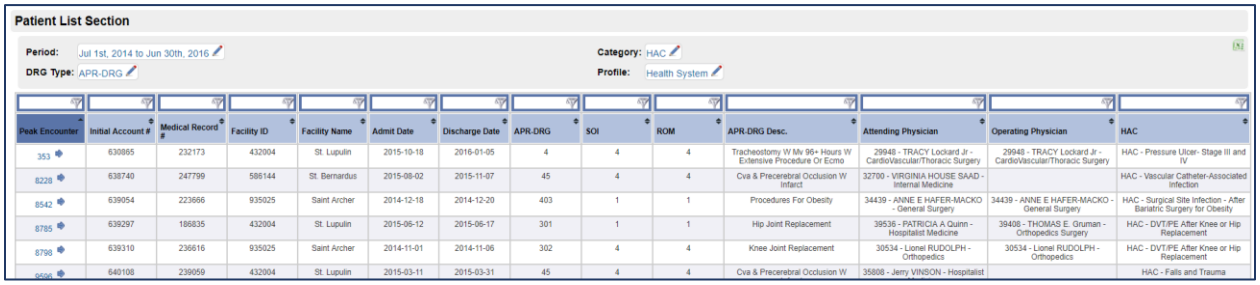


Patient List

Purpose: Allows for profile filter and category search specific to HACs, PSIs, Mortality, Core Measures, and Readmissions.

Key concepts:

- *You can also choose between APR-DRG and MS-DRG.*
- *The readmission level allows you to see if readmissions were related and avoids having to build a Details template to display this information.*
- *Readmissions doesn't limit you to our integers, so you can see any readmission.*



Study Questions (Refer to Appendix D for answers)

1. When beginning a specific analysis into one or more measures and I don't know of a specific section designed for this type of analysis, I should start by:

    A. Adding every section until I find something close to what I'm looking for
    B. Adding a Details section
    C. Unlocking the facility
    D. Calling Clinical Analytics support

2. The Details section offers the capability to:

    A. Add several measures to a table
    B. Group data by a variety of characteristics
    C. Filter results by column values
    D. All of the above

3. True or False: When contacting Clinical Analytics Support regarding a specific question about an encounter I'm seeing in Clinical Case Summary, I should send a screen shot over email so they can see what I'm referring to.

4. When looking at the Charges and Costs Detail section, clicking on a hyperlinked value in the Average Charges column will allow me to see:
    A. A line chart of the data in that table
    B. A pie chart of the data in that table
    C. A Details View table of the cost/charge category
    D. None of the above

5. To see a Details section, I can:
    A. Click on the needle of a speedometer
    B. Click on a data point in a line chart
    C. Add a Details section to my scorecard
    D. All of the above

6. True or False: I can export any Details table to an Excel spreadsheet for further analysis.

7. True or False: If I want to use my Details section parameters again later, I can save them as a Details Template.

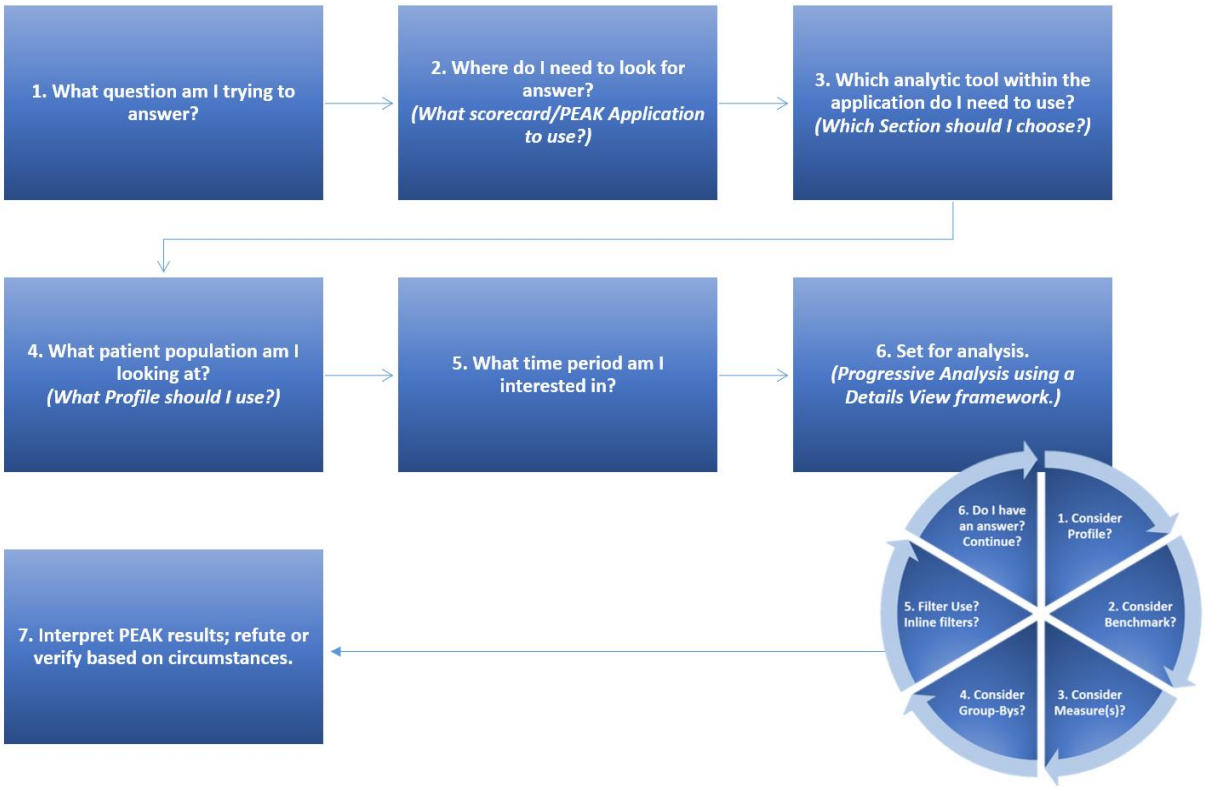
8. True or False: With Clinical Case Summary, I can pull multiple Clinical Case Summaries all at the same time.

Chapter 7 Putting It All Together: The Tool and the Analysis

Fully leveraging the Clinical Analytics system requires two things; mastering the mechanics of the Clinical Analytics software, and using its customizability in an orderly way. Chapters 2 through 6 provided a review of Clinical Analytics basics while introducing more advanced analytic tools and sections. Clinical Analytics Intermediate and Advanced will continue to build on the foundation of Clinical Analytics Basic Refresher and will cover, in depth, Clinical Analytics analytic tools and reporting features (See Appendix C).

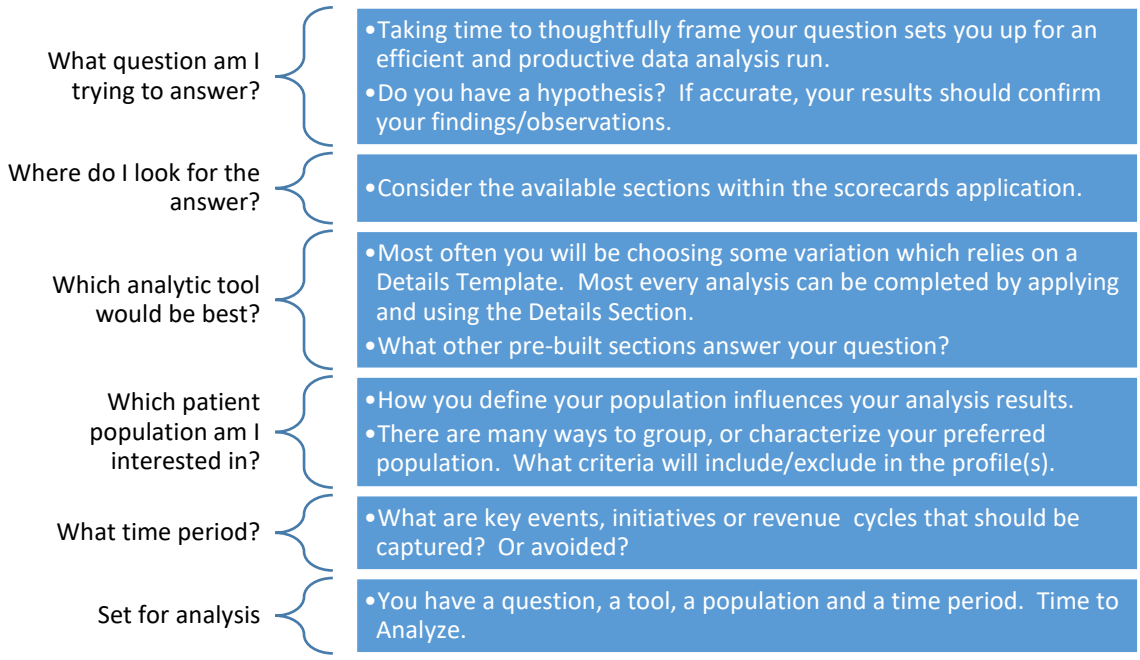
The intention of this chapter is to remind the beginner user to the analytical framework that was first introduced in Clinical Analytics Basic. This framework supports a critical thinking process which is compatible with Clinical Analytics design and facilitates an orderly progression through the data analysis process (See Figure 7.1). For those with a background in the quality disciplines, the framework will ring familiar with the PDSA (Plan, Do, Study, Act) cycle. As with PDSA cycles, analysis in Clinical Analytics benefits from having a well-thought through question and a hypothesis. You will know when you are done with iterative cycles of analysis when you have answered your question.

FIGURE 7.1 A BASIC FRAMEWORK FOR ANALYZING DATA IN CLINICAL ANALYTICS.



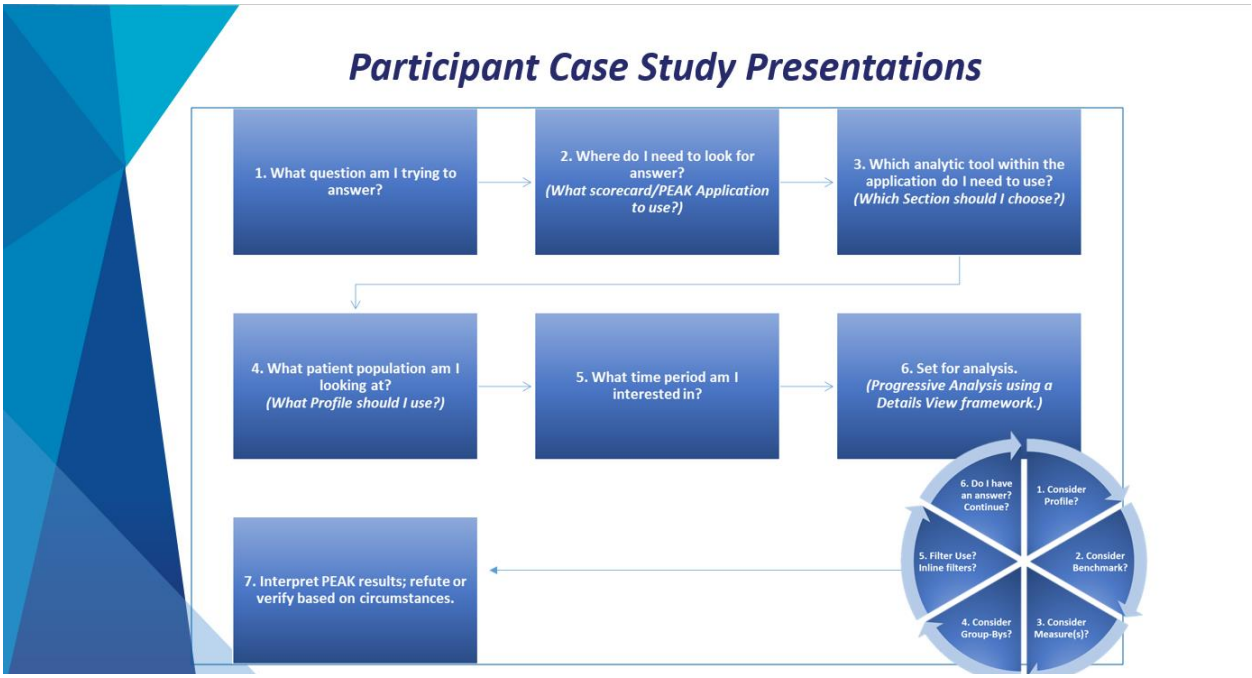
The framework will be applicable through most of the content we will cover in Intermediate and Advanced. As you move through applying what you have learned in Clinical Analytics Basic and now become increasingly familiar with the tool after taking Clinical Analytics Basic Refresher, you may find your own individual nuances for adapting the framework.

In Summary: A Progressive Logic Analysis Framework—Step-by-Step



Chapter 8 Appendices

Appendix A: Clinical Analytics Basic—Participant Case Study Presentation

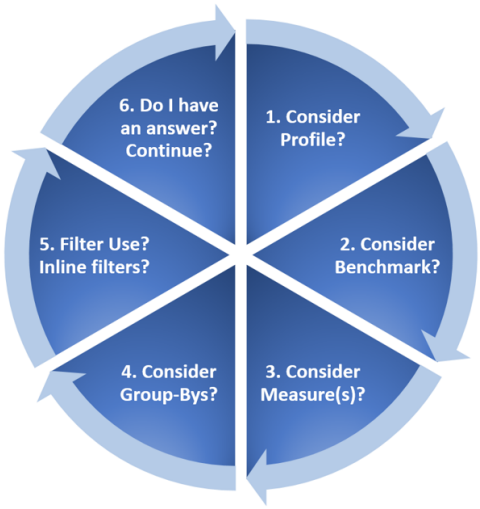


Appendix B: Details View Framework

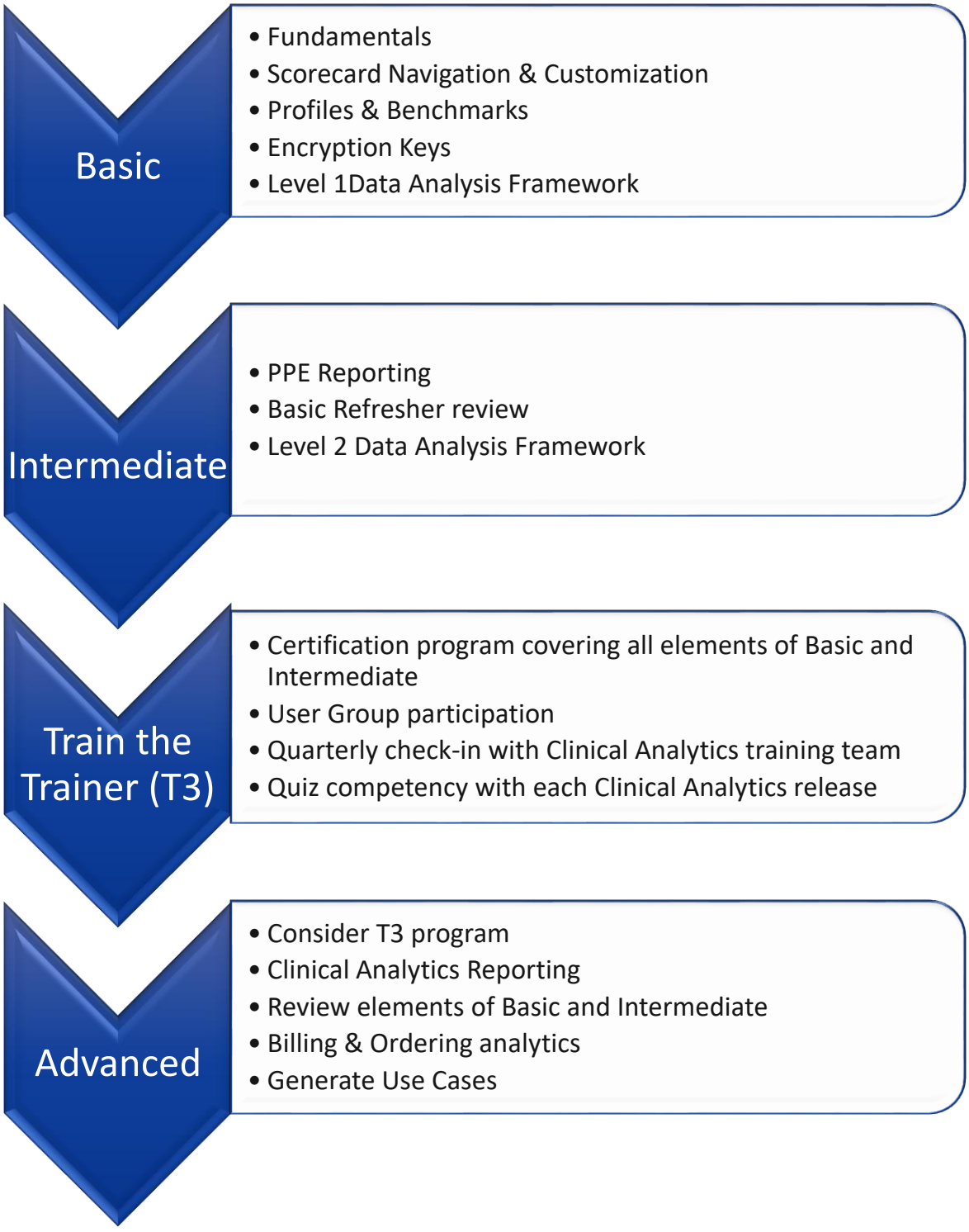
Progressive Analysis Logic

Summary Questions to Answer when Launching into Details View:

- What DRG-type makes sense for this analysis?
- What populations from the Profiles in this scorecard do I want to analyze? For what time period?
- Do I want additional Measures and/or Group-Bys?
- Are there any fields I want to filter for? Should I be considering any exclusions?
- Have I answered my question? Do I need to continue with the analysis cycle?



Appendix C: Clinical Analytics Training Sequence



Appendix D. Study Question Answers

Chapter 2: Sign In

1. True or False: Clinical Analytics offers Basic training as a computerized option.
    - True

2. Passwords in Clinical Analytics expire every: A. 30 days, B. 60 days, C. 90 days, D. year
    C. 90 days
3. Where can you change your password?
    B. Account Settings tab (if your organization does not have Single Sign-on activated)

Chapter 3: Scorecards

1. Which roles have permissions to create customized scorecards and scorecard templates?
    - Any user

2. Which roles have access to download Scorecard Templates from the CLINICAL ANALYTICS Library?
    B—Health System Coordinator
    C—Clinical Analytics team member
    D—Clinical Analytics Administrator

3. True or False: When a scorecard is downloaded from CLINICAL ANALYTICS Library to your server, it becomes a custom scorecard.
    - FALSE: it becomes a scorecard template

4. True or False: Scorecard Home is where I can find lists of all scorecards I have access to.
    - TRUE

5. True or False: The person who downloaded a scorecard template to the server or converted a custom scorecard to a scorecard template is the author. The author is the only person who can make edits directly to the scorecard template itself.
    - TRUE

6. If I want to edit a scorecard template (for which I am not the author), I can _____.

    A. Copy and rename it
    B. Ask the owner to Add me as a user
    C. Call Clinical Analytics Support and ask for help
    D. Make one from scratch

7. Match each display type with the type of data you'd find there:
    - Pie chart: 2. Percentage of the whole
    - Table: 4. Opportunity
    - Speedometer: 1. At-a-glance overall performance in one value
    - Line chart: 3. Trends over time

8. Match each icon with the actions:

• Profile Manager	3. Change the encounters included in or excluded from your population of interest
• Settings (gear) icon shown in your scorecard	4. Change the default date, missing data behavior, or type of data
• PDF Export icon	2. Export your entire scorecard to PDF
• Customizer (pencil) icon	1. Change the scorecard tabs, sections, or block

Chapter 4: Profiles

1. True or False: In Clinical Analytics, my performance profile is the population of interest for my analysis.
   TRUE

2. True or False: In Clinical Analytics, my *benchmark profile* is the population I am comparing my *performance profile* data against.
   TRUE

3. True or False: I can only benchmark my internal data against external (peer group) benchmarks.
   FALSE: internal or external profiles can be used for benchmarking

4. True or False: I can create an analysis profile using external data.
   FALSE: analysis profiles can only be built on internal data.

5. A particular profile you have built can be used:
   D. only in the scorecard it was built in.

6. If my scorecard does not have the *external* profile I want and I cannot load a new one, I should first contact:
   B. my facility's Clinical Analytics Administrator

7. True or False: I have permissions to load new peer group profiles.
   - Depends on user permissions: if you do not know, ask your CLINICAL ANALYTICS Administrator

8. True or False: I can create inpatient or outpatient profile types.
   - Depends on facility licenses: if you do not know, ask your Clinical Analytics Administrator.

9. If I want to create a profile _____, I would select the Profile Type _____.

Chapter 5: Encryption Keys

1. True or False: As System Administrator, I can reset a co-workers encryption key.
   TRUE: Only System Administrator or Clinical Analytics Administration can reset encryption keys.

2. True or False: Every time I sign in to Clinical Analytics, I must unlock with my encryption key.

   FALSE: only when accessing patient-level data

3. True or False: The password I use with my encryption key when I unlock Clinical Analytics must be the same password I use when signing in to Clinical Analytics.

   FALSE: the two passwords are unrelated and there are no requirements for the encryption password

4. My encryption password will expire when my sign-in password expires. True/False

   FALSE: the encryption password is specific for the encryption key and never expires

5. When I load a page in Clinical Analytics and see "The scorecard must be unlocked to enable this feature," this means:

   D: A and B

   - The page I am trying to view contains PHI
   - I must enter my encryption password and key

Chapter 6: Sections

1. When beginning a specific analysis into one or more measures and I don't know of a specific section designed for this type of analysis, I should start by:

   B. Adding a Details section

2. The Details section offers the capability to:

   A. Add several measures to a table

   B. Group data by a variety of characteristics
   C. Filter results by column values

   Answer: All the above

3. True or False: When contacting Clinical Analytics Support regarding a specific question about an encounter I'm seeing in Clinical Case Summary, I should send a screen shot over email so they can see what I'm referring to.

   Answer: False

4. When looking at the Charges and Costs Detail section, clicking on a hyperlinked value in the Average Charges column will allow me to see:

   Answer: A Details View table of the cost/charge category

5. To see a Details section, I can:

   A. Click on the needle of a speedometer

   B. Click on a data point in a line chart
   C. Add a Details section to my scorecard

   Answer: All the above

6. True or False: I can export any Details table to an Excel spreadsheet for further analysis.

Answer: True

7. True or False: If I want to use my Details section parameters again later, I can save them as a Details Template.

   Answer: True

8. True or False: With Clinical Case Summary, I can pull multiple Clinical Case Summaries all at the same time.

   Answer: False, you can only pull view one clinical summary at a time. Easy Patient Download may be a better option for this task, depending on the purpose of the analysis.

Appendix E. Contact Clinical Analytics Support

We love to hear from our clients! Located in beautiful Colorado, support staff is in the office Monday-Friday 8am-5pm Mountain Time.

- Reach out to us if you have questions about:
    - Add-on modules
    - Accessing your account
    - Your specific analysis
    - New ideas for Clinical Analytics
    - Anything else!
- Email: peaksupport@syntellis.com
- Call: (847) 441-0022