

Cogito Fundamentals



Agenda

Day 1

- Users and Administrators
- Analytics Catalog and Radar Dashboards
- SlicerDicer Populations

Day 2

- SlicerDicer Populations: Advanced Features
- Data Lineage
- Workbench Reports

Day 3

- Dashboard Metrics
- Troubleshooting
- Security
- Cogito Build



Day 1

- **Users and Administrators**
- Analytics Catalog and Radar Dashboards
- SlicerDicer Populations



Users and Administrators

- **Cogito Users and Administrators**
- In-Class Scenario
- After-Class Self-Study



Users and Administrators



Lorena
Cogito Tools
Admin

- **Creates** reporting content for end users
- Works in Hyperspace



Violet
User

- Views **existing** reporting content
- Submits requests to reporting team
- Works in Hyperspace

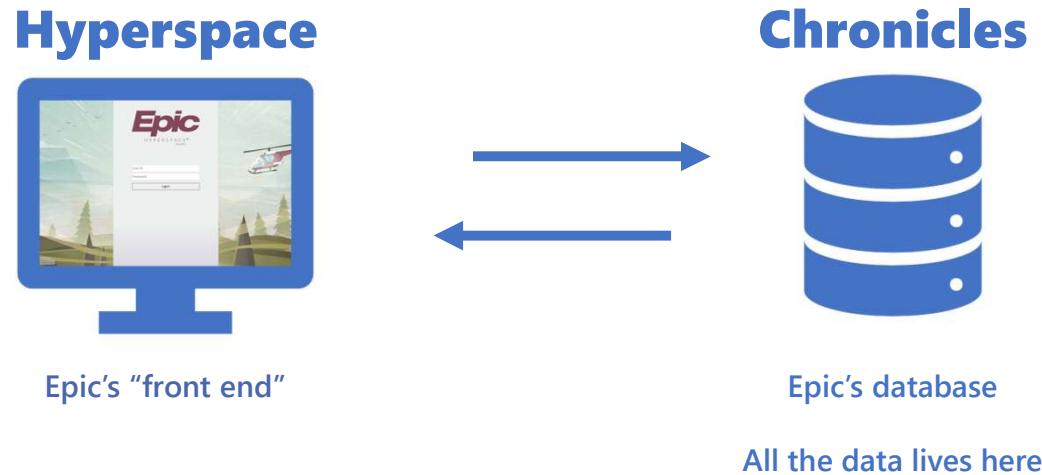
Users in Epic

- Users log in to Hyperspace
- They complete workflows:
 - Completing new patient registration
 - Placing orders for patients
 - Coding encounters for billing
 - Reviewing workqueues
 - Viewing dashboards and running reports

Hyperspace



Hyperspace and Chronicles



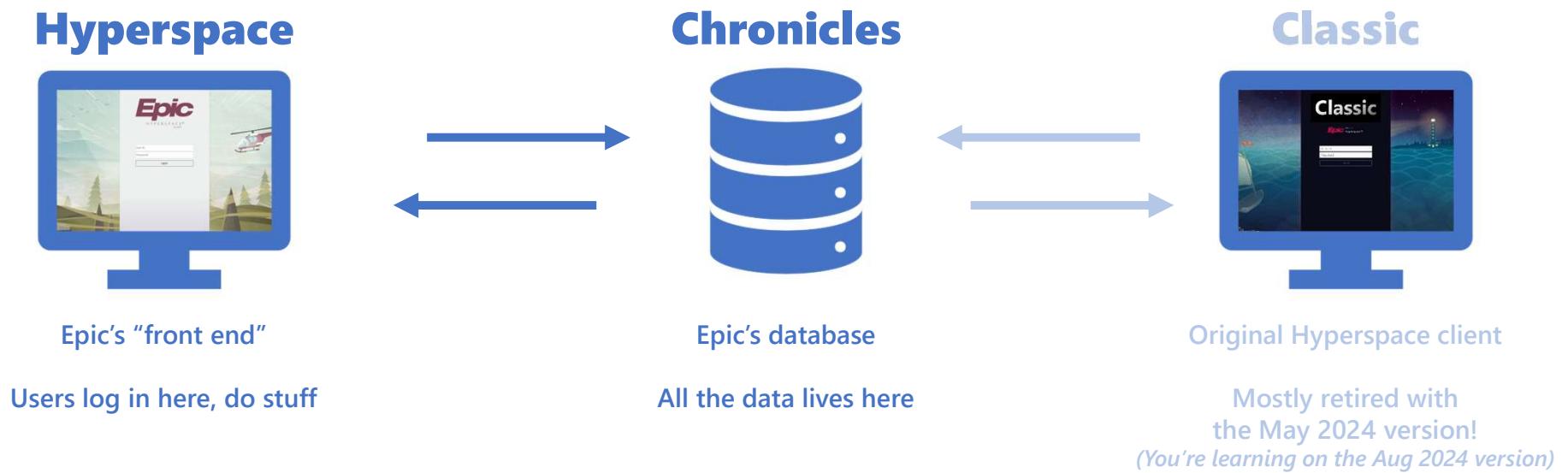
Administrators in Epic

- Administrators log into Hyperspace
- Administrator workflows include:
 - Build new records
 - Update system configuration
 - Configure alerts and menus
 - Create reports and dashboards

Hyperspace



Hyperspace and Chronicles



WHY ARE YOU IN THIS CLASS?

Analyst

WHAT IS
AVAILABLE IN
FOUNDATION
SYSTEM?

HOW WILL MY
ORGANIZATION USE
WHAT I BUILD?



Managers & Directors

HOW WILL MY
EMPLOYEES USE
EPIC?

WHY DOES
FOUNDATION SYSTEM
WORK THE WAY IT
DOES?



Principal Trainer

HOW ARE USERS
TRAINED?

HOW DO I ADAPT
TRAINING FOR MY
ORGANIZATION?



Users and Administrators

- Cogito Users and Administrators
- **In-Class Scenario**
- After-Class Self-Study



The Players



Lorena
Cogito Tools
Admin

- Delivers content to users



Violet
Clinic Manager

- Oversees the EMP Pain Medicine clinic.
- Reviews patient safety metrics
- Meets with physicians and nurses to go over protocols

The Scene



Can you make a couple changes to
the Opioid Management
dashboard?

Sure, no problem!



Thanks! We also need a new Pain Clinic
Management dashboard. I have a rough
sketch of what should be on it.

Ok, send it along!

Pain Clinic Management

Opioid Metrics link

Visits by Dx
Bar graph?

Opioid Management link

Opioid Order Trends
Line graph?
Table?

Visits by Prov

Orders by Prov

Provider Opioid Prescriptions

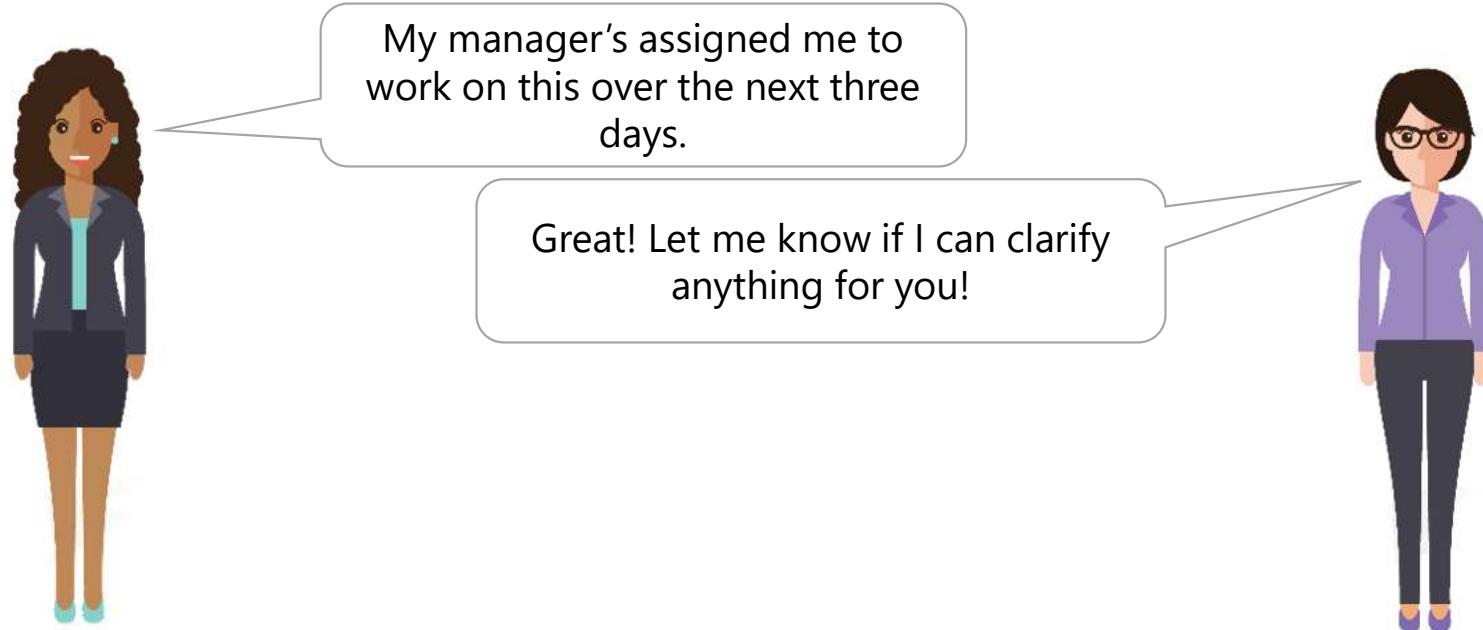
MEDD 550

MEDD 50-90

MEDD >90

RX > 7 days without PDMP Review

The Scene



Clinical Background & Terminology

- The Opioid Epidemic
 - The opioid crisis continues to present healthcare challenges for the patients in the US and across the world.
 - In the US, local and federal governments have implemented programs, funding, and initiatives to reduce the number of patients developing an addiction to opioid substances and reduce overdose deaths and other adverse outcomes related to opioid use disorder.
 - Epic has a collection of clinical tools and reporting content available to facilitate effective and safe management of patients requiring opioid therapy. Examples shown in class include:
 - The Chronic Opioid Registry
 - Opioid Management Dashboards
 - SlicerDicer Opioid Prescriptions Data Model
 - You will not be tested on terms related to the opioid epidemic.

Clinical Background & Terminology

- **Opioid** – a type of drug or medication that reduces pain
- **Opioid Use Disorder (OUD)** or opioid addiction – a problematic pattern of opioid use leading to impairment or distress
- **Medications for Opioid Use Disorder (MOUD)** – the FDA has approved certain medications for treatment of OUD
- **Naloxone** – a rescue medication used for emergency treatment of opioid overdose
- **Prescription Drug Monitoring Program (PDMP)** – a statewide electronic database that records data on controlled substance prescriptions
- **Morphine Milligram Equivalents (MME)** – a dosage's equivalency to morphine

Users and Administrators

- Cogito Users and Administrators
- In-Class Scenario
- **After-Class Self-Study**

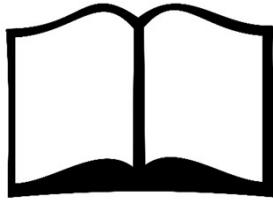


Cogito Analytics Team

- Self-study this section after class.
- This content is testable.
- Find out who at your organization holds each of these roles!

Additional Resources

- Not tested
- Links to further documentation and resources

During Class and for Certification	On-the-Job Learning
 COG170 Training Companion	 Setup and Support Guides

Summary of Users and Administrators

- Log in to Hyperspace
- In this class, an administrator builds public reporting content
- Lorena will modify an Epic-released dashboard for Violet
- Lorena will build a new dashboard for Violet



Day 1

- Users and Administrators
- **Analytics Catalog and Radar Dashboards**
- SlicerDicer Populations

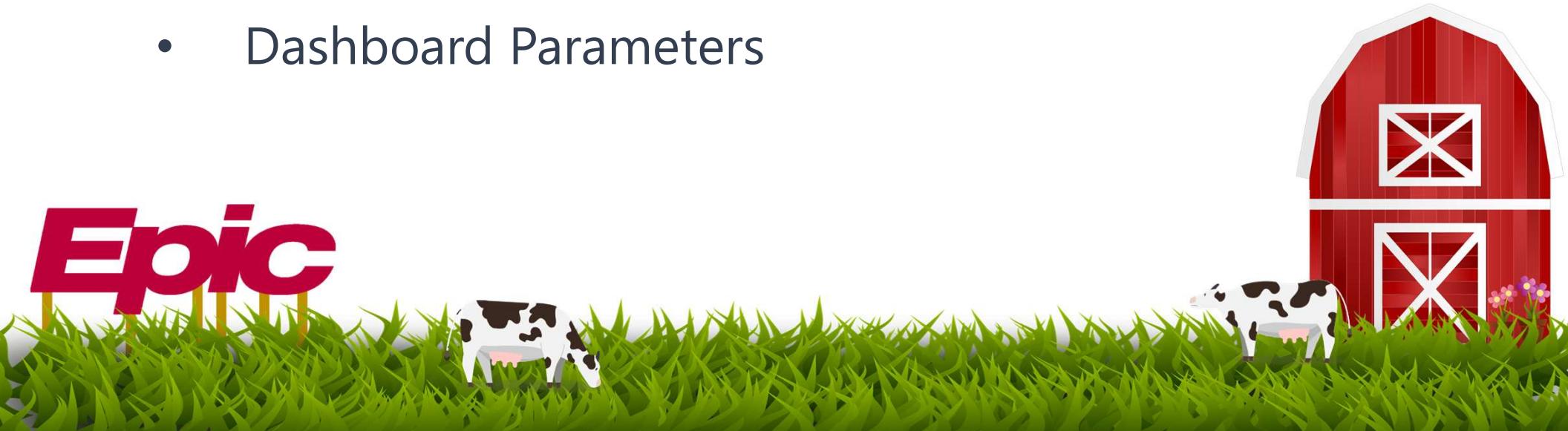
Epic



Analytics Catalog and Radar Dashboards

- **The Analytics Catalog**
- Radar Dashboards
- Dashboard Parameters

Epic



Build Tracker

Pain Clinic Management Dashboard

Dashboard ID: _____

SlicerDicer Opioid
Management Dashboard
Link

Opioid Management ##
Dashboard Link

<your initials> Opioid
Patients by Diagnosis

Component ID: _____

Display format: _____
Data source: _____

<your initials> Opioid Patients by
Diagnosis
SlicerDicer session ID: _____

<your initials> Pain Clinic
Visits by Provider

Component ID: _____

Display format: _____
Data source: _____

<your initials> Pain Clinic Patients
Workbench report ID: _____

Provider Opioid Prescribing ##

Component ID: _____

Display format: _____
Data source: _____

<your initials> Opioid Prescriptions
with Total Days Supply >27
resource ID: _____

<your initials> Opioid Order
Trends by Provider

Component ID: _____

Display format: _____
Data source: _____

<your initials> Opioid Order Trends
by Provider
SlicerDicer session ID: _____

<your initials> Orders by
Provider

Component ID: _____

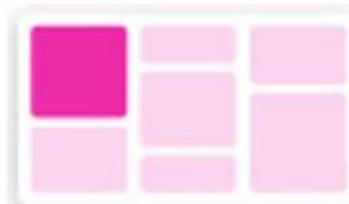
Display format: _____
Data source: _____

<your initials> Medication and
Referral Orders
Workbench report ID: _____

Analytics Catalog: Content Types



Dashboards



Components



Workbench
Templates/Reports/Models



SlicerDicer
Sessions and Data
Models



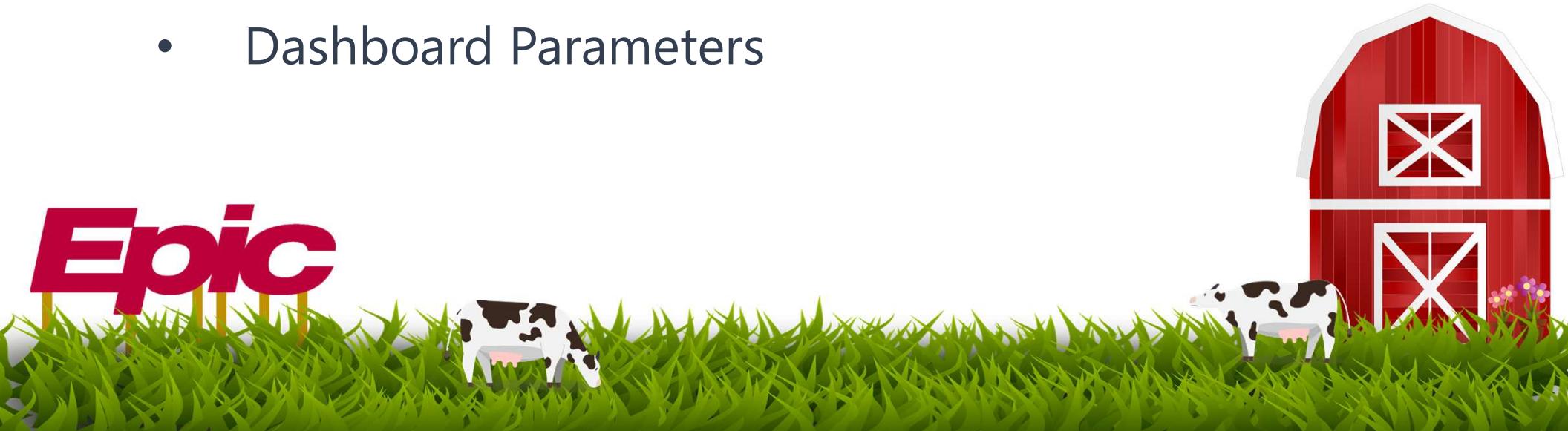
Links

(to external or 3rd party
content)

Analytics Catalog and Radar Dashboards

- The Analytics Catalog
- **Radar Dashboards**
- Dashboard Parameters

Epic



Parts of a Dashboard

This diagram illustrates the various components and features of a dashboard interface, with labels pointing to specific elements.

Dashboard title: Opioid Metrics

Dashboard parameters: Service Area (EHS SERVICE AREA)

Dashboard dates: Nov 2023 - Apr 2024

View Manager: A panel containing three views: Original View, Personalized View 1, and New View. It includes buttons for creating, deleting, and switching between views.

Edit parameters: Buttons for modifying dashboard settings.

Share dashboard: Button for sharing the dashboard.

Dashboard options: Options for managing the dashboard's appearance and behavior.

Designer UI for Source dashboard: The main dashboard area displaying nine data cards.

Designer UI for personalized view: The view manager panel itself.

Component options: Options for managing individual dashboard components.

Component details: Information about a specific component.

Explore detail: A magnifying glass icon indicating a detailed view or drill-down feature.

Prescribing Trends: Bar chart showing opioid prescriptions by month. Data: Nov 2023: 2; Dec 2023: 0; Jan 2024: 2; Feb 2024: 6; Mar 2024: 119; Apr 2024: 5.

Opioid Registry Patients with High MME per Day: Line chart showing the percentage of registry patients with high MME per day over time.

Patients with Opioids and Benzodiazepines Co-Prescribed: Line chart showing the percentage of opioid patients co-prescribed with benzodiazepines.

Opioid Registry Patients Without Naloxone Co-Prescribed: Line chart showing the percentage of registry patients without naloxone co-prescription.

Patients with High-Risk Prescription without Naloxone Co-Prescription: Line chart comparing patients with no naloxone (red line) and those with naloxone (green line).

Eligible Patients for MOUD: Line chart showing the percentage of eligible patients for MOUD.

MOUD Nonadherence: Bar chart showing the number of patients nonadherent to MOUD.

Opioid Registry Patients Without Pain Agreement: Line chart showing the percentage of registry patients without pain agreement.

Opioid Registry Patients Due for Drug Screening: Line chart showing the percentage of registry patients due for drug screening.

Dashboard Insights

Clinic Manager - Home ▾ Department EMC FAMILY MEDI... Summary Level Department 

Scheduling

Schedule Utilization WTD		Provider Utilization WTD								
	87.6%		78.6%	4/20	4/27	5/4	5/11	5/18	MTD	WTD
Schedule Utilization	91.0%	86.0%	84.0%	92.0%	92.0%	88.3%	87.6%			
Provider Utilization	83.0%	80.0%	82.0%	85.0%	85.0%	82.8%	78.6%			
Average Lead Time	41.00	38.00	49.00	43.00	27.00	5.86	7.00			
Time Lost To No-Shows	1h 40m	1h 37m	1h 38m	1h 39m	1h 24m	5h 57m	31m			
Time Lost To Late Cancels	51m	49m	48m	1h 00m	54m	3h 22m	16m			
Average Wait Time Before Rooming	3m	4m	3m	4m	3m	0m	0m			
Completed Appointments	204	242	189	182	210	820	152			
Average Time to Schedule by All Modes	4m 19s	4m 15s	4m 54s	4m 16s	46s	39s	—			

Referrals and Authorizations

Percent Complete WTD		Retained Referrals (Percent) - Referred By WTD								
	31%		24%	4/20	4/27	5/4	5/11	5/18	MTD	WTD
Percent Complete	47%	29%	19%	30%	35%	26%	31%			
Retained Referrals (Percent) - Referred By	26%	21%	21%	20%	16%	21%	24%			
Estimated Charges from Leaked Referrals - Referred By	\$2,372	\$2,872	\$1,764	\$2,590	\$2,101	\$9,392	\$1,583			
Estimated Charges Lost from Incomplete Referrals	\$1,975.00	\$2,907.00	\$2,985.00	\$2,928.00	\$3,324.00	\$12,276.00	\$1,837.00			
Creation to First Encounter Date (Referred To)	6	6	6	7	4	6	5			

Select a Date     

Clinic Manager - Home 

This summary is AI-generated and provides an overview of the most relevant insights from the dashboard.

Review and validate this information before taking action.

Acknowledge and Dismiss

Focus Areas:

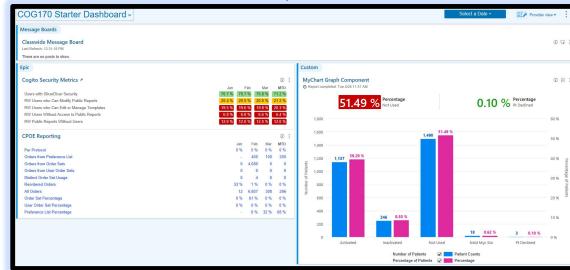
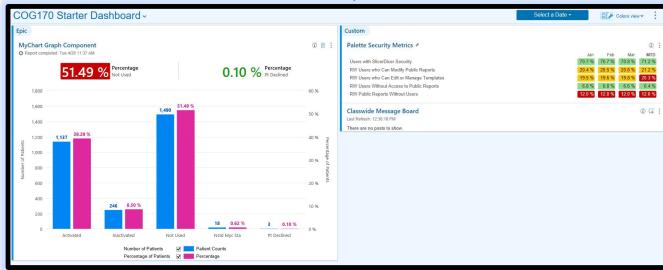
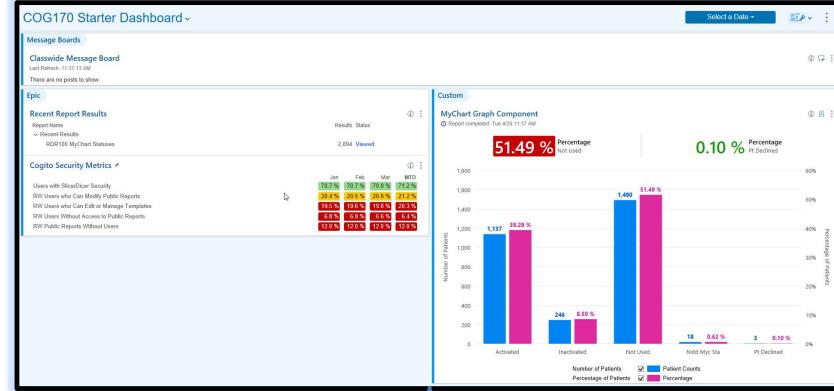
- Clinic Manager Charging:** The PB Average Charge Lag is significantly high at 363.8 days, marked as red, indicating a delay in processing charges. This could impact revenue flow, suggesting a need for process optimization to reduce lag time.
- Scheduling:** Provider Utilization is at 78.6%, falling into the yellow alert zone, which may indicate underutilization of resources. Consider strategies to improve provider scheduling efficiency to enhance utilization rates.
- Referrals and Authorizations:** The Percent Complete for referrals is low at 31% WTD, which could lead to missed opportunities for patient care and revenue. Streamlining the referral process could improve completion rates.
- Utilization for the Next 4 Months:** All providers show 0% utilization, marked as red, indicating a potential issue with future scheduling or data entry. Investigate and address the root cause to ensure accurate future planning.
- PB Clean Paid Charges %:** The percentage is low at 54% WTD, suggesting inefficiencies in billing or collections. Enhancing billing accuracy and follow-up processes could improve this metric.

Provide Feedback (Optional)

 Copy to Clipboard 

Source dashboard

Built by an administrator & available in the Catalog



Dashboard views

Personalized by users

Try It Out!



Exercise 3-1: Add Additional Components

- In this exercise, you'll be adding new components to the <your initials> Pain Clinic Management dashboard using the Designer UI.
- **If you have time:**
 - Exercise 3-2: Create a Personalized View
 - Exercise 3-3: Share a dashboard via Secure Chat



Click the **Raise Hand** button
in the Zoom when you are
ready to move forward



Build Tracker

Pain Clinic Management Dashboard

SlicerDicer Opioid Management Dashboard Link

Opioid Management ## Dashboard Link

<your initials> Opioid Patients by Diagnosis
Component ID: _____
Display format: _____
Data source: _____
<your initials> Opioid Patients by Diagnosis
SlicerDicer session ID: _____

<your initials> Opioid Order Trends by Provider
Component ID: _____
Display format: _____
Data source: _____
<your initials> Opioid Order Trends by Provider
SlicerDicer session ID: _____

<your initials> Pain Clinic Visits by Provider
Component ID: _____
Display format: _____
Data source: _____
<your initials> Pain Clinic Patients Workbench report ID: _____

<your initials> Orders by Provider
Component ID: _____
Display format: _____
Data source: _____
<your initials> Medication and Referral Orders Workbench report ID: _____

Dashboard ID: _____

Provider Opioid Prescribing ##
Component ID: _____
Display format: _____
Data source: _____
<your initials> Opioid Prescriptions with Total Days Supply >27 resource ID: _____

Metadata

- Description
- Tags
 - Used to categorize reporting content.
- Content Review
- Admin notes
- Distribution
 - Report groups make content available.
 - More in the Security lesson.

The image displays three screenshots of a software application interface for managing metadata. The top two screenshots show the main metadata entry screen for a dashboard titled "Clinical Metric Trends". The bottom screenshot shows a detailed view of the "Distribution" section of the same interface.

Screenshot 1: Main Metadata Screen

This screenshot shows the "Clinical Metric Trends" dashboard metadata. It includes fields for:

- Description:** This dashboard is used to demonstrate principles of the metric framework.
- Related Links:** A table with columns for URL and Label, currently empty.
- Add a tag:** A search bar containing "COG170" with a clear button.
- Build Team:** A search bar containing "Select a build team" with a clear button.
- Content Review:** A table showing review status for three reviewers:

Reviewer	Review Status
VAMPIRELLA, LORENA	Approved
BATWOMAN, BRANDON	Please Revise
KIMPOSSIBLE, VIOLET	Declined
- Administrator Information:** A table showing content owner information for three users:

Content Owner	Notes
Select a content owner	Other notes intended for administrators
- Buttons at the bottom:** "Restore" (blue), "Save" (green), and "Cancel" (red).

Screenshot 2: Detailed Distribution View

This screenshot shows a detailed view of the "Distribution" section. It includes fields for:

- Report Groups:** A search bar containing "Add a report group" with a clear button, and a list of existing groups: "IT Staff" (selected), "Clinical", and "Clinical - Management".
- User Types:** A search bar containing "Add a user type" with a clear button.
- Shared Users:** A search bar containing "Add a user" with a clear button.
- Buttons at the bottom:** "Restore" (blue), "Save" (green), and "Cancel" (red).

Screenshot 3: Top of the Main Screen

This screenshot shows the top portion of the main metadata screen, including the dashboard title "Clinical Metric Trends", its ID "Dashboard 95080200", and a "Edit Details" and "Open" button.

Try It Out!



Exercise 3-4: Edit Metadata on a Component

- In this exercise, you'll be modifying the metadata for the Provider Opioid Prescribing ## component.
- **If you have time:**
 - Exercise 3-5: Create a Tag



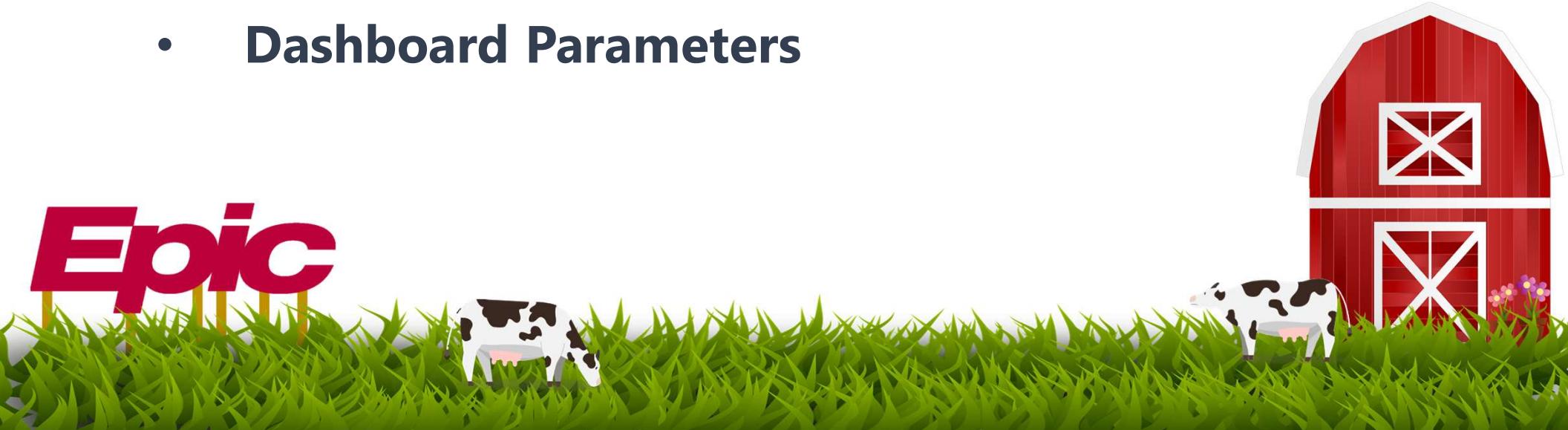
Click the **Raise Hand** button
in the Zoom when you are
ready to move forward



Analytics Catalog and Radar Dashboards

- The Analytics Catalog
- Radar Dashboards
- **Dashboard Parameters**

Epic



Dashboard Parameters

- **Summary Level:** A conceptual way to group data
- **Summary Target:** A specific value for a summary level

Example: Summarize the data in my SlicerDicer components by...

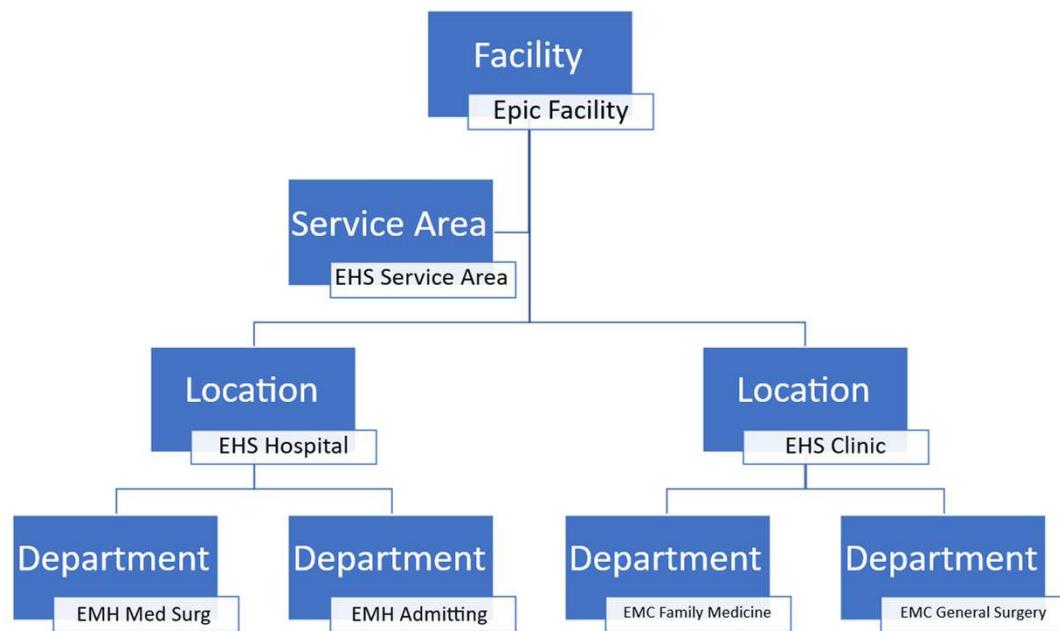
**Revenue
Location**
(Summary Level)



EHS Hospital
(Summary
Target)

Show data for a particular revenue location...

Epic's Facility Structure



Summary Level Parameters

- Can only be enabled while in **Designer UI**
- The “Editable?” checkbox allows end users to make changes
- Use “Selectable Levels” to remove summary levels that don’t apply to your metrics

Summary Level Department Department EMH MAIN OR

Summary Level Revenue Location Location EHS HOSPITAL

Summary Level Provider Provider WHITECOAT, WALT

The screenshot shows the Designer UI interface for managing summary level parameters. At the top, there is a toolbar with various icons. Below it, a blue button labeled "Enable summary level parameter" is highlighted with a red box. The main area contains a table with columns: Parameters, Values, Editable?, and Pinned?. Four rows are listed: Department, Location, Service Area, and Facility, all with checked boxes in the Editable? and Pinned? columns.

A modal window titled "Summary Level" is open, also highlighted with a red box. It has sections for "Starting Summary Level" (Facility), "Editable?" (checked), "Pin to dashboard?" (checked), "Applies to components" (dropdown menu), and "Selectable Levels". The "Selectable Levels" section lists Provider, Department, and Specialty, each with a checked box in the Editable? column. At the bottom of the modal are "Accept" and "Cancel" buttons.

Parameters	Values	Editable?	Pinned?
Department		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Location		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Service Area		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Facility		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Summary Level ⓘ
Starting Summary Level
Facility Editable? Pin to dashboard?
Applies to components
Selectable Levels
Provider
Department
Specialty

Try It Out!



Exercise 3-6: Enable Summary Level Parameters

- In this exercise, you'll give users the ability to toggle the dashboard parameters by adding summary level parameters.



Click the **Raise Hand** button
in the Zoom when you are
ready to move forward



Summary of Analytics Catalog & Radar Dashboards

- Analytics Catalog is the one stop shop for reporting content in Epic
- The UserWeb > Data Handbook > Report Repository contains a library of content created by Epic
- How to create a dashboard
- Administrators can create and modify source dashboards
- Users can create and modify dashboard views
- Use metadata to distribute dashboards in the Catalog
- Dashboards can have parameters
- Common to incorporate parameters for levels of the facility structure



Day 1

- Users and Administrators
- Analytics Catalog and Radar Dashboards
- **SlicerDicer Populations**

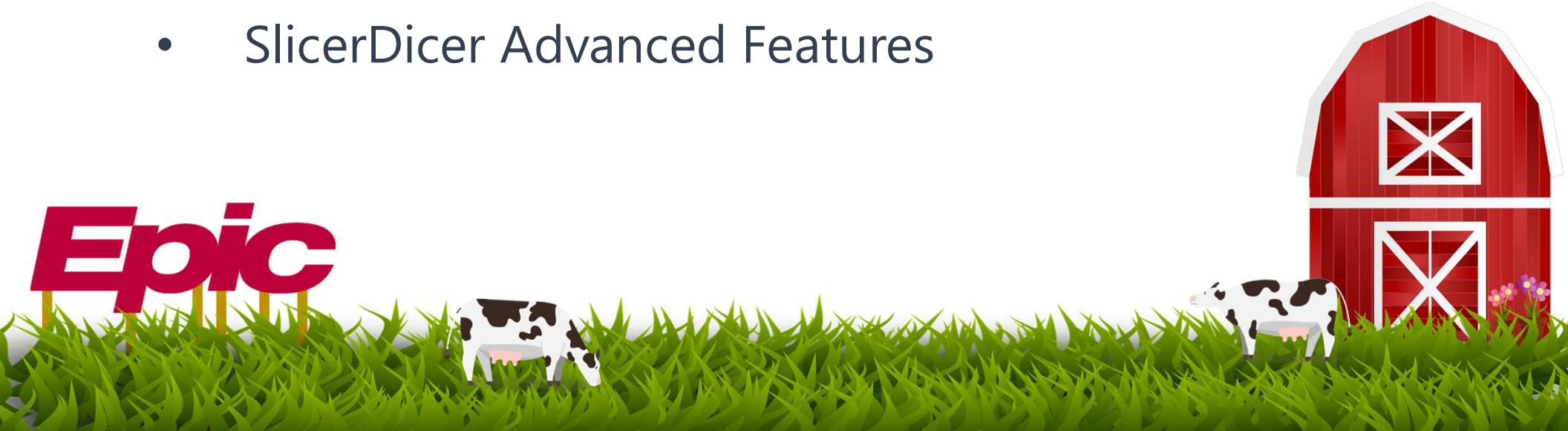


Epic

SlicerDicer Populations

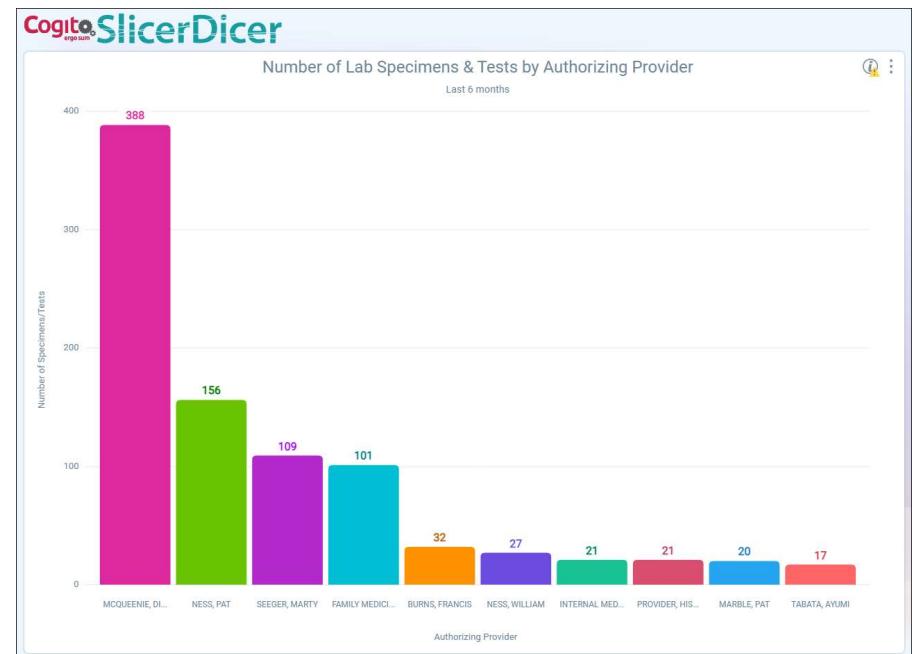
- **Creating SlicerDicer Sessions**
- SlicerDicer on Dashboards
- SlicerDicer Advanced Features

Epic

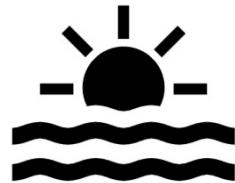


SlicerDicer Build

- Data Model
 - A curated data set
- Filter
 - A data point used to create a visualization in a data model
- Session
 - Saved SlicerDicer report



What are the limitations of SlicerDicer?



- SlicerDicer is NOT for looking at today's data
 - Data in Caboodle is at least a day behind

Example: You could not use SlicerDicer to see the current wait times in your Emergency Department or a list of your patients who currently have overdue medications.



SlicerDicer Sessions

- Population: Base and Criteria
- Base: Relates results and user together
- Criteria: Used to narrow down a population
- Slices: Used to group a population
- Measures: A function of the data points
- Dates: Date range definitions and slicing options
- Visual Options: Graph type and formatting settings

Date shortcuts in Epic

What Time Is It, Epic?

Have Epic quickly enter dates and times using shortcuts!

Time Shortcut

N for Now

T for Today

W for Week

M for Month

MB for Month Begin

ME for Month End

Y for Year

Example

N is the time right now

T-1 is yesterday

W-2 is 14 days ago

M-1 is this day last month

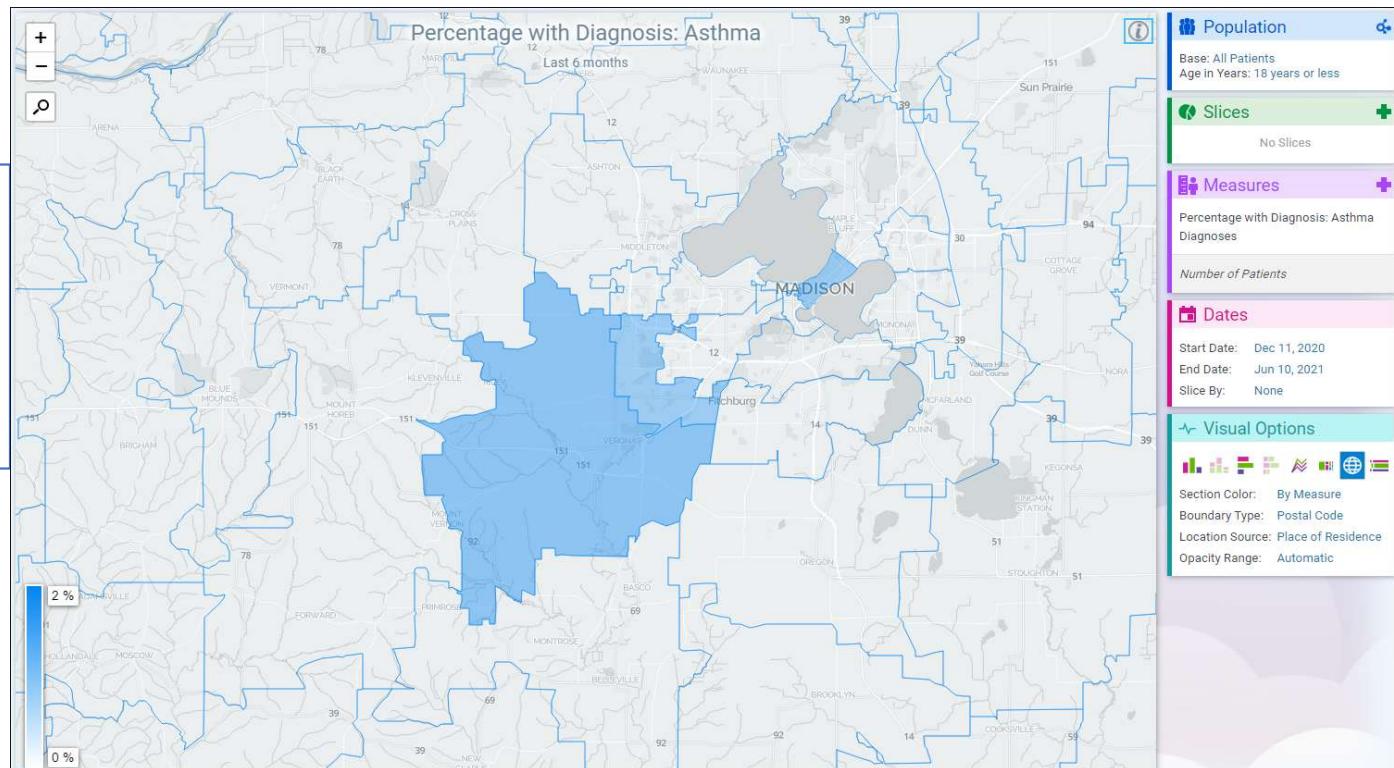
MB-1 is the first day of last month

ME-1 is the last day of last month

Y-40 is this day forty years ago

SlicerDicer Visual Options: Geomapping

Use a geographic visualization to break down the number of visits by age, sex, or visit type by patient ZIP code.



Try It Out!



Exercise 4-1: Build SlicerDicer Sessions

- In this exercise, you'll get to test out the different features of SlicerDicer by building your own sessions to meet a variety of report requests.
- **If you have time:**
 - Exercise 4-2: If you have time – Build More Sessions
 - Exercise 4-3: If you have time – Explore Additional Data Models



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in the Zoom when you are
ready to move forward



SlicerDicer Populations

- Creating SlicerDicer Sessions
- **SlicerDicer on Dashboards**
- SlicerDicer Advanced Features

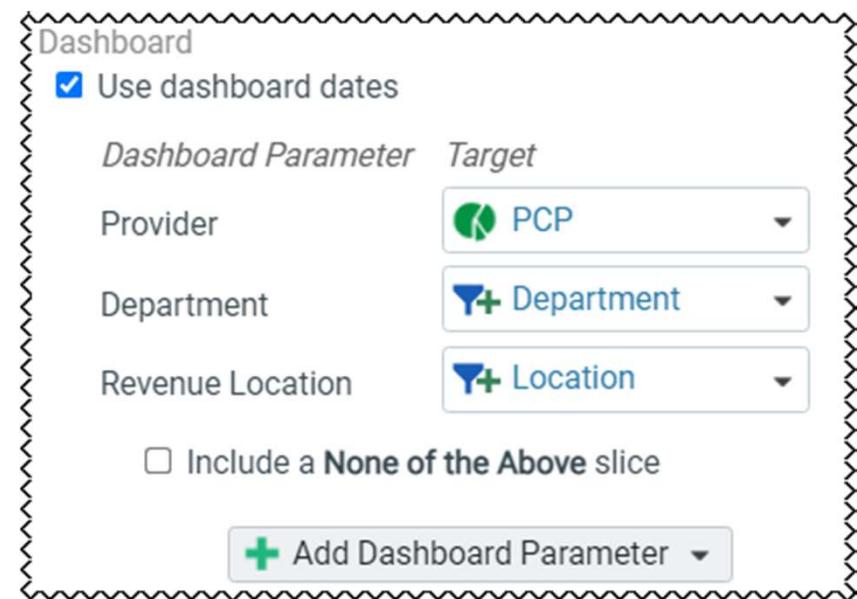


Dashboard Parameters

- Map specific filters in the data model to parameter values stored at the dashboard level
- By default, parameters use AND logic
- Enabling summary level parameters on the dashboard allows the user to select which parameter to use

New in August 2024

When you add a parameter, it can default to "no value". This preserves the session in its original state until the user applies parameter values.



Try It Out!

 **Exercise 4-4: Build a SlicerDicer Component and Add It to a Dashboard**

 **Exercise 4-5: Add a Parameter to a Session**



Click the **Raise Hand** button
in the Zoom when you are
ready to move forward

- **If you have time:**
 - Exercise 4-6: If you have time – Editing SlicerDicer Sessions on a Dashboard



Build Tracker

Pain Clinic Management Dashboard

SlicerDicer Opioid Management Dashboard Link

Opioid Management #
Dashboard Link

<your initials> Opioid Patients by Diagnosis

Component ID: _____

Display format: **Graph**

Data source: **SlicerDicer**

<your initials> Opioid Patients by Diagnosis
SlicerDicer session ID: _____

<your initials> Pain Clinic Visits by Provider

Component ID: _____

Display format: _____

Data source: _____

<your initials> Pain Clinic Patients Workbench report ID: _____

Dashboard ID: _____

Provider Opioid Prescribing #

Component ID: _____

Display format: _____

Data source: _____

<your initials> Opioid Prescriptions with Total Days Supply >27 resource ID: _____

<your initials> Opioid Order Trends by Provider

Component ID: _____

Display format: **Graph**

Data source: **SlicerDicer**

<your initials> Opioid Order Trends by Provider
SlicerDicer session ID: _____

<your initials> Orders by Provider

Component ID: _____

Display format: _____

Data source: _____

<your initials> Medication and Referral Orders Workbench report ID: _____

Day 2

- **SlicerDicer Populations**
- Data Lineage
- Workbench Reports

Epic



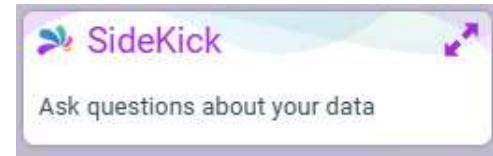
SlicerDicer Populations

- Creating SlicerDicer Sessions
- SlicerDicer on Dashboards
- **SlicerDicer Advanced Features**



SideKick

- Generative AI integrated in SlicerDicer
- Give it a prompt and it'll create a session
- Ask questions about your data, give instructions on creating sessions, and receive usage tips from SideKick



SideKick uses Generative AI to answer your questions about your data. Just ask a question, and it will help you find an answer. It won't always be right, but providing feedback helps it learn!

Suggestions: What is the average turnaround time for a bed request?
How many bed requests were canceled recently?
What responses can you generate?

Enter some commands or ask me about your data

Remember to review AI-generated information before taking action.



Dateless Data Models (e.g. Patients)

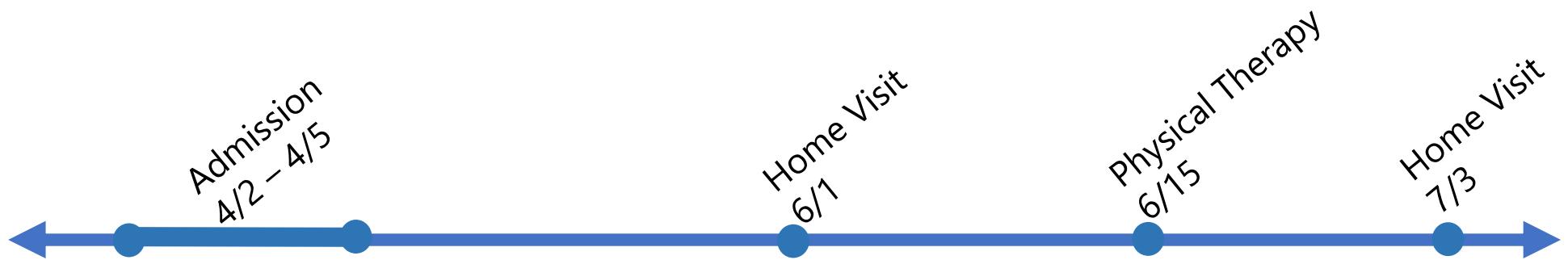
- Last stored filters
- Overtime filters

The image displays two side-by-side screenshots of the Cogito SlicerDicer web application. Both screenshots show the same basic layout with a header and a main search/filter panel.

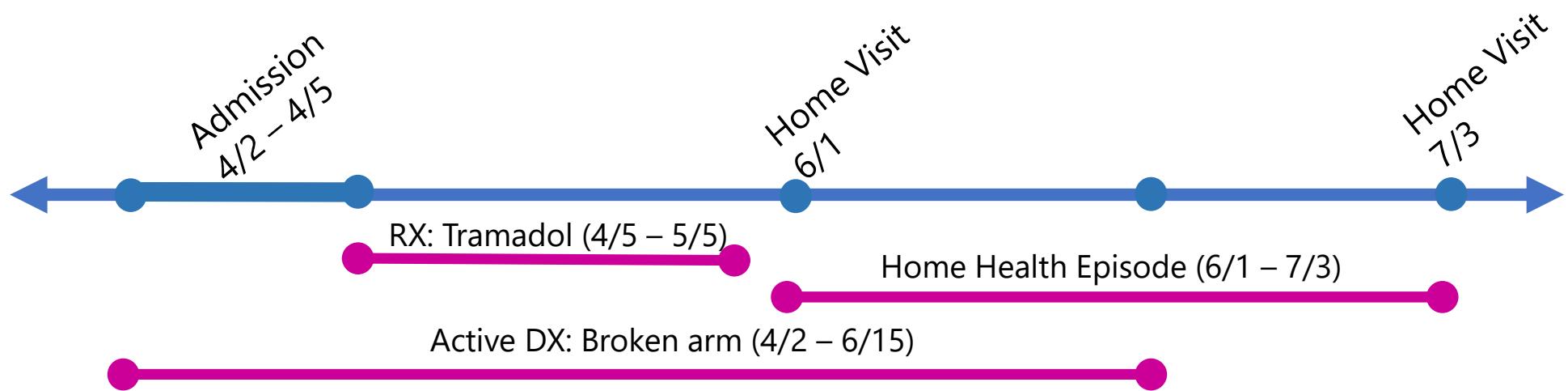
Left Screenshot: The title bar says "Number of Patients" and "All Time". Below it, the search panel has "Wisconsin" selected in a dropdown labeled "Base: All Patients". It includes a "Search for criteria" input field with a magnifying glass icon, a blue "Browse" button, and a "State" dropdown containing "Wisconsin".

Right Screenshot: The title bar says "Number of Patients" and "Last 6 months". Below it, the search panel has "DIABETES & Wisconsin" selected in a dropdown labeled "Base: All Patients". It includes a "Search for criteria" input field with a magnifying glass icon, a blue "Browse" button, a "Chief Complaint" input field with a magnifying glass icon, a "DIABETES" checkbox, an "AND" operator, a "State" dropdown containing "Wisconsin", and a "Last Stored Data" link.

Patient timeline



Time ranges for healthcare events



Sequential events in data models



SlicerDicer Advanced Features

- Criteria options
 - Sequential criteria
 - Overlapping criteria
 - Criteria-specific date ranges
 - Age at the time of event
 - Linked criteria
 - Combination filters
- Slices options
 - Limit slice results
 - Custom slices
- Measures options
 - Goals
 - Thresholds
 - Custom formula
- Population Linking

The image contains four screenshots of the SlicerDicer software interface:

- Criteria Options:** A screenshot showing the "Chief Complaint" search bar with "ASTHMA" entered. A context menu is open over the "ASTHMA" entry, listing options like "Create Grouper", "Add Multiple Values", "Add Overlapping Criterion", "Add Sequential Criterion", "Specify Age At Time Of Event", "Specify Date Range", "Exclude", and "Remove".
- Slices Options:** A screenshot titled "Slice by Department" showing a "Limit Your Slice Results" section. It includes fields for "Min Age in Years (years)", "Lower Bound" (set to 18), and "Upper Bound". Buttons for "Grab Top 10" and "Grab Bottom 10" are also present.
- Measures Options:** A screenshot showing a "Population" card for "ASTHMA" with "Base: All Patients" and "Chief Complaint: ASTHMA". A context menu is open over the "ASTHMA" button, with the "Create Combination Filter" option highlighted.
- Population Linking:** Two screenshots illustrating population linking. The top one shows a "Slice by Department" card with a "Convert to Custom Slice" button. The bottom one shows a "Population" card with a "Link" icon.

Try It Out!



Exercise 4-7: Sequential Criteria

- In this exercise, you'll get to test out the different features of SlicerDicer by building your own sessions to meet a variety of report requests.

- **If you have time:**

- Exercise 4-8: If you have time – Population Linking



Click the **Raise Hand** button
in the Zoom when you are
ready to move forward



Data Gateway

Import a spreadsheet to analyze the data in SlicerDicer.

The screenshot shows the Data Gateway application interface. On the left, the 'Specify Input File' panel is open, displaying fields for 'Data Model Name' (VaccinationEvent), 'Table Name' (VaccinationEventRawDataX), and a 'Description' box containing the text: 'This content was generated from 04VAERS.csv'. Below this is a preview section titled 'Preview Source Data' showing the first few rows of a CSV file:

VaersId	VaxType	VaxManu	VaxLot	VaxDoseSeries	VaxRoute
0043150	DTP	LEDERLE LABORATORIES	318908	3	IM
0043150	HIBV	PFIZER\WYETH	M155HJ	3	IM
0057397	DTP	CONNAUGHT LABORATORIES	3M41111	UNK	IM

On the right, the 'Edit Columns' panel is open, showing a list of columns with their data types and checkboxes for including them. A message box in this panel states: 'Column names have been automatically adjusted to meet the restrictions of Caboodle. Column names must contain only numbers and Latin letters without diacritic marks, start with a letter, be at most 50 characters long, and must not be a reserved keyword.'

Column Name	Data Type	Include column?
VaersId	Number	<input checked="" type="checkbox"/>
VaxType	Text	<input checked="" type="checkbox"/>
VaxManu	Text	<input checked="" type="checkbox"/>
VaxLot	Text	<input checked="" type="checkbox"/>
VaxDoseSeries	Text	<input checked="" type="checkbox"/>
VaxRoute	Text	<input checked="" type="checkbox"/>
VaxSite	Text	<input checked="" type="checkbox"/>
VaxName	Text	<input checked="" type="checkbox"/>

Summary of SlicerDicer Populations

- Create a SlicerDicer session from a data model
- Build a component to add a SlicerDicer session to a dashboard
- Administrators can modify public SlicerDicer sessions on a dashboard
- SlicerDicer has several features that enable more powerful analysis of healthcare data
- Data model determines granularity, date range behavior, and advanced feature availability
- Data Gateway allows SlicerDicer data models to be quickly built on nearly any data set



Day 2

- SlicerDicer Populations
- **Data Lineage**
- Workbench Reports

Epic

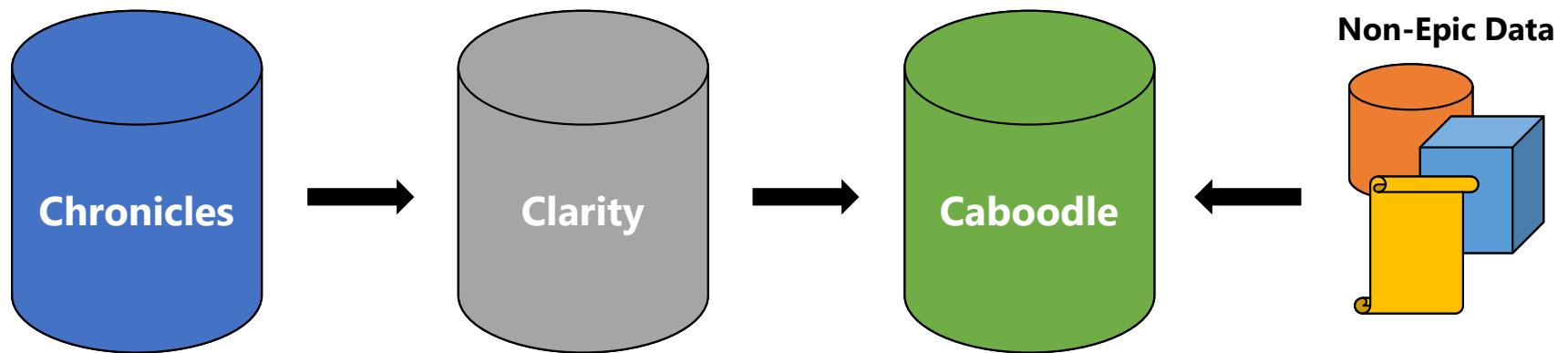


Data Lineage

- **Databases**
- Finding Chronicles Data
- Chronicles Item Characteristics

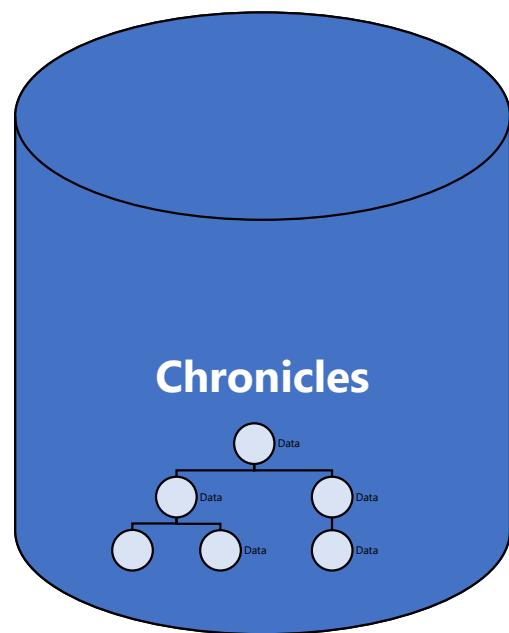


Databases

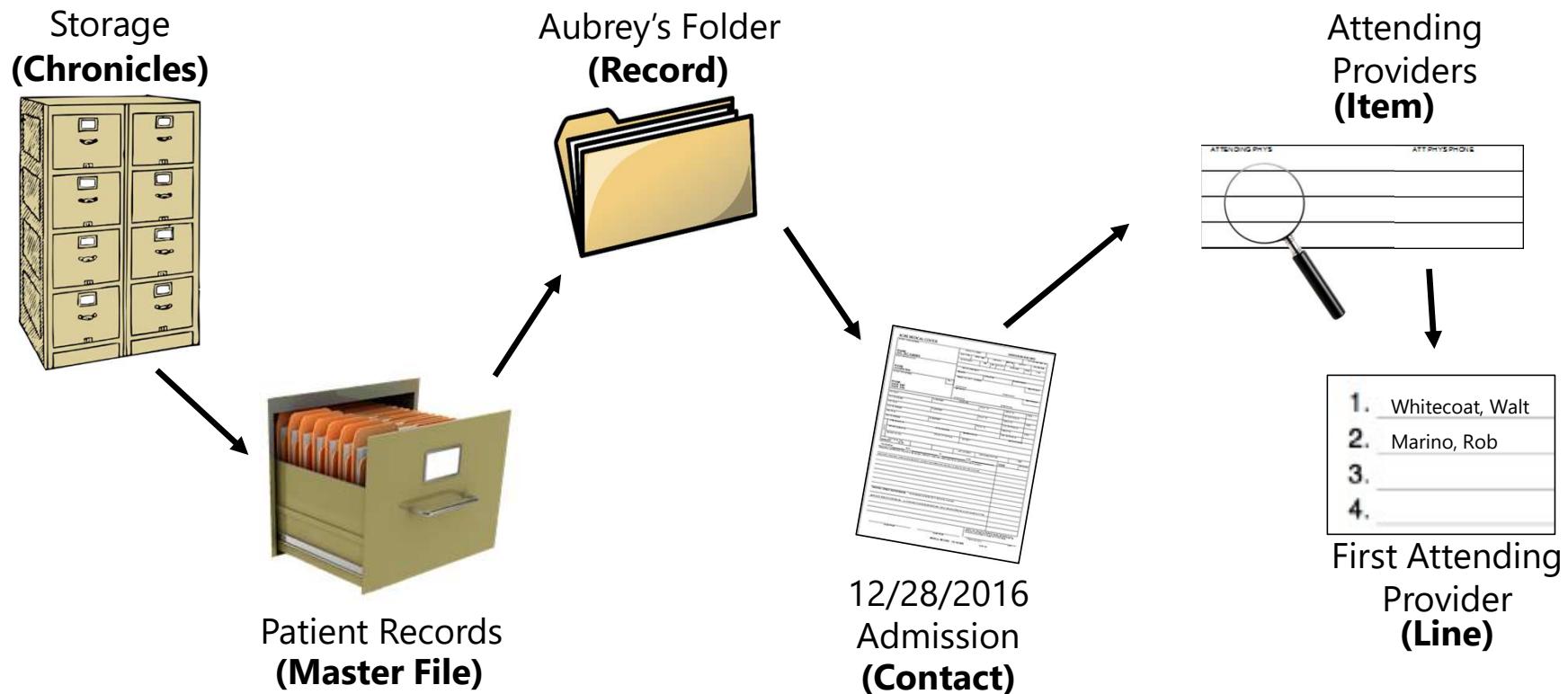


Chronicles

- Hierarchical database (“tree like”)
- Real-time
- Daily operations



Follow Along 5-A: Chronicles Structure



Follow Along 5-A: Chronicles Structure

Master File	<p>Divides Chronicles into broad subjects. Each represents a type of entity stored in the database. Every master file has a three-character identifier, referred to as the <u>INI</u>.</p> <p>Examples:</p> <ul style="list-style-type: none">• EPT : the patient master file that contains patient medical records in Epic.• ORD: the orders master file that contains orders placed in Epic.
-------------	---

Follow Along 5-A: Chronicles Structure

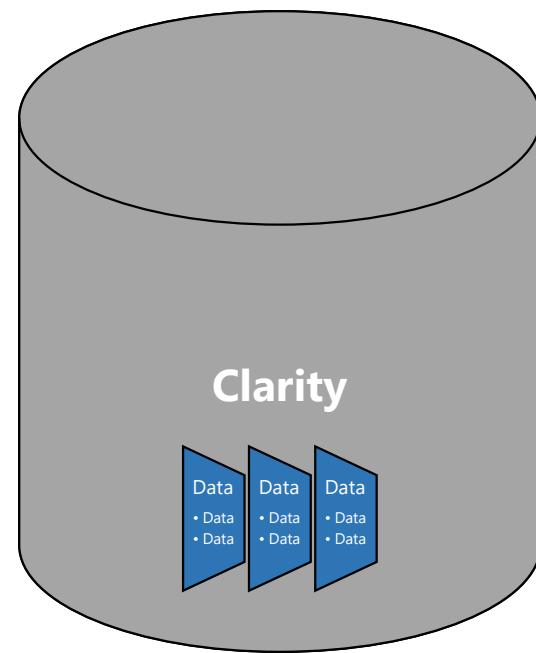
Record	<p>Contains information about an individual entity within a master file.</p> <p>Example:</p> <ul style="list-style-type: none">• A record in the patients (EPT) master file represents a single <u>patient</u>.• A record in the orders (ORD) master file represents a single <u>order</u>.
Contact	<p>Contains information about a point in time for a record.</p> <p>Examples:</p> <ul style="list-style-type: none">• In the EPT master file, a contact represents a <u>patient encounter</u>.• In the ORD master file, a contact can represent either a medication dispense or a procedure result status.

Follow Along 5-A: Chronicles Structure

Item	<p><u>Individual data point within a record</u></p> <p>Examples:</p> <ul style="list-style-type: none">• The EPT master file contains items for patient name, date of birth, and primary care provider, or PCP.• The ORD master file contains items for ordering provider, order date, and login department.
Line	<p><u>Used to store multiple pieces of information in an item</u></p> <p>Examples:</p> <ul style="list-style-type: none">• In the EPT master file, there can be multiple visit diagnoses.• In the ORD master file, there can be multiple associated diagnoses.

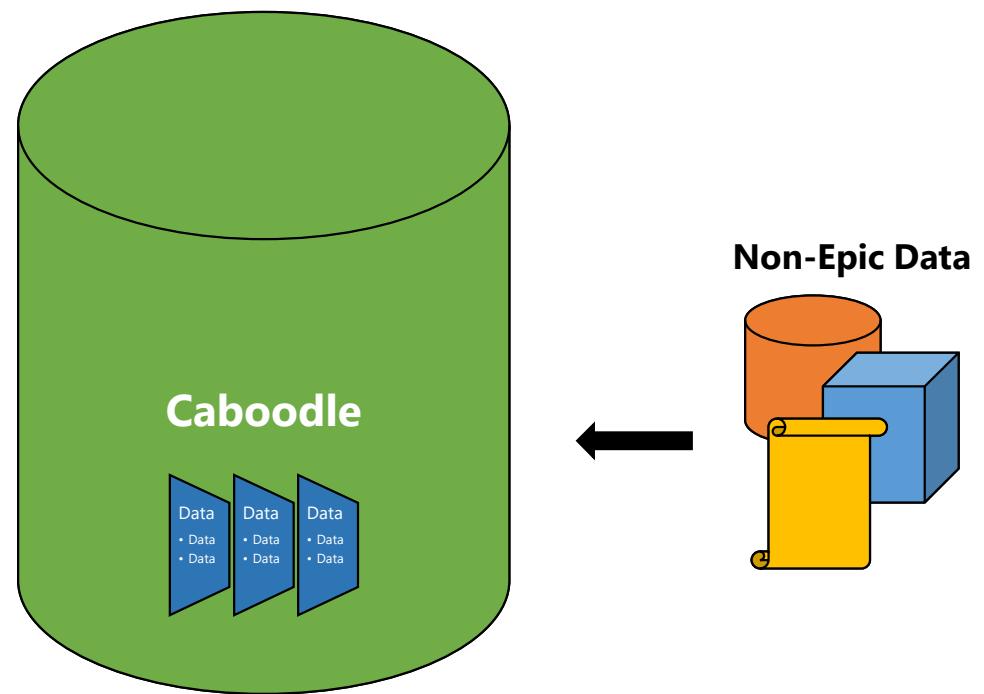
Clarity

- Relational database
- For reporting
- Normalized



Caboodle

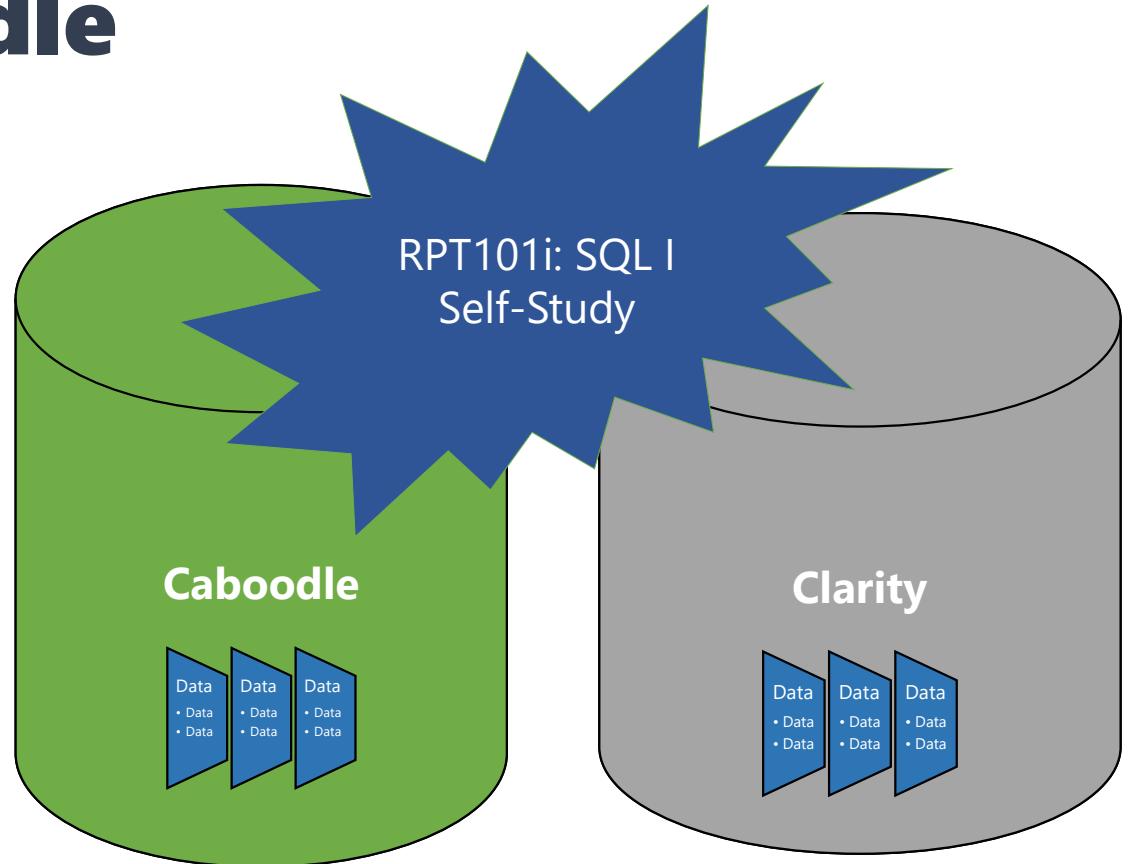
- Relational database
- Optimized for reporting and data exploration
- Dimensional
- Includes non-Epic data



Clarity & Caboodle

- Accessed using SQL

SELECT
FROM
WHERE
GROUP BY
HAVING
ORDER BY



Write in Workbook

- When you can, write reports using Caboodle rather than Clarity.
- Use Clarity if the information you're looking for is not in Caboodle.
- Use Chronicles when you need real-time data.

Data Lineage

- Databases
- **Finding Chronicles Data**
- Chronicles Item Characteristics



Try It Out!



Exercise 5-1: Open an Order Record in Record Viewer

- In this exercise, you'll practice using Record Viewer to find data points to use in a report.
- **If you have time:**
 - Exercise 5-2: If you have time – Open Another Order Record



Click the **Raise Hand** button
in the Zoom when you are
ready to move forward

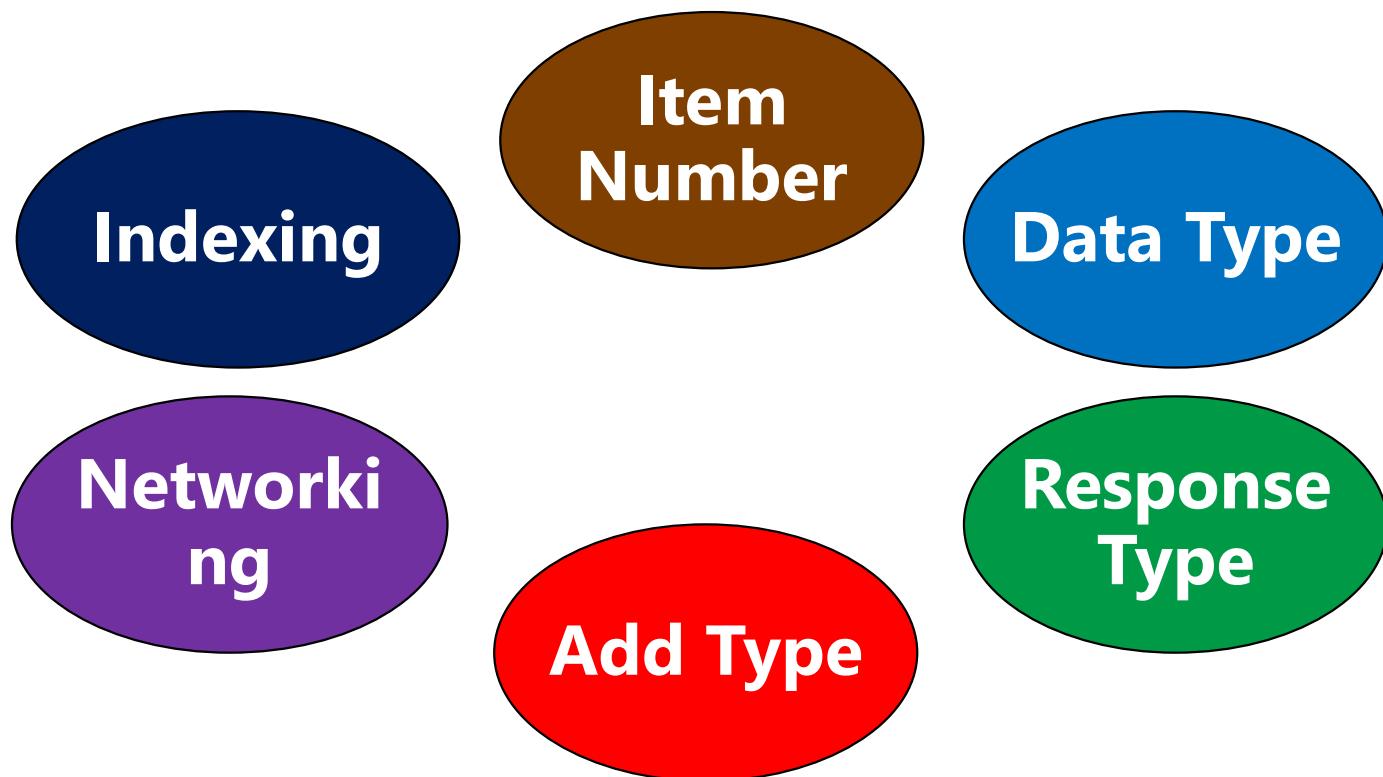


Data Lineage

- Databases
- Finding Chronicles Data
- **Chronicles Item Characteristics**



Item Characteristics



Item Numbers

- Item numbers **do not** hold meaning across master files
 - For example, EPT 50 is the patient's address, but SER 50 is provider subgroup
- There are two exceptions
 - Item .1 (read "Dot 1") stores the record's **unique ID**
 - Item .2 (read "Dot 2") stores the record's **name**
 - Not every master file has a .2 item

Data Types

String	Number	Date
Free-text	Integer or decimal	Number of days since 12/31/1840
Time	Instant	Category
Number of seconds since midnight	Number of seconds since midnight on 12/31/1840	Limited list of choices

Add Types

- No-Add
 - Data is valid across all contacts in a **record**
 - Example: SSN
- Response Each Time
 - Data applies to an individual contact and can be changed every time a new contact is added
 - Previous values cannot be assumed
 - Example: Blood Pressure
- Lookback
 - If data isn't entered for a contact, the most recent value is recorded
 - Example: OB/GYN Status



Response Types

- Single
 - One line of data
- Multiple
 - More than one line of data
- Related
 - Two or more items linked together
 - More than one line of data

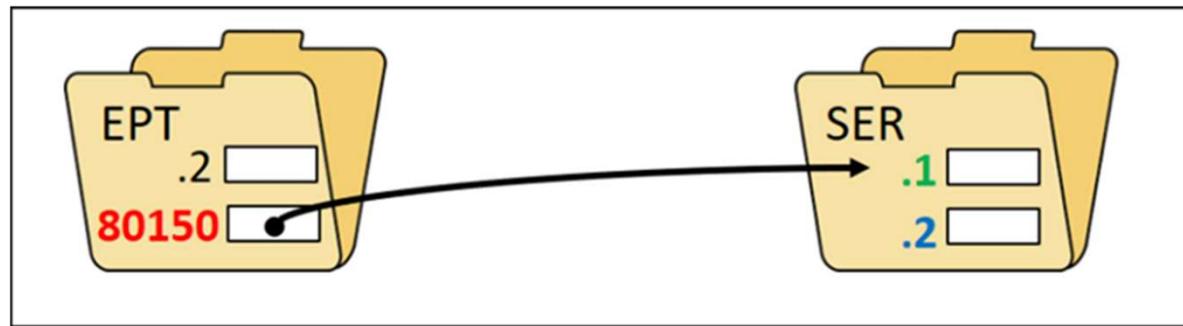
Response Types – Examples

Address:	2256 Lake St.		Multiple
City (or ZIP):	MADISON		
State:	WI 	ZIP: 53703 	
County:	DANE 		
Country:	United States of America 		

	Attending Provider	From Date	From Time	To Date	To Time
1	WHITECOAT, WALT [99080]	9/14/2013	0941	9/20/2013	1200
2	MARINO, ROB [99146]	9/20/2013	1200	10/14/2013	0833
3					

 Related

Networking



Indexing

Patient	Current General PCP
Amy Green	Dr. Whitecoat
Kristi Schuler	Dr. Silver
Martin Salame	Dr. Whitecoat
Adam Carey	Dr. Johnson
Melissa Ebhart	Dr. Chen
...	...

Current General PCP	Patient
Dr. Johnson	Adam Carey
Dr. Whitecoat	Amy Green
Dr. Whitecoat	Martin Salame
Dr. Silver	Kristi Schuler
Dr. Chen	Melissa Ebhart
...	...

Try It Out!



Exercise 5-3: Data Lineage in SlicerDicer

- In this exercise, you'll use SlicerDicer to help you identify where the data in various filters come from in Epic's databases.
- If you have time:
 - Exercise 5-4: If you have time – Overtime and Multiple Response Data in SlicerDicer



Click the **Raise Hand** button
in the Zoom when you are
ready to move forward



Summary of Data Lineage

- Epic has three databases: Chronicles, Clarity, and Caboodle
- Finding data in Chronicles will help you find the right data for your reports
- Ctrl+Click and the Record Viewer help you find where data lives in Chronicles
- SlicerDicer contains data lineage information

Day 2

- SlicerDicer Populations
- Data Lineage
- **Workbench Reports**

Epic



Workbench Reports

- **Creating Workbench Reports**
- Visualizing Workbench Results



Try It Out!



Exercise 6-1: Create a Workbench Report

- In this exercise, you'll create a workbench report from the Find Orders template using the tabs discussed in the lesson so far.
- **If you have time:**
 - Exercise 6-2: If you have time – Create a New PAF Column



Click the **Raise Hand** button
in the Zoom when you are
ready to move forward

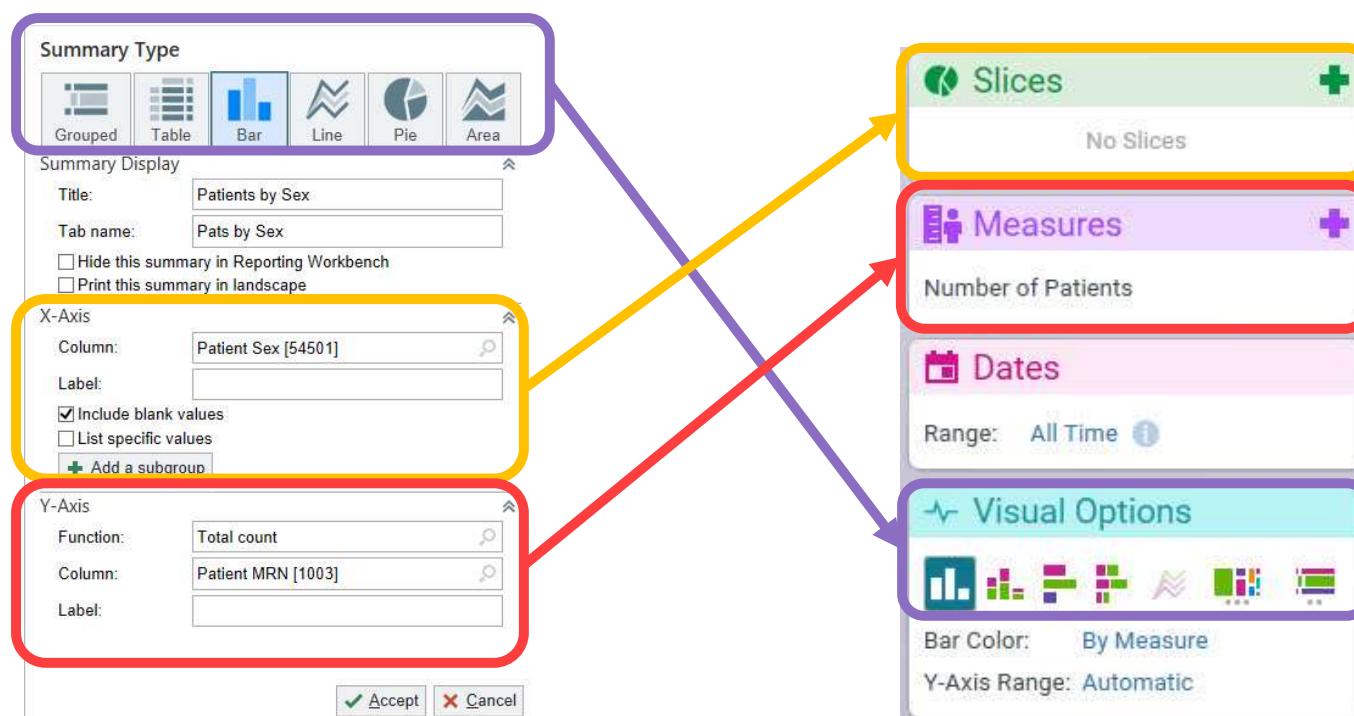


Workbench Reports

- Creating Workbench Reports
- **Visualizing Workbench Results**

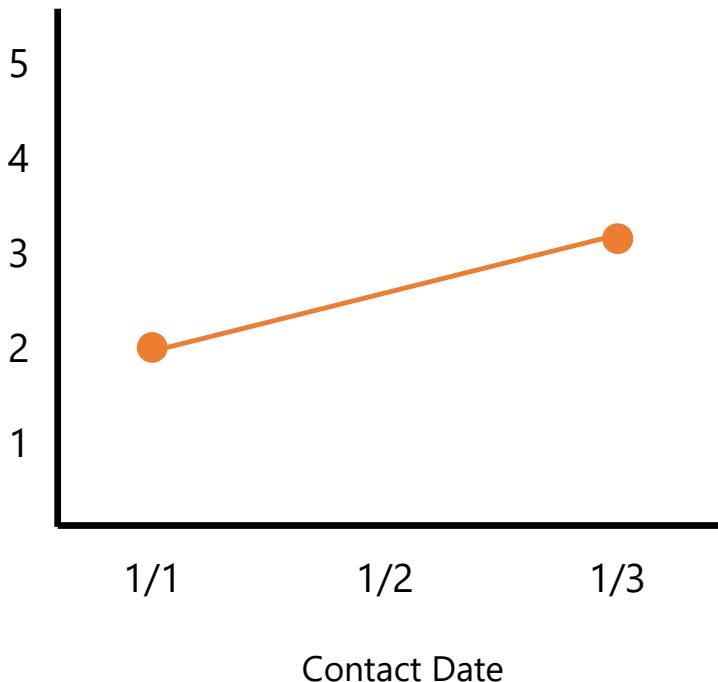


Workbench vs SlicerDicer



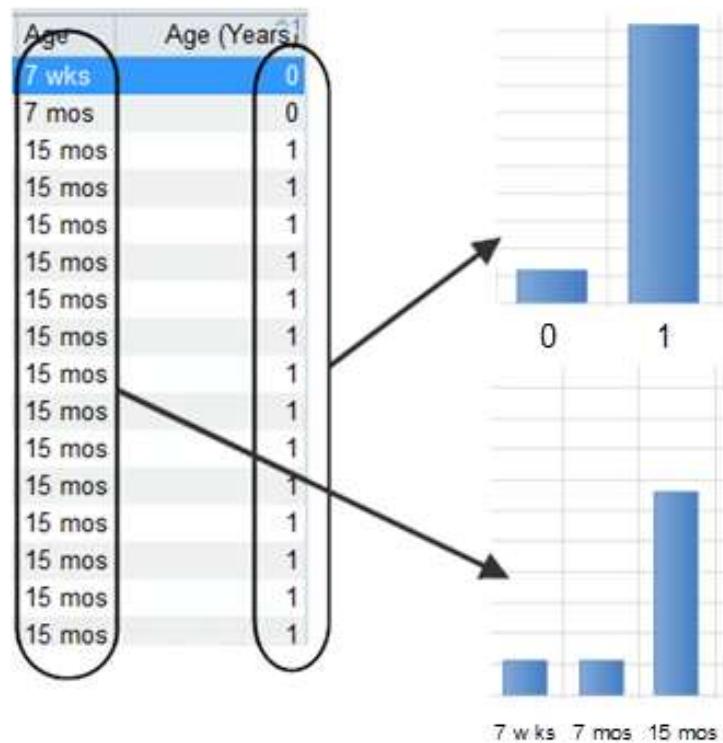
Workbench Summaries: Line Graph

Count of Patient MRN



Patient Name	Patient MRN	Contact Date
Anna Allen	111	1/1/2018
Barry Brown	222	1/1/2018
Anna Allen	111	1/3/2018
Anna Allen	111	1/3/2018
Barry Brown	222	1/3/2018

Workbench Summaries: PAF



Summary vs. Visualization

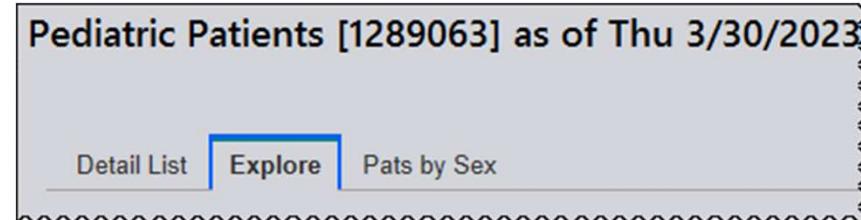
Summaries

- Configured in the Summary tab of Report Settings
- Use a Workbench interface
- Saved in Report Settings
- Separate tabs in the Results Viewer
- **Available or Selected PAF columns**

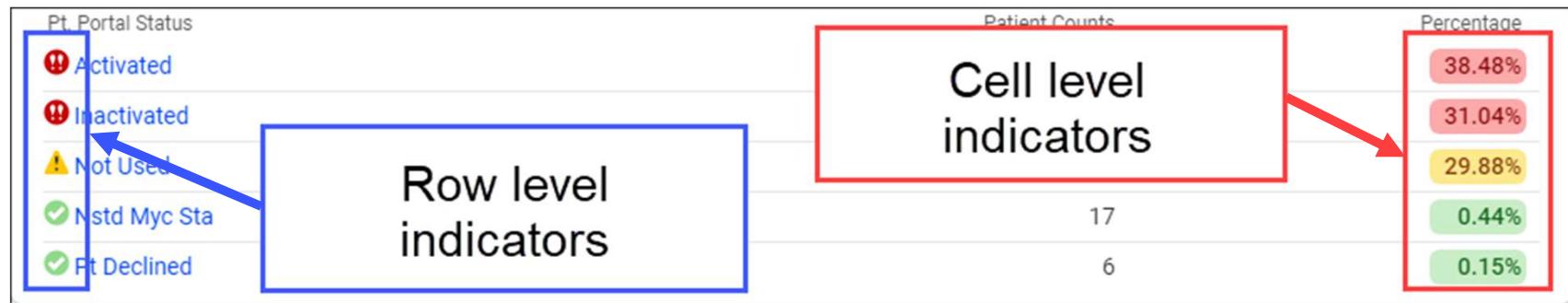


Visualizations

- Configured in the Explore tab of the Results Viewer
- Use a SlicerDicer interface
- Saved in the View Manager
- Found in the View Manager
- **Selected PAF columns only**



Thresholds



Try It Out!



Exercise 6-3: Creating a Workbench Summary and Adding it to a Dashboard

- In this exercise, you'll create a workbench summary from the <your initials> Pain Clinic Orders report and add it to a graph component.

 Click the **Raise Hand** button
in the Zoom when you are
ready to move forward

- **If you have time:**

- Exercise 6-4: If you have time – Enable Parameters for your Summary
- Exercise 6-5: If you have time – Create a Report Listing Component



Build Tracker

Pain Clinic Management Dashboard

SlicerDicer Opioid Management Dashboard Link

Opioid Management #
Dashboard Link

<your initials> Opioid Patients by Diagnosis

Component ID: _____

Display format: **Graph**

Data source: **SlicerDicer**

<your initials> Opioid Patients by Diagnosis

SlicerDicer session ID: _____

Dashboard ID: _____

Provider Opioid Prescribing #

Component ID: _____

Display format: _____

Data source: _____

<your initials> Opioid Prescriptions with Total Days Supply >27
resource ID: _____

<your initials> Pain Clinic Visits by Provider

Component ID: _____

Display format: **Table**

Data source: **Report**

<your initials> Pain Clinic Patients Workbench report ID: _____

<your initials> Opioid Order Trends by Provider

Component ID: _____

Display format: **Graph**

Data source: **SlicerDicer**

<your initials> Opioid Order Trends by Provider

SlicerDicer session ID: _____

<your initials> Orders by Provider

Component ID: _____

Display format: **Graph**

Data source: **Report**

<your initials> Medication and Referral Orders

Workbench report ID: _____

Summary of Workbench Reports

- Workbench reports are created from templates
- Workbench template determines granularity and date range behavior
- Display columns are PAF records
- Workbench summaries built from PAF columns
- Summaries built in Explore tab of Results Viewer or Summary tab of Report Settings
- Table/graph components can leverage Workbench summaries or visualizations

Day 3

- **Dashboard Metrics**
- Troubleshooting
- Security
- Cogito Build

Epic



Dashboard Metrics

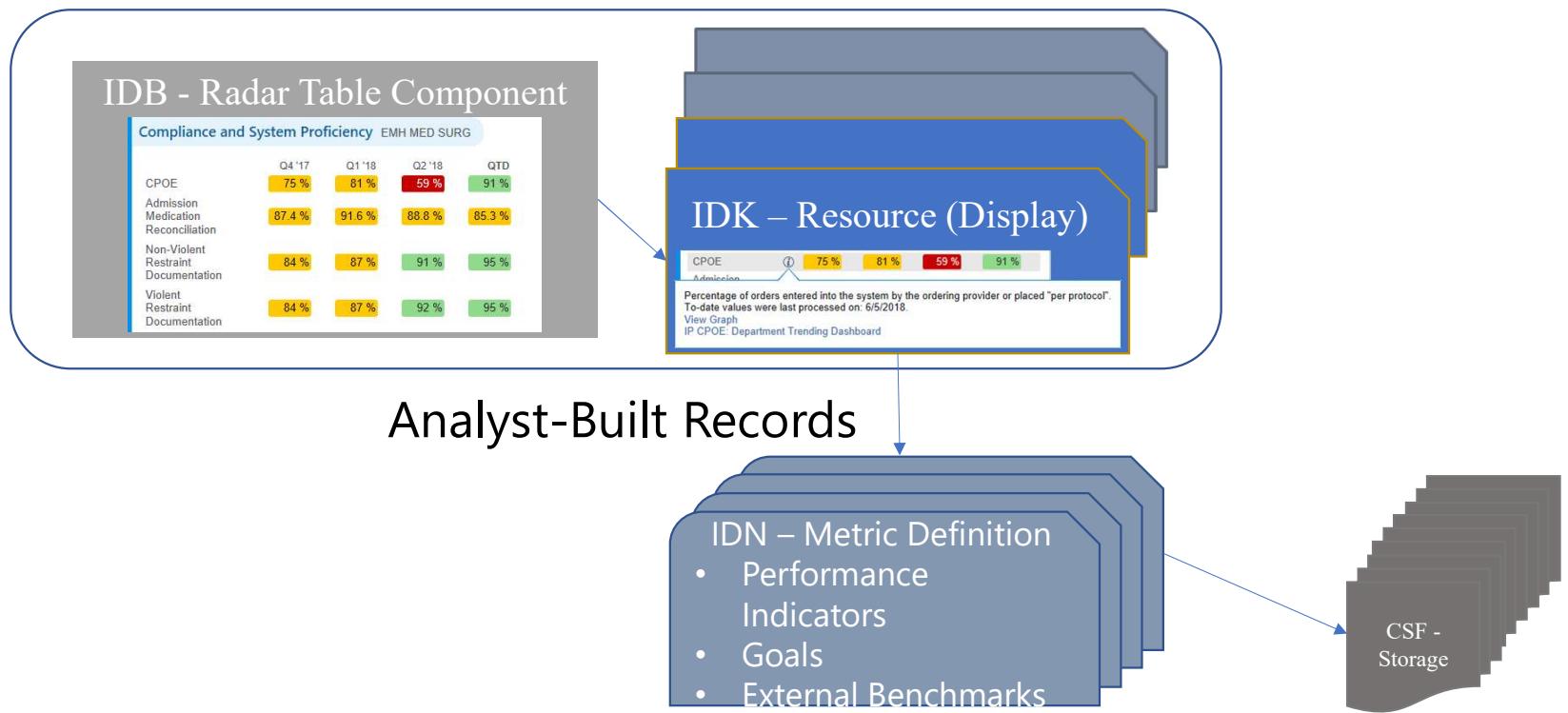
- **The Metric Framework**
- Metrics on a Dashboard
- Metric Features



Metrics Framework

- IDM – Dashboards
- IDB – Components
- IDK – Dashboard Resources
- IDN – Metric Definitions
- CSF – Cogito Summarized Facts (The actual data)

Metrics Definitions



Where do Metrics get their data?

- Chronicles
- Registries
- Clarity
- Caboodle
- Datalink
- Scheduled batch jobs
- Manual data import
- And much, much more...

Try It Out!



Exercise 7-1: Modify a Resource

- In this exercise, you'll edit the thresholds of an Epic-released metric.



Click the **Raise Hand** button
in the Zoom when you are
ready to move forward

- **If you have time:**

- Exercise 7-2: If you have time – Add a Link to a Resource



Build Tracker

Pain Clinic Management Dashboard

SlicerDicer Opioid Management Dashboard Link

Opioid Management #
Dashboard Link

<your initials> Opioid Patients by Diagnosis

Component ID: _____

Display format: **Graph**

Data source: **SlicerDicer**

<your initials> Opioid Patients by Diagnosis
SlicerDicer session ID: _____

<your initials> Pain Clinic Visits by Provider

Component ID: _____

Display format: **Table**

Data source: **Report**

<your initials> Pain Clinic Patients
Workbench report ID: _____

Dashboard ID: _____

Provider Opioid Prescribing #

Component ID: _____

Display format: **Table**

Data source: **Dashboard Resources**

<your initials> Opioid Prescriptions
with Total Days Supply >27
resource ID: _____

<your initials> Opioid Order Trends by Provider

Component ID: _____

Display format: **Graph**

Data source: **SlicerDicer**

<your initials> Opioid Order Trends
by Provider

SlicerDicer session ID: _____

<your initials> Orders by Provider

Component ID: _____

Display format: **Graph**

Data source: **Report**

<your initials> Medication and
Referral Orders

Workbench report ID: _____

Dashboard Metrics

- The Metric Framework
- **Metrics on a Dashboard**
- Metric Features



View As... Resources vs. Targets

Resources

Compliance and System Proficiency		Q1 '22	Q2 '22	Q3 '22	Q4 '22	QTD
CPOE		64%	70%	76%	83%	87%
Admission Medication Reconciliation		88.4%	86.2%	85.5%	88.5%	86.1%
Non-Violent Restraint Documentation		76%	82%	85%	89%	91%
Violent Restraint Documentation		77%	81%	85%	89%	93%

Targets

CPOE Compliance by Department		Q1 '22	Q2 '22	Q3 '22	Q4 '22	QTD
EMH MED SURG		65%	70%	77%	83%	93%
EMH MAIN OR		65%	70%	75%	83%	-
EMH CARDIAC ICU		64%	70%	76%	83%	87%
EMH EMERGENCY		65%	70%	76%	82%	99%

Try It Out!



Exercise 7-3: Build a Multiple Target Component

- In this exercise, you'll create a multiple target component.



Click the **Raise Hand** button
in the Zoom when you are
ready to move forward

- **If you have time:**

- Exercise 7-4: If you have time – Add a Multiple Target Component to a New Dashboard

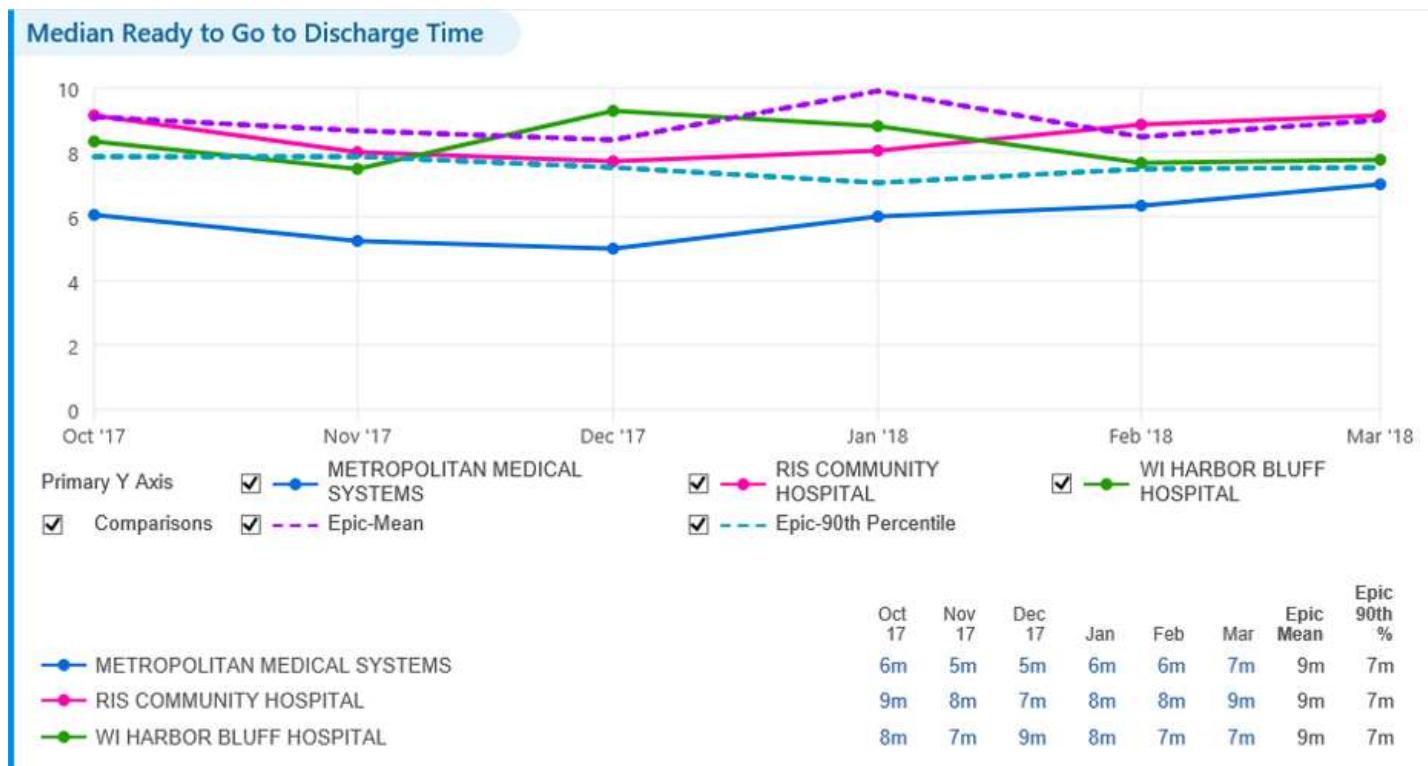


Dashboard Metrics

- The Metric Framework
- Metrics on a Dashboard
- **Metric Features**



Benchmarking



Summary of Dashboard Metrics

- Metrics calculate key performance indicators
- Data Handbook > Metric Repository contains a library of metric definitions
- Administrators can modify display settings such as thresholds and default summary level
- Modify component settings to integrate metrics with dashboard parameters
- Metric framework supports benchmarking and notifications

Day 3

- Dashboard Metrics
- **Troubleshooting**
- Security
- Cogito Build

Epic



Troubleshooting

- **Supporting Users: View Another User's Catalog**
- Supporting Development of Reporting Content:
Additional Troubleshooting Tools



Try It Out!



Exercise 8-1: Copy Violet's Private Report

- In this exercise, you'll copy a private report from another user's catalog.



Click the **Raise Hand** button
in the Zoom when you are
ready to move forward



Troubleshooting

- Supporting Users: View Another User's Catalog
- **Supporting Development of Reporting Content: Additional Troubleshooting Tools**



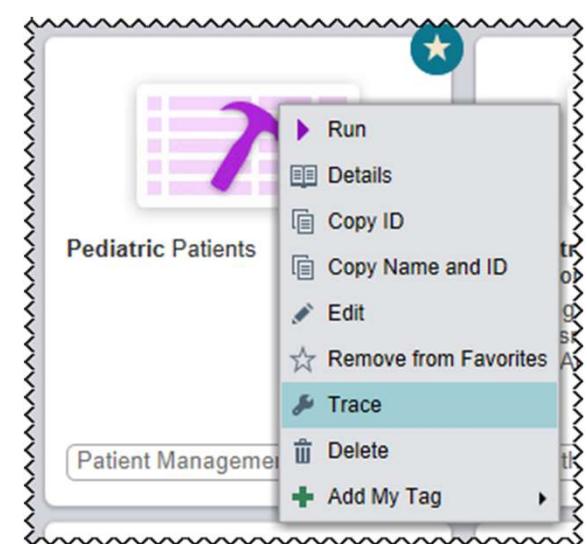
Troubleshooting Workbench Reports

“Why is this report returning these results?”

- Issue with report search criteria
- False positives
- False negatives

Solution:

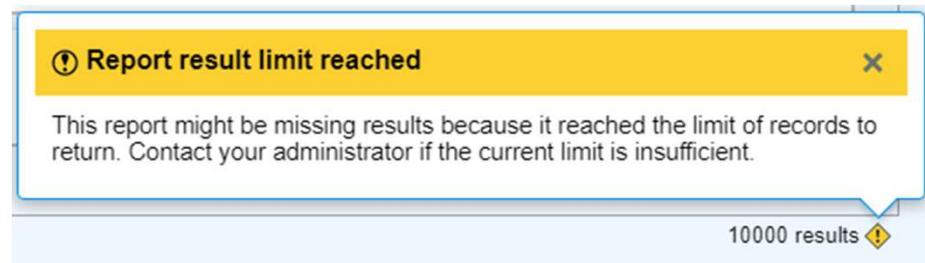
Run a trace



Performance Cap Errors

“Why is there a report result limit warning?”

- Organizations set caps to prevent reports from returning too many records



Solution:

Use another reporting tool

Modify report criteria/date range

Summary of Troubleshooting

- View another user's Catalog to troubleshoot their private content
- Run a trace in Workbench to determine how search criteria evaluate a particular record
- Assess performance cap errors
- Often possible to view the SQL code run against Clarity or Caboodle

Day 3

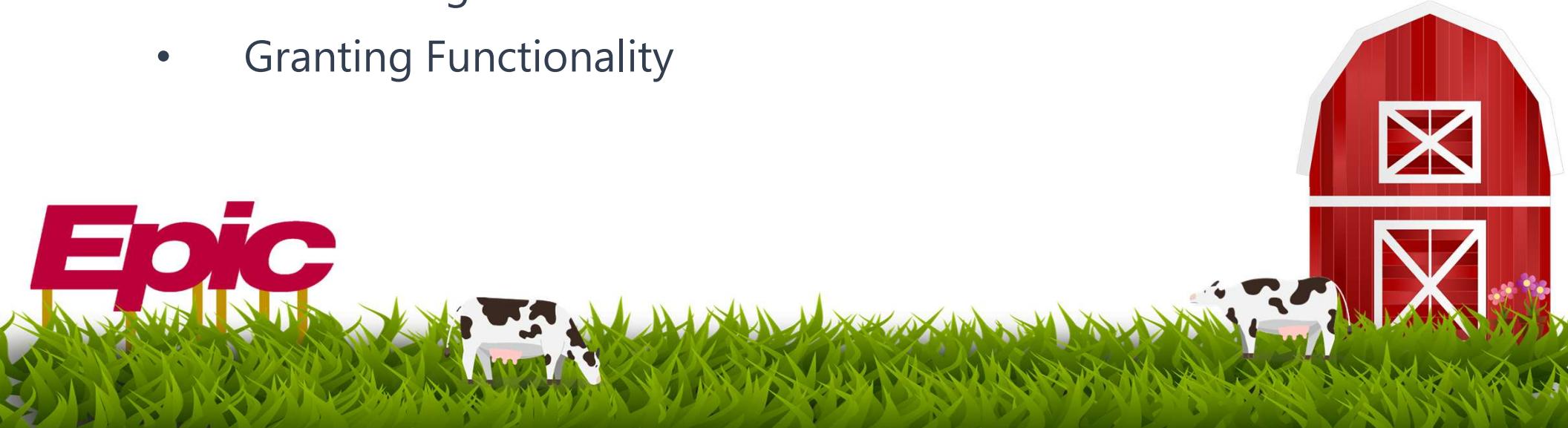
- Dashboard Metrics
- Troubleshooting
- **Security**
- Cogito Build

Epic

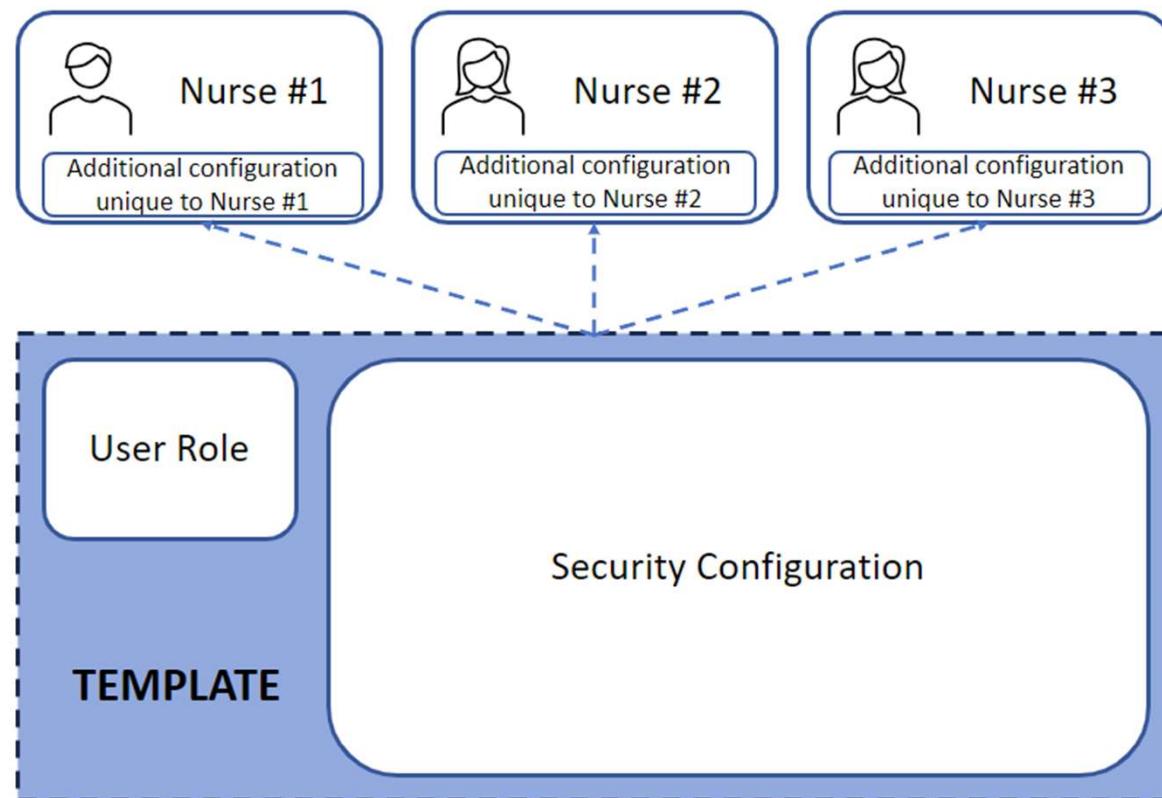


Security

- **Configuring Users in Epic**
- Distributing Content
- Authorizing Access to Data
- Granting Functionality

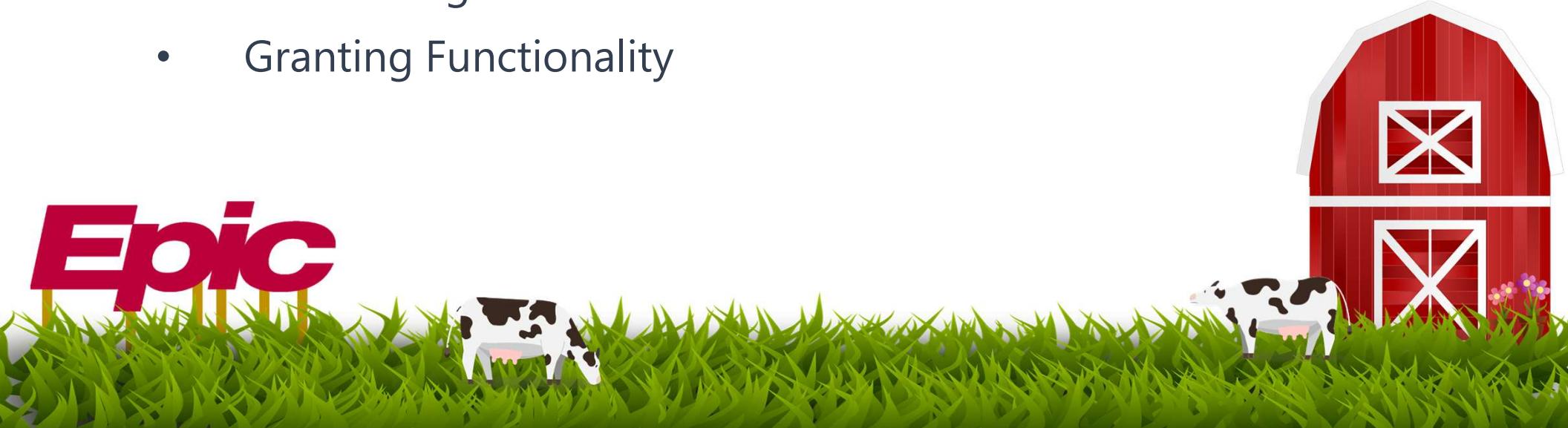


Security Configuration



Security

- Configuring Users in Epic
- **Distributing Content**
- Authorizing Access to Data
- Granting Functionality



Report Group / User Type

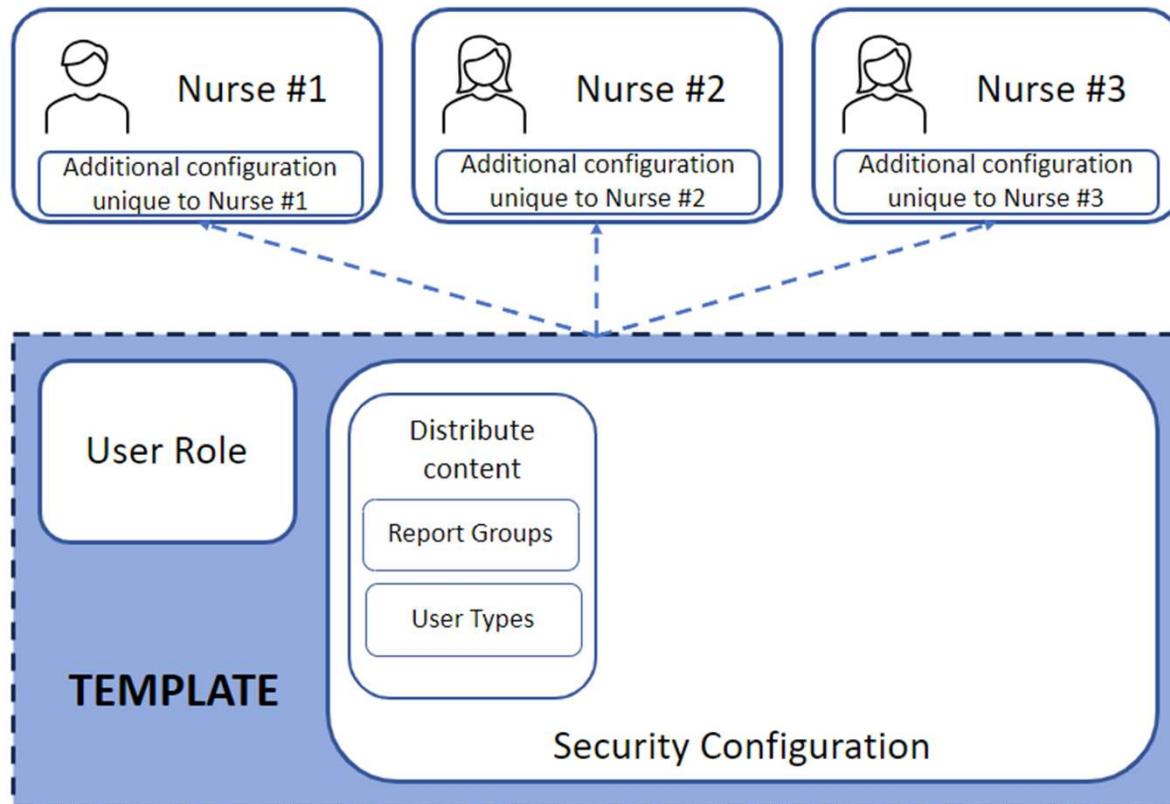
Report Group

- The primary means of distributing Cogito content
- A user is granted access to content if the user and the content share at least one report group
- Used for all types of reporting content

User Type

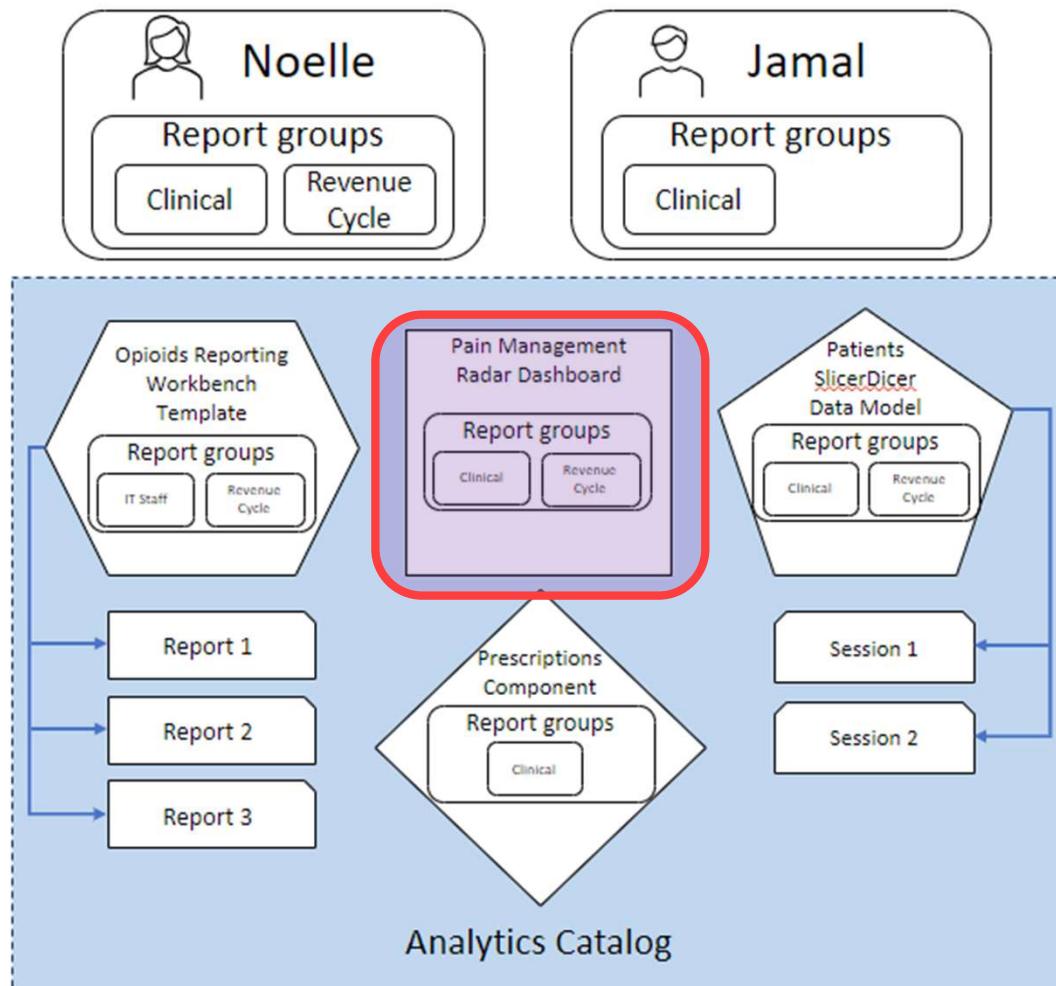
- Epic automatically assigns user types to user records when a user logs in
- A user is granted access to content if the user and the content share at least one user type
- Used for components, dashboards, and SlicerDicer content

Security Configuration



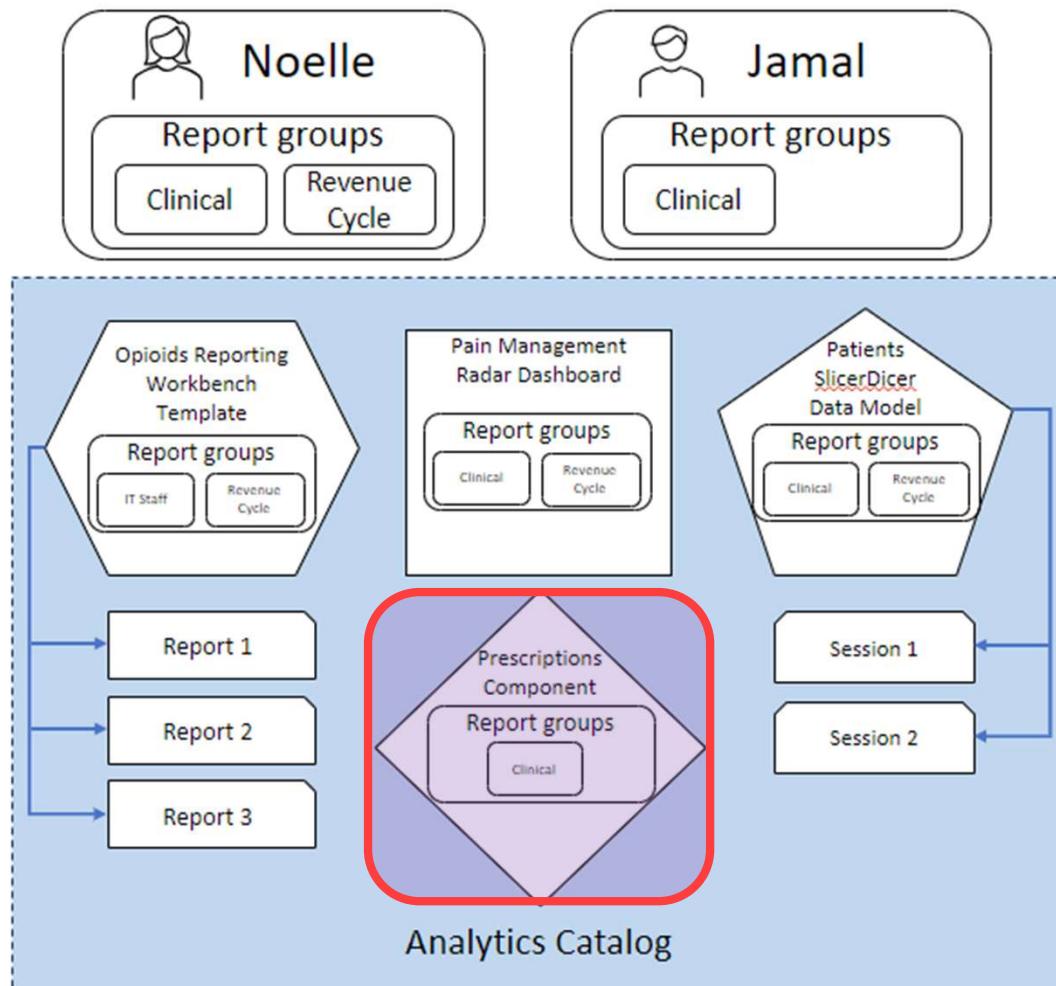
1. Does Noelle have access to the Pain Management Dashboard?

Yes



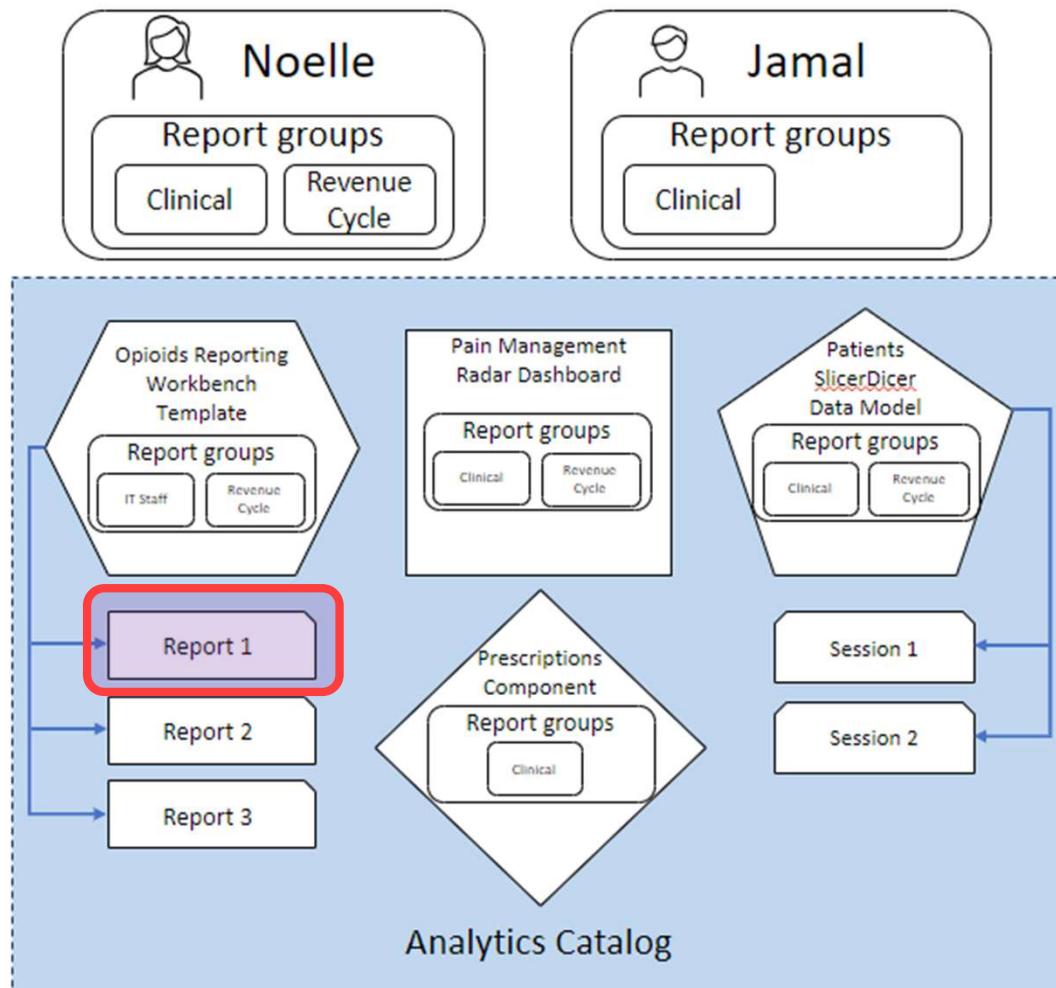
2. Does Jamal have access to the Prescriptions Component?

Yes



3. Does Noelle have access to Report 1?

Yes

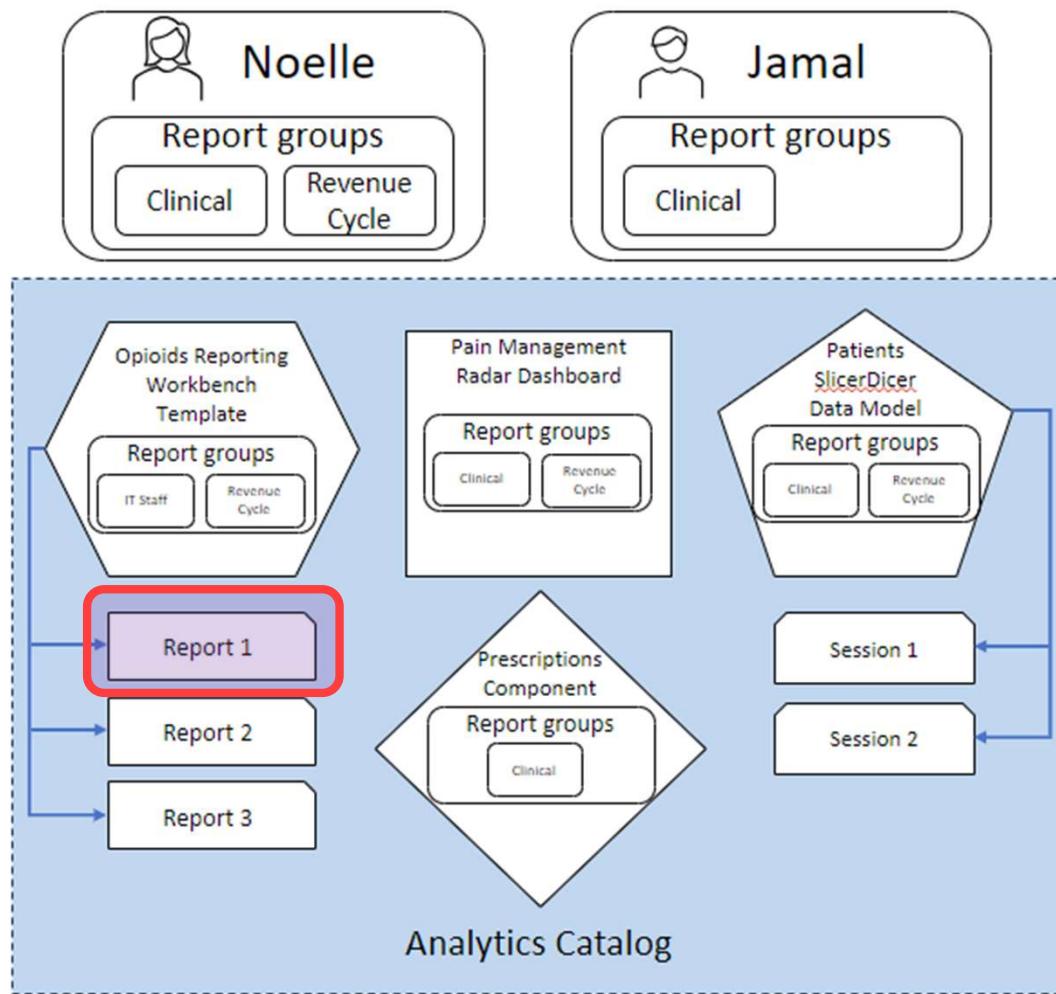


4. Does Jamal have access to Report 1?

No

5. What are some different options to distribute Report 1 to Jamal?

- Add the Revenue cycle or IT Staff report group to Jamal
- Add the Clinical report group to the Opioids Reporting Workbench Template
- Add the Clinical report group to Report 1

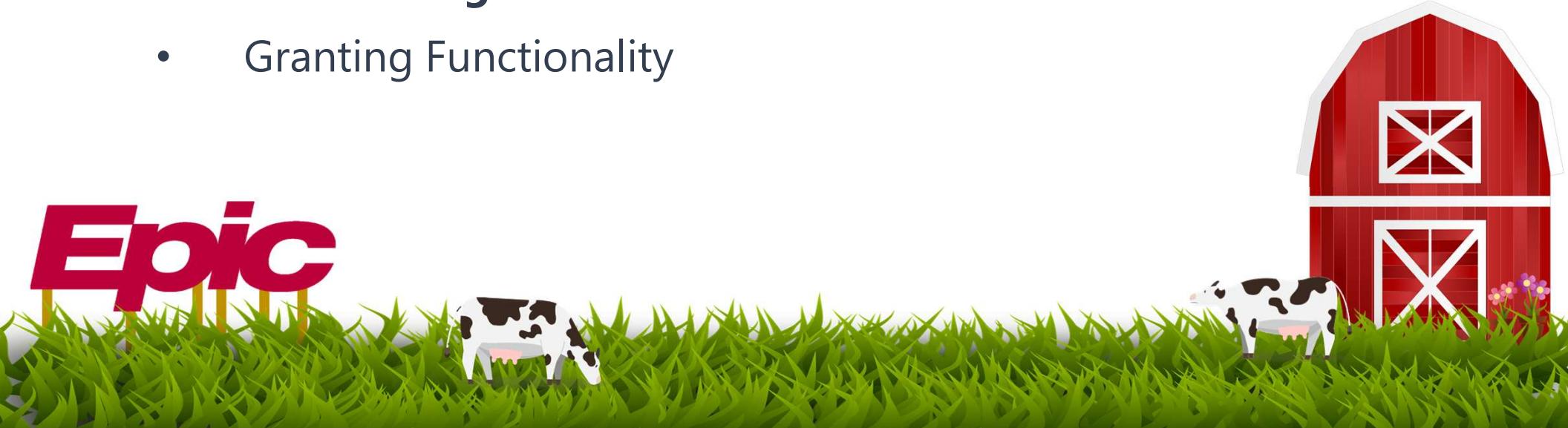


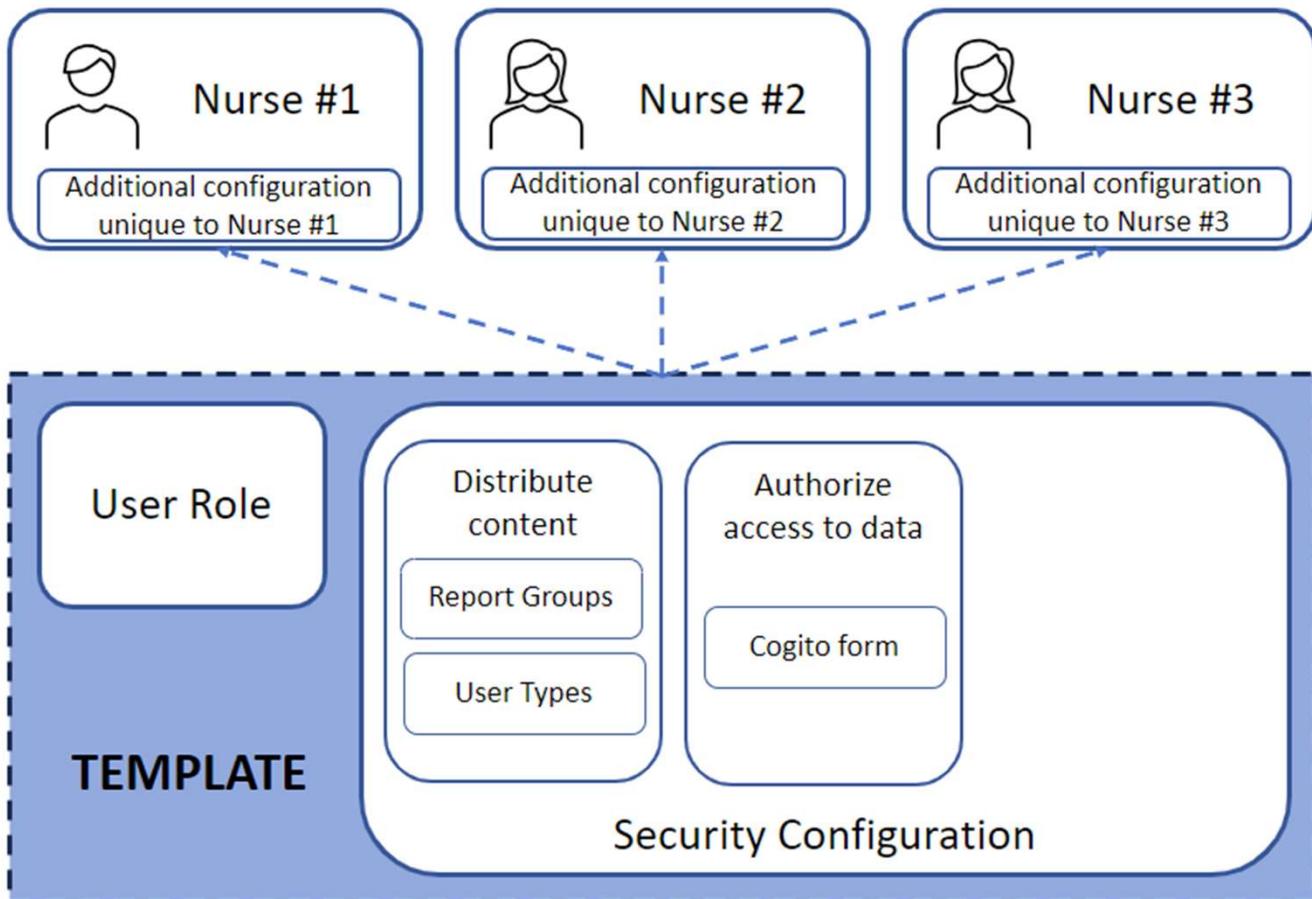
Content-Specific Distribution Considerations

Content Type	Report Groups or User Types
Dashboards	Both
Components	Both
SlicerDicer data models	Both
SlicerDicer sessions	Both
Workbench templates	Report groups
Workbench reports	Report groups

Security

- Configuring Users in Epic
- Distributing Content
- **Authorizing Access to Data**
- Granting Functionality

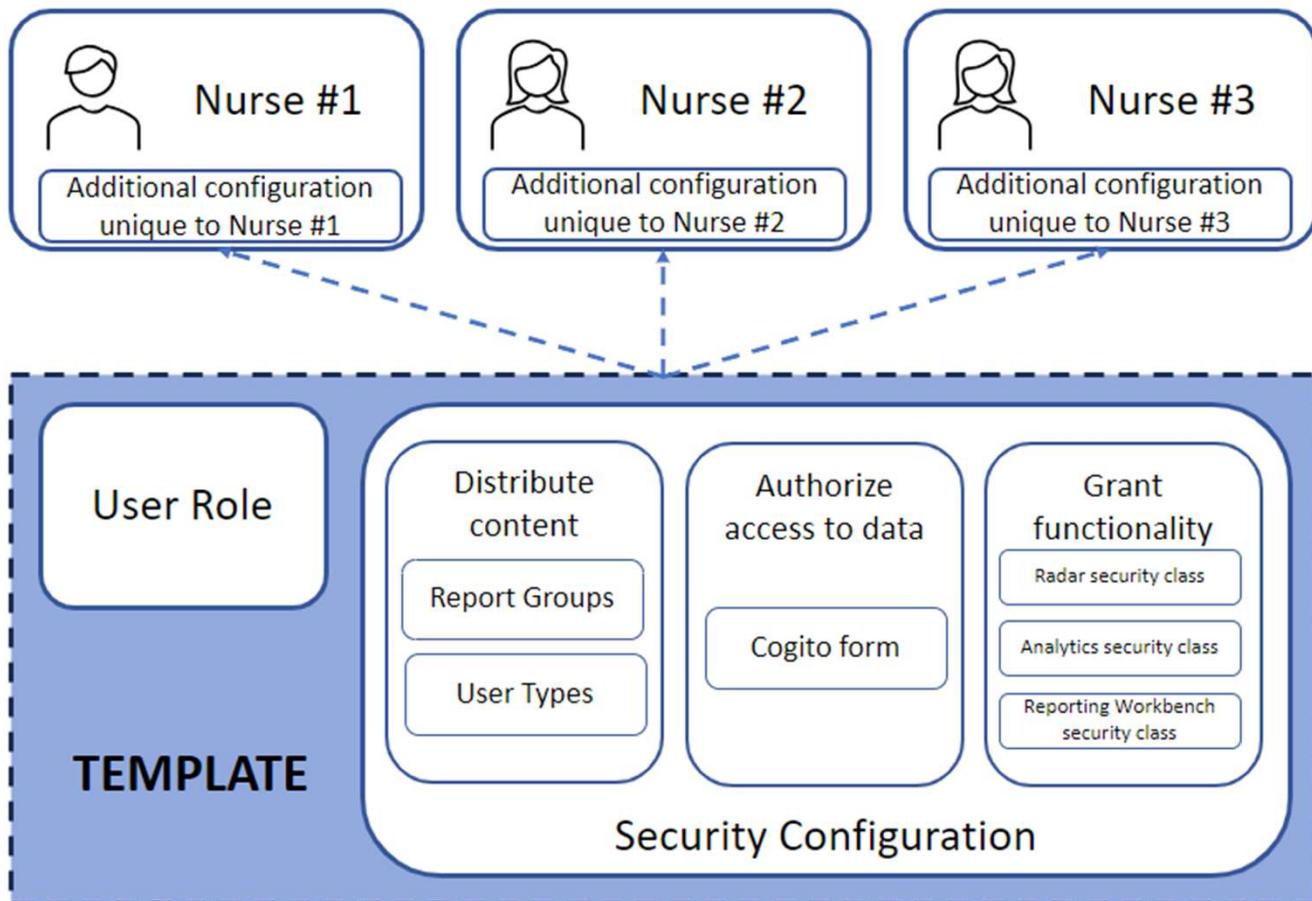




Security

- Configuring Users in Epic
- Distributing Content
- Authorizing Access to Data
- **Granting Functionality**





Security Class

A security class is made up of security points.

Security **Points** = Access to functionality



Run
Reports



Edit
Criteria



Create
Public
Report
Columns



Edit Query
Template

Try It Out!



Exercise 9-1: Explore Hyperspace as a User

- In this exercise, you'll investigate the <your initials> Pain Clinic Management dashboard as Violet.
- If you have time:
 - Start working through Follow Along 9-C



Click the **Raise Hand** button
in the Zoom when you are
ready to move forward



Summary of Security

- Security is managed on user (EMP) records and user templates
- Security team manages EMP configuration; reporting team manages reporting content build
- Content is distributed via report groups or user types
- Reporting tools can restrict data returned based on values on Cogito form
- Functionality is granted with security classes assigned to a user or user template

Day 3

- Dashboard Metrics
- Troubleshooting
- Security
- **Cogito Build**

Epic



Cogito Build

- **Modifying Epic-Released Records**
- Tracking Cogito Build



Epic-released Content

1. Create a copy and make changes to the copy

- This option exists for all Cogito build records.

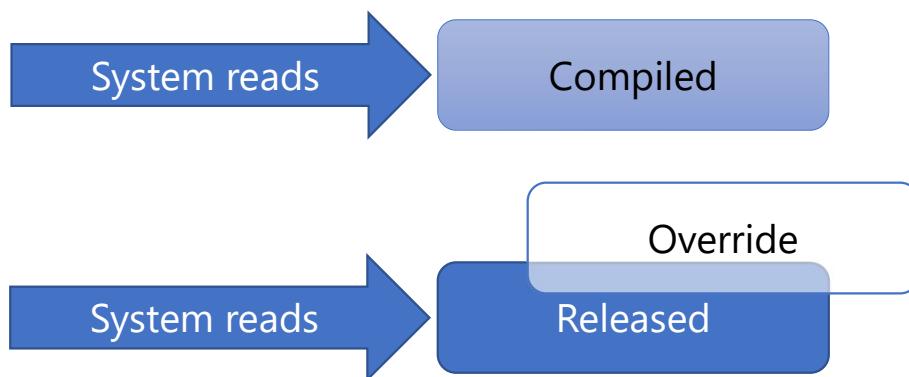
Use this option when your changes deviate significantly from Epic's build.

2. Modify the existing record. The system stores customizations in an override record.

- This option exists for master files that support override records:
 - IDM – Dashboards
 - IDB – Components
 - IDK – Resources
 - IDN – Metric Definitions
 - FDM – SlicerDicer Data Models
 - FDS – SlicerDicer Filters

Use this option when there are few changes to Epic's build.

Working With Overrides



Data Courier: to migrate the override settings correctly, Data Courier administrators would enter "base.<releasedID>" in the appropriate field.

ID	Type of Record	Editable	System Reads
99999 or less	Released	N	This one, until an override is created
100000 or more	Override	Y	Nope
100000 or more	Compiled	N	This one, once an override is created

Cogito Build

- Modifying Epic-Released Records
- **Tracking Cogito Build**



Build Tracker

Pain Clinic Management Dashboard

SlicerDicer Opioid Management Dashboard Link

Opioid Management #
Dashboard Link

<your initials> Opioid Patients by Diagnosis

Component ID: _____

Display format: **Graph**

Data source: **SlicerDicer**

<your initials> Opioid Patients by Diagnosis

SlicerDicer session ID: _____

Dashboard ID: _____

Provider Opioid Prescribing #

Component ID: _____

Display format: **Table**

Data source: **Dashboard Resources**

<your initials> Opioid Prescriptions with Total Days Supply >27
resource ID: _____

<your initials> Pain Clinic Visits by Provider

Component ID: _____

Display format: **Table**

Data source: **Report**

<your initials> Pain Clinic Patients Workbench report ID: _____

<your initials> Opioid Order Trends by Provider

Component ID: _____

Display format: **Graph**

Data source: **SlicerDicer**

<your initials> Opioid Order Trends by Provider

SlicerDicer session ID: _____

<your initials> Orders by Provider

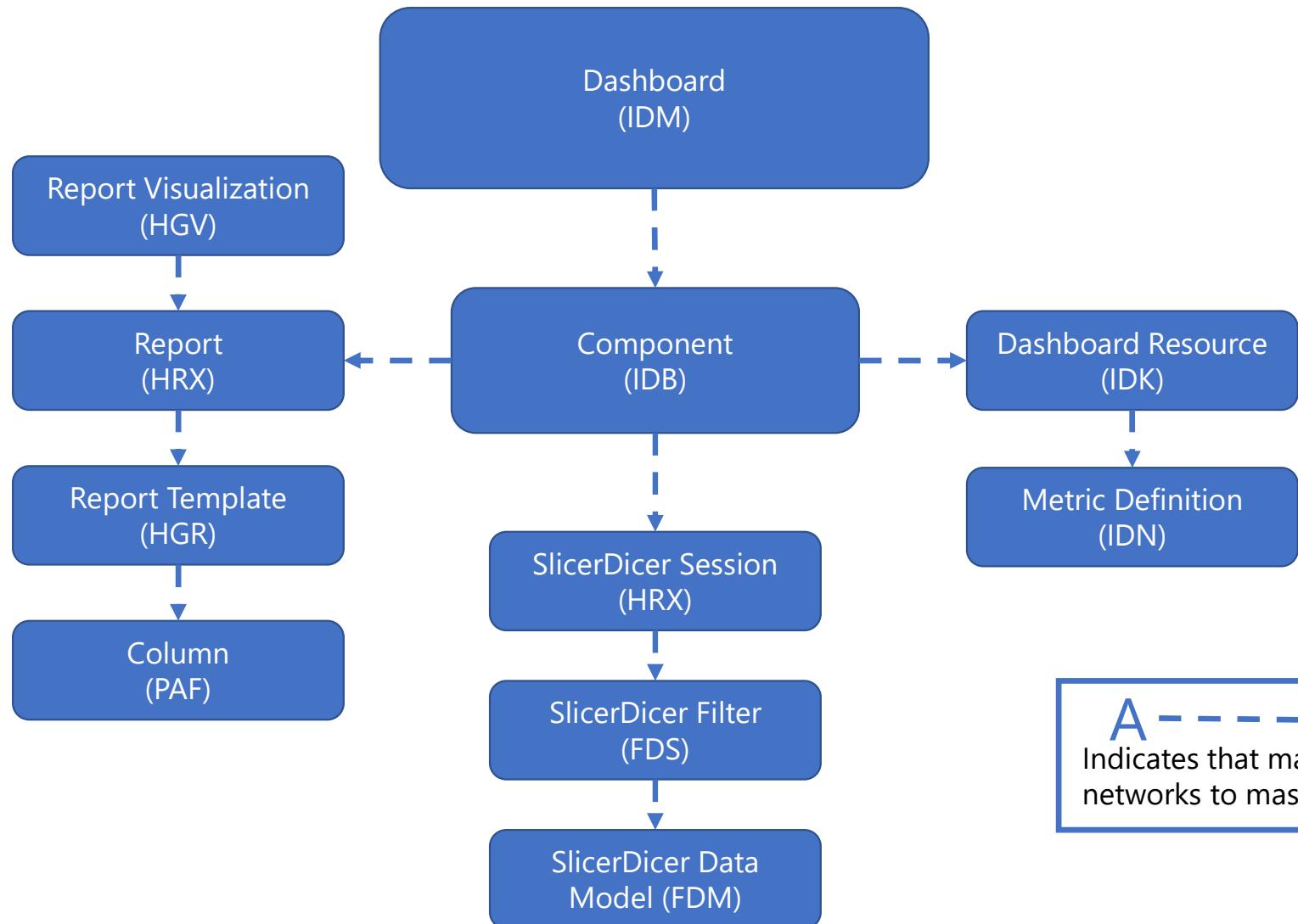
Component ID: _____

Display format: **Graph**

Data source: **Report**

<your initials> Medication and Referral Orders

Workbench report ID: _____



A \dashrightarrow B
Indicates that master file A networks to master file B

Try It Out!



Exercise 10-1: Track Your Build in Epic

- In this exercise, you'll find reporting content that you've built or tagged this week using Workbench reports.
- If you have time:
 - Exercise 10-2: Continue Tracking Your Build



Click the **Raise Hand** button
in the Zoom when you are
ready to move forward



Summary of Cogito Build

- There are options for modifying Epic-released content
- There are options for tracking your build

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