12-2018

Knowledge Management & Data Literacy

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Knowledge Management & Data Literacy

Presented by
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Date
09/26/2018

A little Knowledge that acts is worth more than much knowledge that is idle.

(Kahlil Gibran)

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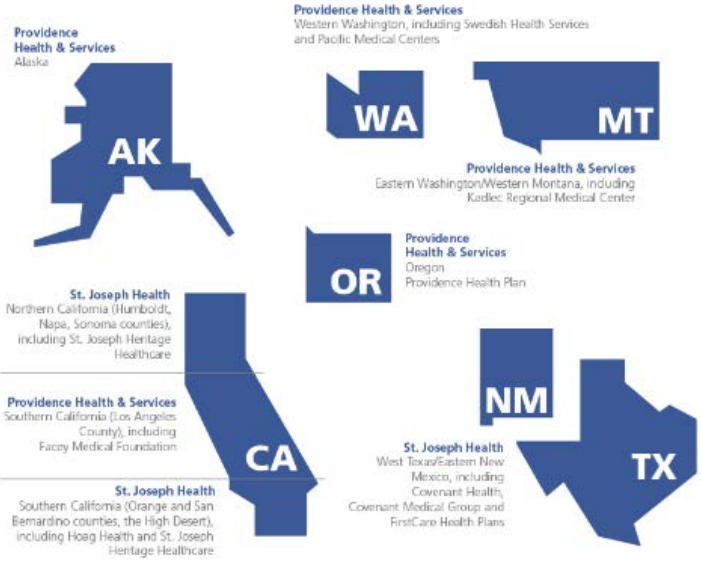

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Burning Platform

- Suite of tools, platforms and technology
- Uncertainty in report locations and ownership
- Duplicate, often redundant requests to multiple teams/individuals
- Need for faster turnaround times
- Accessibility

- Maximize regional and system level analytics
- Specific needs of different ministries
- Over specification renders broader usability
- Much time spent by developers, analysts and end users in modifying reports
- Lack of bandwidth and/or resources

- Scope for training end users to effectively utilize system reports
- Disconnect between user requirements and what they ask for due to lack of analytic knowledge
- One size fits all approach does not meet all needs
- Report drill downs not always contextual

- Non-uniform report nomenclature
- Variable report design
- Report/platform outage/downtime

Knowledge Management

What Is it

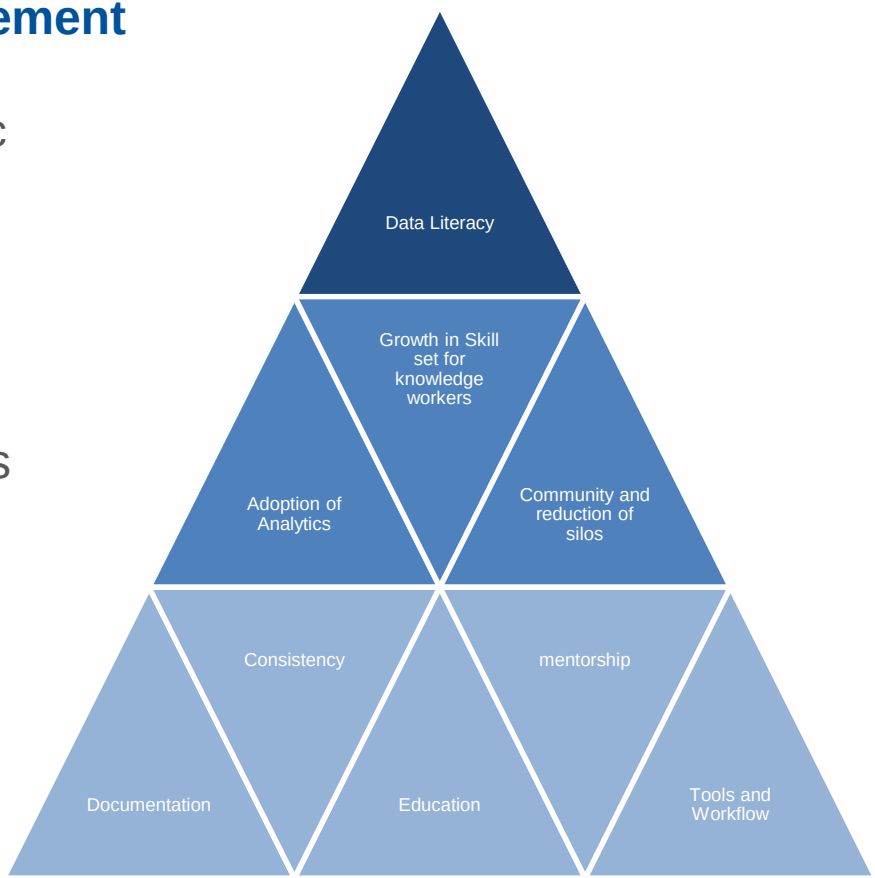
The process of creating, sharing, using
and managing the knowledge and information in Healthcare

What is the Goal

Knowledge Management goal is to enable caregivers to have ready access to organization’s documented base of facts, sources of information and solutions

Data Literacy through Knowledge Management

- ✓ Data Literacy is essential to achieve strategic goals of an ever complex healthcare environment.
- ✓ Buy in of leadership and caregivers ensures high quality and constant analytics
- ✓ Knowledge Management practices, artifacts and tools facilitate and ensure an organization can make better healthcare decisions



Knowledge Management → ***Buy in*** → ***Data Literacy***

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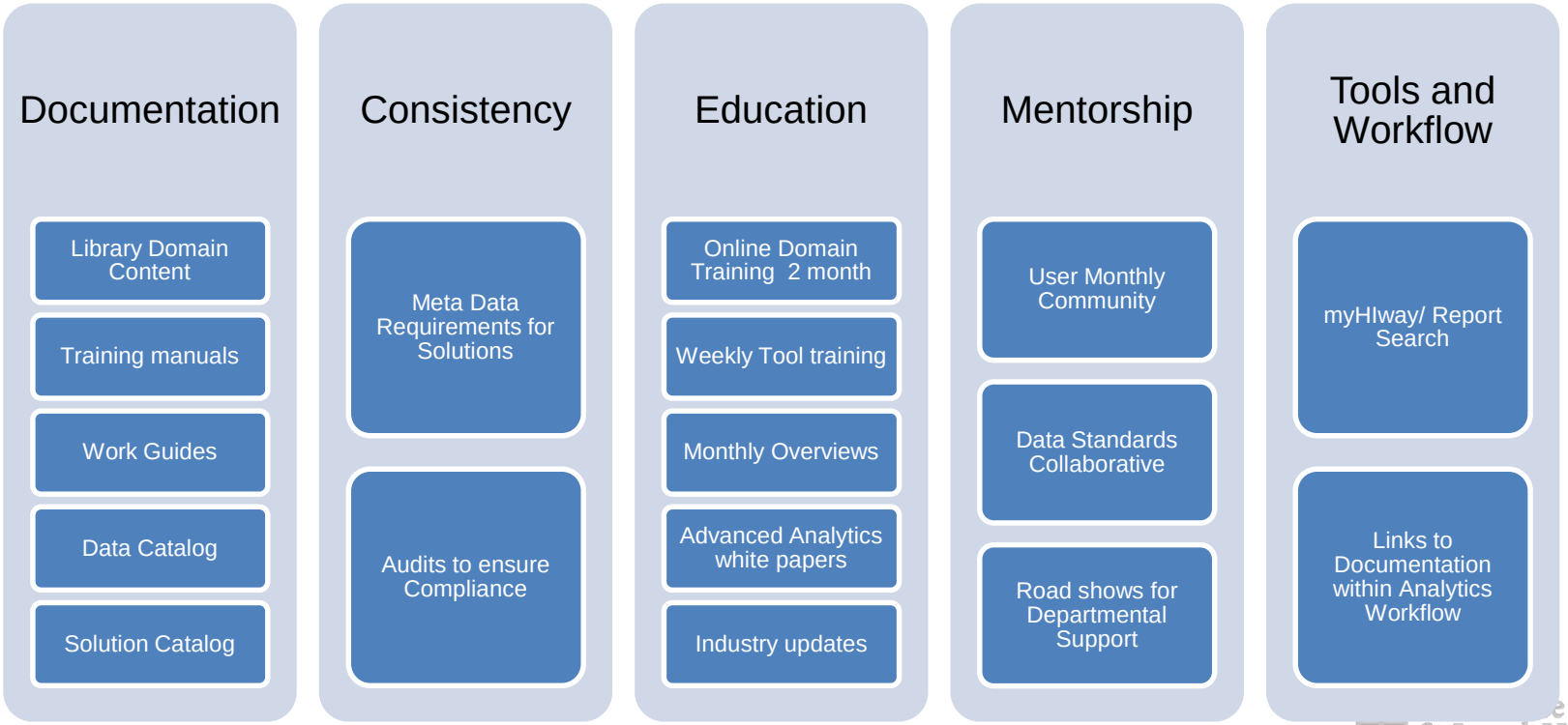
Providence St Joseph Health - Implementation



Knowledge Management – Who is Responsible??

- Formulate KM Strategy
- Handle KM Operations
- Manage KM staff

- Promote KM
- Curate knowledge resource
- Connect users to correct resource

- Review resource
- Provide feedback
- Request resource

Data Literacy Components

Providence St. Joseph Health

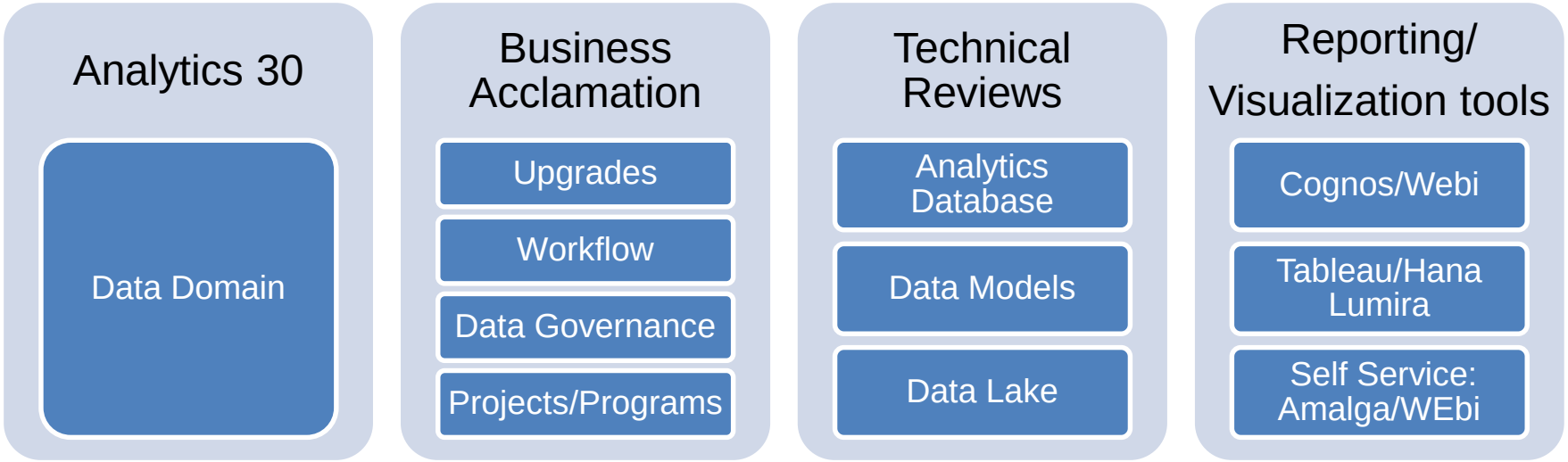
Desired Outcome: to enable knowledge workers to collect, understand, interpret, and use data in a coherent, critical and strategic way and enable org to drive action to improve outcomes and sustain business

Knowledge Workers learn through Data literacy program

Business KPI definitions	Data Domain Data Model knowledge	Data Governance Workflows	Data Quality / Fit for use guidelines
Business Specific knowledge (ER/LAB, etc)	Regulatory Rules and requirements	Goals and External Benchmarks	Tool Use

Data literacy @ Providence St Joseph Health

Increasing awareness within PSJH organization of available data, reports, platforms and tools



Data Literacy Program Supports Analytics Strategy

Department

- **Department Value to Organization**: Increased Adoption of Solutions improving ROI of Analytics Value Proposition
- **Knowledge Base**: Expands Documentation for future use
- **Saves time**: reduces time caregivers spend answering FAQ. Team can share Knowledge base with help desk, and knowledge workers when asked.
- **Trust in Data**: Increases trust in data, Documentation reduces conflict when complicated questions arise

Individual - Each Analyst required to complete 4 per year - part of Performance Review (SMART Goals)

- **Exposure**: Creates engagement with community and builds stakeholder Relationships
- **Growing Skill Set:** Staff expand their skill sets by working on a variety of projects, become SME's for new subjects. Program makes learning and sharing part of their day to day Job requirement
- **Leadership**: Improves caregivers Speaking, Data Literary, and story telling ability

Knowledge Base and Career Growth

Specific **M**easurable **A**chievable **R**elevant **T**ime-based **Goals**

Why it matters –

- Staff engagement - Creates buy-in, reduces fear and produces a way for staff to know what to expect at performance time
- Accountability – Creates clear expectations on deliverables
- Priorities - Creates clear priorities for team, they are rewarded for completion of projects
- Strategic Plan - Aligning goals of staff with strategic plan the organization ensures that everyone is supporting the strategic plan of our organization

Analytics 30
Various subjects (200 + to date)

Lens of the Consumer (Domain Solution Lists)

- Sepsis Reports
- Diabetes Data & Reporting
- Behavioral Health Reports, Dashboards and Scorecards

Data Domains & Data use

- Finance - Payment and Charge Reconciliation
- Surgery – Operating Room Analytics
- Supply Chain – Medical Device Evaluation

Complicated Report Review (Bundle compliance)

- SSI-Surgical Site Infection Reports
- Predicting and Preventing Patient No Shows
- Financial Metrics Dashboard by Service Line & Payer Types

Special topics

- Epic to Clarity Overview
- Data lake
- Global Codes Dx Px Dictionaries
- Pathways to Data

Example Schedule

HI Data Literacy Training Opportunities
October – September 2018

Providence St. Joseph Health

The EDW Team is proud to present several training opportunities to members of Providence St Joseph Health. Led by Subject Matter Experts (SME), these training sessions will focus on specific subjects and are designed for all skill levels.

IMPORTANT: TO REGISTER - Please send an email to HIDataLiteracy@stjoe.org if you are interested in attending any of the sessions listed below. Include the title and date of the session you wish to attend. ***Note**: All times are Pacific Standard (PST)Unless otherwise noted*

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Intro to EDW: An Overview (Webinar) – *A web-based, short **30 minute** overview designed to help you determine which EDW applications or tools you will benefit from the most.*

Example Schedule

- ***Prerequisite:*** *None*

Date	Time	Topic	Presenter
Monday, Oct 8th 2018	11:00-11:30 (PST)	Intro to SJH EDW	Ankit Sheth
Monday, Nov 5th 2018	11:00-11:30 (PST)	Intro to SJH EDW	Keshav Sharma
Monday, Dec 3rd 2018	11:00-11:30 (PST)	Intro to SJH EDW	Ankit Sheth

Amalga Hospital (On-Line): *a web-based, interactive and in-depth, two-part course designed to help you create customized views, to quickly and easily access the patient data you need. Amalga Hospital gives you timely inpatient and outpatient data in one place, enabling you to make more informed decisions*

- ***Prerequisite:*** *Amalga Account (email AskIT for assistance on getting access)*
- ***Recommended:*** *Intro to EDW*

Date	Time	Topic	Presenter
Wednesday, Oct 10th 2018	11:00-12:00(PST)	Amalga UIS # 1	Ankit Sheth
Wednesday, Oct 17th 2018	09:30-10:30(PST)	Amalga UIS # 2	Keshav Sharma
Wednesday, Nov 14th 2018	13:30–14:30 (PST)	Amalga UIS # 1	Keshav Sharma
Wednesday, Nov 28th 2018	14:00–15:00 (PST)	Amalga UIS # 2	Ankit Sheth
Wednesday, Dec 12th 2018	13:00–14:00 (PST)	Amalga UIS # 1	Ankit Sheth
Wednesday, Dec 19th 2018	09:00-10:00 (PST)	Amalga UIS # 2	Keshav Sharma

Analytics 30 Training

Example Schedule

Date	Topic	Intended Audience	Presenter	Facilitator
Oct 9th Tuesday 11:30-12:00	HI-PHIVE	Regional (PHS and affiliates) data stewards	Lynne Reimers	Ankit Sheth
Oct 16th Tuesday 11:30-12:00	Nutrition and Metabolic Disorder Reports	Nursing, Inpatient Admin Staff, Nutrition Staff, Patient Experience Staff	Rohit Bhatia	Ankit Sheth
Oct 24th Wednesday 11:30-12:00	Behavioral Health Study for DartNet (bundle reports for PHS and KHS written on PHS EDW)	Behavioral Staff (PHS and SJH), Report analysts and developers	Kris Ingersoll	Keshav Sharma
Oct 31st Wednesday 11:30-12:00	Narcan (Naloxone) – Reversal of Opioid Overdose	Nursing Managers, Case Management, DSS, Patient Safety Officers, nurses	Sean Nguyen	Ankit Sheth
Nov 6th Tuesday 11:30-12:00	Metric Strategy for Callisto and Vantage	Developers, analysts, managers	Kathy Heider	Keshav Sharma

Sample outgoing training invite and Components

Subject: *Training* Analytic 30: Pathways to Ambulatory Data

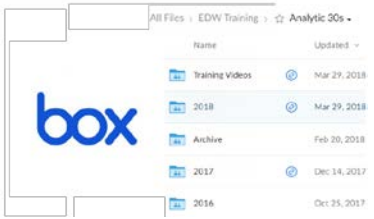
Pathways to Ambulatory Data

- **Description:** This session is to provide an explanation of the ambulatory data available in the enterprise data warehouse. We will review content and existing business views.
- **Intended Audience:** Data analysts, Business Analysts, Knowledge Workers, Professional Services
- **Presenter: Britt Pugh**
- **Facilitator: Keshav Sharma**

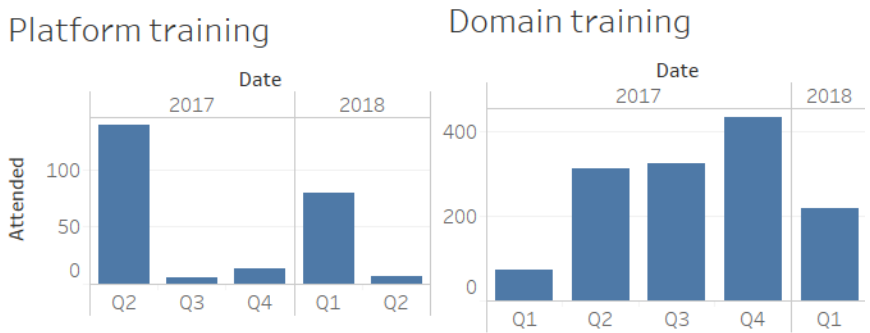
Analytics 30 usage and statistics

- All sessions are recorded (WebEx)

- Slide-deck, recordings and other training material stored on Cloud (BOX)



- Track and document audience traffic



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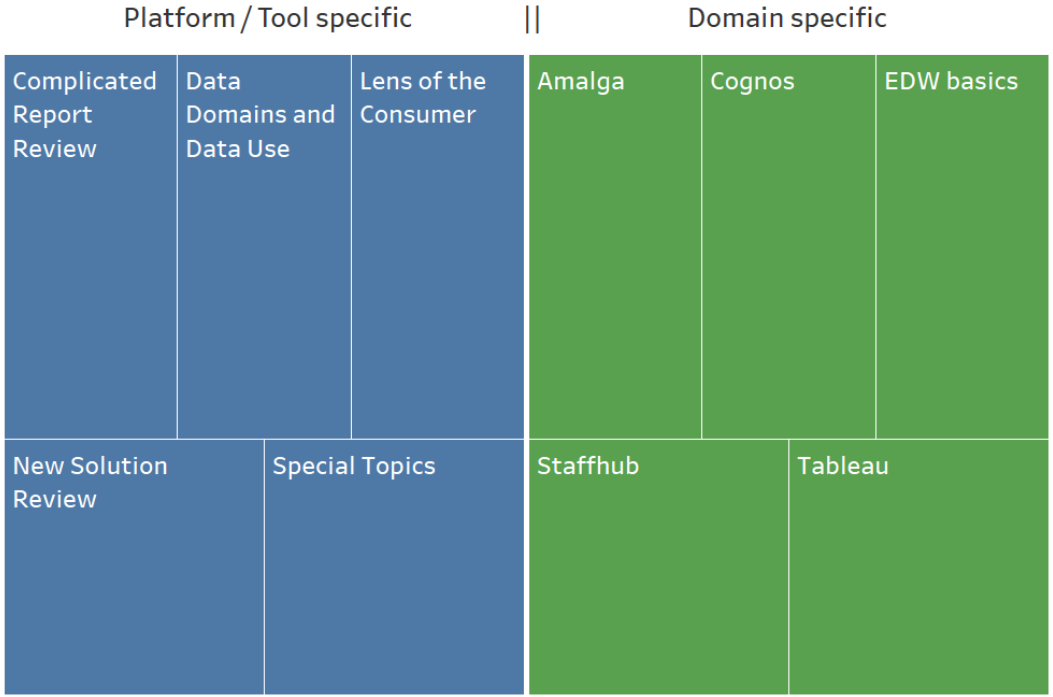
Current Training types

Total Trainings to dt. 187

Presenters > 20

Audience Last Year: 1000

On average 30 - 60



New topics and program expansion

- Quarterly brainstorming sessions to identify presentation topics / material (*Ensure new and Relevant content)*

- Next Steps:
  - Include analysts of PSJHS collaborative (*Merger)*
  - Identify new topics and subject matter based on presenter skill set / expertise *(Newly Expanded team)*

Program Coordination: Host account (web ex)

HIDataLiteracy@stjoe.org

- Dedicated email and web ex accounts to
- Create and host training sessions
- Follow-up with audience with session material
- Address incoming session related requests / questions
- Conduct quarterly internal brainstorming for new topics / presentations
- Track and remind presenters for preparedness

Data / Domain: Analytics 30 Example
Behavioral Health Reports, Dashboards and Scorecards

Example 1

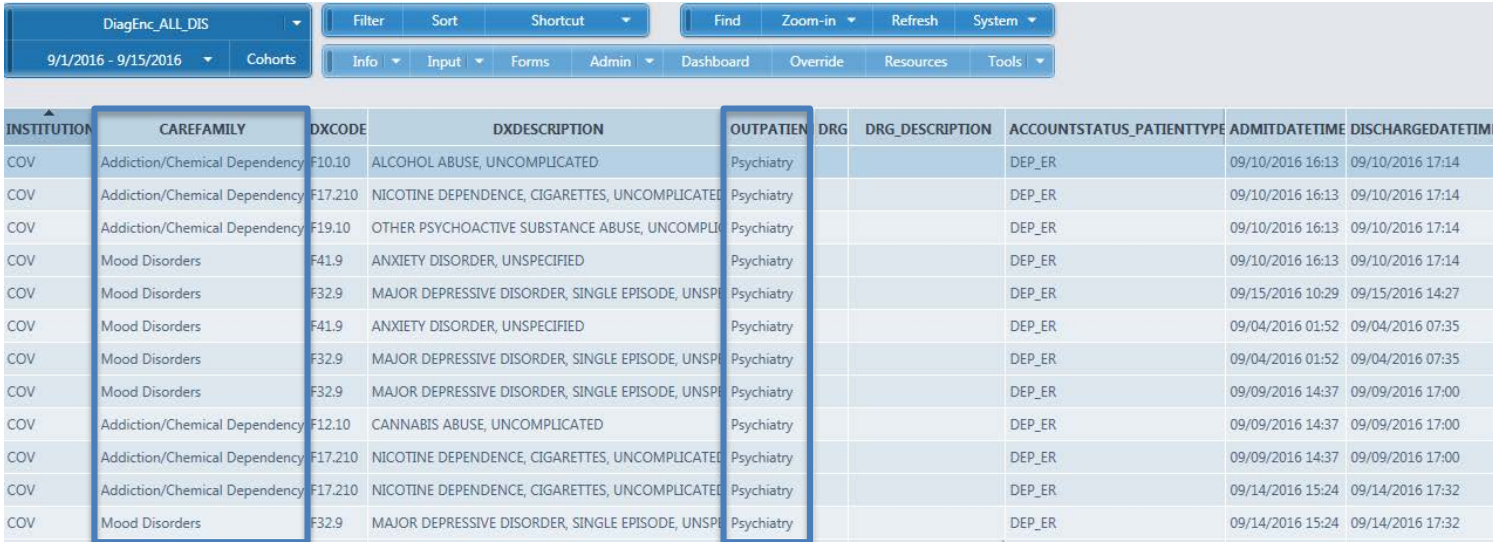
By Diagnosis	• Outpatient Service Line: Psychiatry • Care Family: Mood Disorders / Addiction / Chemical Dependency • CC: Depression, Alzheimer's Disease, Dementia • HCC: Substance Abuse
By DRG	• Service Line: Psychiatry
By Provider	• Specialty: Psychiatry • Physician Documentation: Query Name contains 'Psych'
By Location	• Description contains 'Behavioral' / 'Psych'
By Orders	• Ordered Procedure contains 'Psych'
By Charge Category	• Description contains 'Psych'
By Nursing Documentation	• Assessment contains 'Psych / Chemical Dependency'

Data / Domain: Analytics 30 Example
Behavioral Health Reports, Dashboards and Scorecards

Example 1

By Care Family: Amalga Views

- Outpatient Service Line Filter – Psychiatry
- Care Family Filter – Mood Disorders / Addiction / Chemical Dependency etc.



INSTITUTION	CAREFAMILY	DXCODE	DXDESCRIPTION	OUTPATIEN	DRG	DRG_DESCRIPTION	ACCOUNTSTATUS_PATIENTTYPE	ADMITDATETIME	DISCHARGEDATETIM
COV	Addiction/Chemical Dependency	F10.10	ALCOHOL ABUSE, UNCOMPLICATED	Psychiatry			DEP_ER	09/10/2016 16:13	09/10/2016 17:14
COV	Addiction/Chemical Dependency	F17.210	NICOTINE DEPENDENCE, CIGARETTES, UNCOMPLICATED	Psychiatry			DEP_ER	09/10/2016 16:13	09/10/2016 17:14
COV	Addiction/Chemical Dependency	F19.10	OTHER PSYCHOACTIVE SUBSTANCE ABUSE, UNCOMPLI	Psychiatry			DEP_ER	09/10/2016 16:13	09/10/2016 17:14
COV	Mood Disorders	F41.9	ANXIETY DISORDER, UNSPECIFIED	Psychiatry			DEP_ER	09/10/2016 16:13	09/10/2016 17:14
COV	Mood Disorders	F32.9	MAJOR DEPRESSIVE DISORDER, SINGLE EPISODE, UNSPI	Psychiatry			DEP_ER	09/15/2016 10:29	09/15/2016 14:27
COV	Mood Disorders	F41.9	ANXIETY DISORDER, UNSPECIFIED	Psychiatry			DEP_ER	09/04/2016 01:52	09/04/2016 07:35
COV	Mood Disorders	F32.9	MAJOR DEPRESSIVE DISORDER, SINGLE EPISODE, UNSPI	Psychiatry			DEP_ER	09/04/2016 01:52	09/04/2016 07:35
COV	Mood Disorders	F32.9	MAJOR DEPRESSIVE DISORDER, SINGLE EPISODE, UNSPI	Psychiatry			DEP_ER	09/09/2016 14:37	09/09/2016 17:00
COV	Addiction/Chemical Dependency	F12.10	CANNABIS ABUSE, UNCOMPLICATED	Psychiatry			DEP_ER	09/09/2016 14:37	09/09/2016 17:00
COV	Addiction/Chemical Dependency	F17.210	NICOTINE DEPENDENCE, CIGARETTES, UNCOMPLICATED	Psychiatry			DEP_ER	09/09/2016 14:37	09/09/2016 17:00
COV	Addiction/Chemical Dependency	F17.210	NICOTINE DEPENDENCE, CIGARETTES, UNCOMPLICATED	Psychiatry			DEP_ER	09/14/2016 15:24	09/14/2016 17:32
COV	Mood Disorders	F32.9	MAJOR DEPRESSIVE DISORDER, SINGLE EPISODE, UNSPI	Psychiatry			DEP_ER	09/14/2016 15:24	09/14/2016 17:32

Data / Domain: Analytics 30 Example
Behavioral Health Reports, Dashboards and Scorecards

Example 1

Diagnosis Code Groupings:

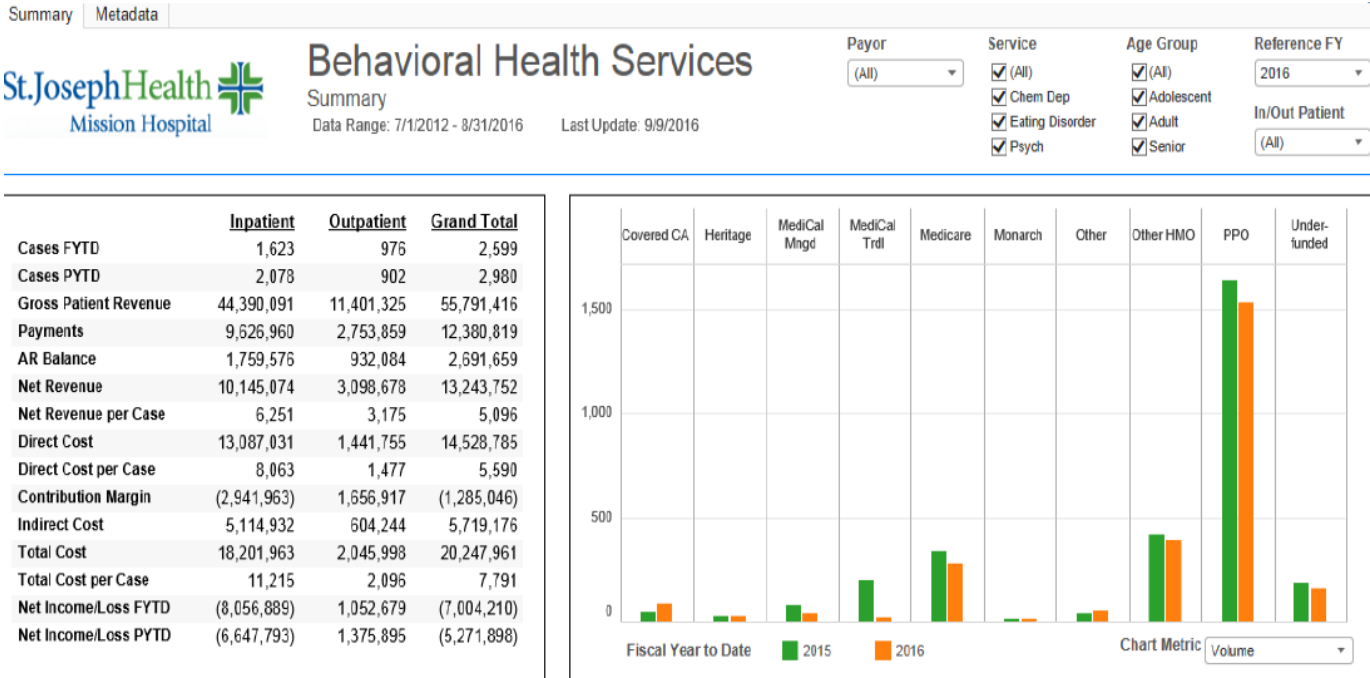
- Care Family and Outpatient Service Line
  - Populated on all Hospital patients regardless of patient type, in 'Visit' views
- Chronic Conditions (CC) and Hierarchical Conditional Category (HCC)
  - Populated in Data Dictionary Diagnosis view

CD_FLAG	CODE	OUTPATIENT_SERVICE_LINE	CARE_FAMILY	DESCRIPTION	CMS_CC_NAME	HCC_SHORT_NAME	HCC_LONG_NAME
CD-10	V79.0	Mood Disorders	Psychiatry	DRIVER OF BUS INJURED IN COLLISION W OTH AND * DC	UNKNOWN	NA	NA
CD-10	V79.0	Mood Disorders	Psychiatry	DRIVER OF BUS INJURED IN COLLISION W OTH AND * DC	UNKNOWN	NA	NA
CD-10	T40.69	Psychiatry	Addiction/Chemical Dependency, OB/Fetal	POISONING BY OTHER NARCOTICS, ASSAULT, INITIAL ENC	UNKNOWN	NA	NA
CD-10	T40.69	Psychiatry	Addiction/Chemical Dependency, OB/Fetal	POISONING BY OTHER NARCOTICS, UNDETERMINED, INIT	UNKNOWN	NA	NA
CD-10	F15.92	Psychiatry	Addiction/Chemical Dependency	OTHER STIMULANT USE, UNSP WITH INTOXICATION, UNC	UNKNOWN	Substance Abuse	Drug/Alcohol Dependence
CD-10	F15.92	Psychiatry	Delirium/Dementia/Amnestic/Other Cognitive Disorder	OTHER STIMULANT USE, UNSPECIFIED WITH INTOXICATIC	UNKNOWN	Substance Abuse	Drug/Alcohol Dependence
CD-10	F15.92	Psychiatry	Addiction/Chemical Dependency	OTH STIMULANT USE, UNSP W INTOX W PERCEPTUAL DIS	UNKNOWN	Substance Abuse	Drug/Alcohol Dependence
CD-10	F15.92	Psychiatry	Addiction/Chemical Dependency	OTHER STIMULANT USE, UNSP WITH INTOXICATION, UNS	UNKNOWN	Substance Abuse	Drug/Alcohol Dependence
CD-10	F15.93	Psychiatry	Addiction/Chemical Dependency	OTHER STIMULANT USE, UNSPECIFIED WITH WITHDRAWA	UNKNOWN	Substance Abuse	Drug/Alcohol Dependence

Data / Domain: Analytics 30 Example
Behavioral Health Reports, Dashboards and Scorecards

Example 2

Behavioral Health Services - MH



Data / Domain: Analytics 30 Example
Behavioral Health Reports, Dashboards and Scorecards

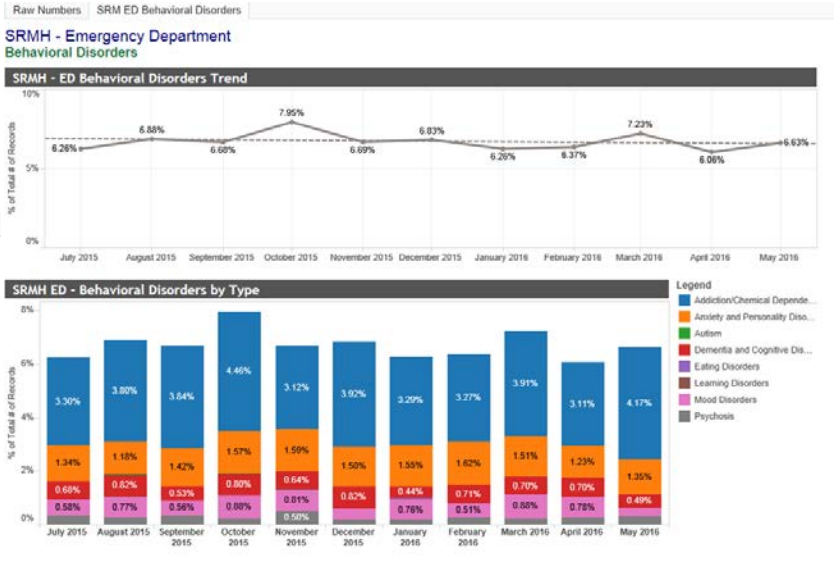
Example 2

Behavioral Disorders - SRM

Raw Numbers | SRM ED Behavioral Disorders

Month of Arrivaldate

Behavioral Disorders Custom	July 2015	August 2015	Septembe r 2015	October 2015	Novembe r 2015	Decembe r 2015	January 2016	February 2016	March 2016	April 2016	May 2016	Grand Total
Addiction/Chemical Depend..	131	148	152	168	112	144	134	129	156	119	170	1,563
Anxiety and Personality Dis..	53	46	56	59	57	55	63	64	60	47	55	615
Autism		1		1								2
Dementia and Cognitive Dis..	27	32	21	30	23	30	18	28	28	27	20	284
Eating Disorders							2					2
Learning Disorders		1			1							2
Mood Disorders	23	30	22	33	29	15	31	20	35	30	12	280
NA	3,716	3,628	3,690	3,464	3,348	3,426	3,818	3,688	3,698	3,599	3,804	39,879
Psychosis	14	10	13	8	18	7	7	10	9	9	13	118
Grand Total	3,964	3,896	3,954	3,763	3,588	3,677	4,073	3,939	3,986	3,831	4,074	42,745



Data / Domain: Analytics 30 Example Operating Room Dashboard

Example 3

Challenge

- Results of several research studies indicate that ORs account for about 35 percent of total hospital costs and 60 percent of revenues with utilization at roughly 70 percent.
- OR Director and Data Analysts are spending several hours each week/month pulling data and updating reports for OR Stats to send to Administration.
- Operating and financial metrics summaries not available in the same visualization for quick review.

Solution

- Develop a OR dashboard to provide comparative analysis of cases, surgical minutes, patient volume, & financial data with emphasis on service lines and payor dimensions.

Results

- Save time on weekly/monthly compilation of data.
- Provide easy access to more timely/real time data
- Help with operational decisions and improvements
- Give greater visibility of how we're tracking and where to focus to achieve budgetary goals.

Analytics 30 Example: View 1 - Summary View Drill Down

Example 3

- For E.g. Clicking on the “General” Service Line will update table below to Volume by table metric type “Payor”
- Annual Averages, Volume % of Total and Year-over-Year % difference metrics available for quick comparison.

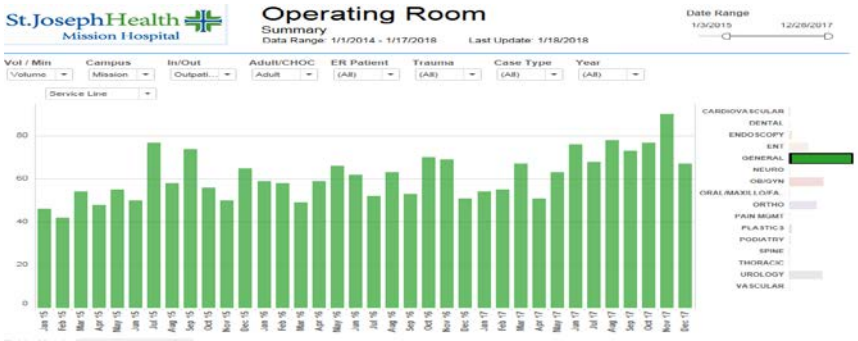


Table Metric: Payor

Selected Table Metric	Totals 2015	Totals 2016	Totals 2017	Averages 2015	Averages 2016	Averages 2017	% of Total Totals along Table (Down) 2015	% of Total Totals along Table (Down) 2016	% of Total Totals along Table (Down) 2017	% Difference in Totals from the Previous along Table (Across) 2015	% Difference in Totals from the Previous along Table (Across) 2016	% Difference in Totals from the Previous along Table (Across) 2017
Covered CA	40	56	56	3.3	4.7	4.7	5.9%	7.9%	6.8%		40.0%	0.0%
Medi-Cal	30	36	27	2.5	3.0	2.3	4.4%	5.1%	3.3%		20.0%	(25.0%)
Medi-Cal Mgd	87	106	72	7.3	8.8	6.0	12.9%	14.9%	8.8%		21.8%	(32.1%)
Medicare	142	153	204	11.8	12.8	17.0	21.0%	21.5%	24.9%		7.7%	33.3%
MHAP	15	26	37	1.3	2.4	3.1	2.2%	3.7%	4.5%		73.3%	42.3%
MHMG	37	46	69	3.1	3.8	5.8	5.5%	6.5%	8.4%		24.3%	50.0%
Monarch	57	53	60	4.8	4.4	5.0	8.4%	7.5%	7.3%		(7.0%)	13.2%
Other	19	19	10	1.6	1.9	1.0	2.8%	2.7%	1.2%		0.0%	(47.4%)
Other HMO	81	68	79	6.8	5.7	6.6	12.0%	9.6%	9.6%		(16.0%)	16.2%
Other PPO	163	141	193	13.6	11.8	16.1	24.1%	19.8%	23.6%		(13.5%)	36.9%
Self Pay	4	7	12	0.4	0.7	1.0	0.6%	1.0%	1.5%		75.0%	71.4%
Grand Total	**675**	**711**	**819**	**56.3**	**59.3**	**68.3**	**100.0%**	**100.0%**	**100.0%**		**5.3%**	**15.2%**

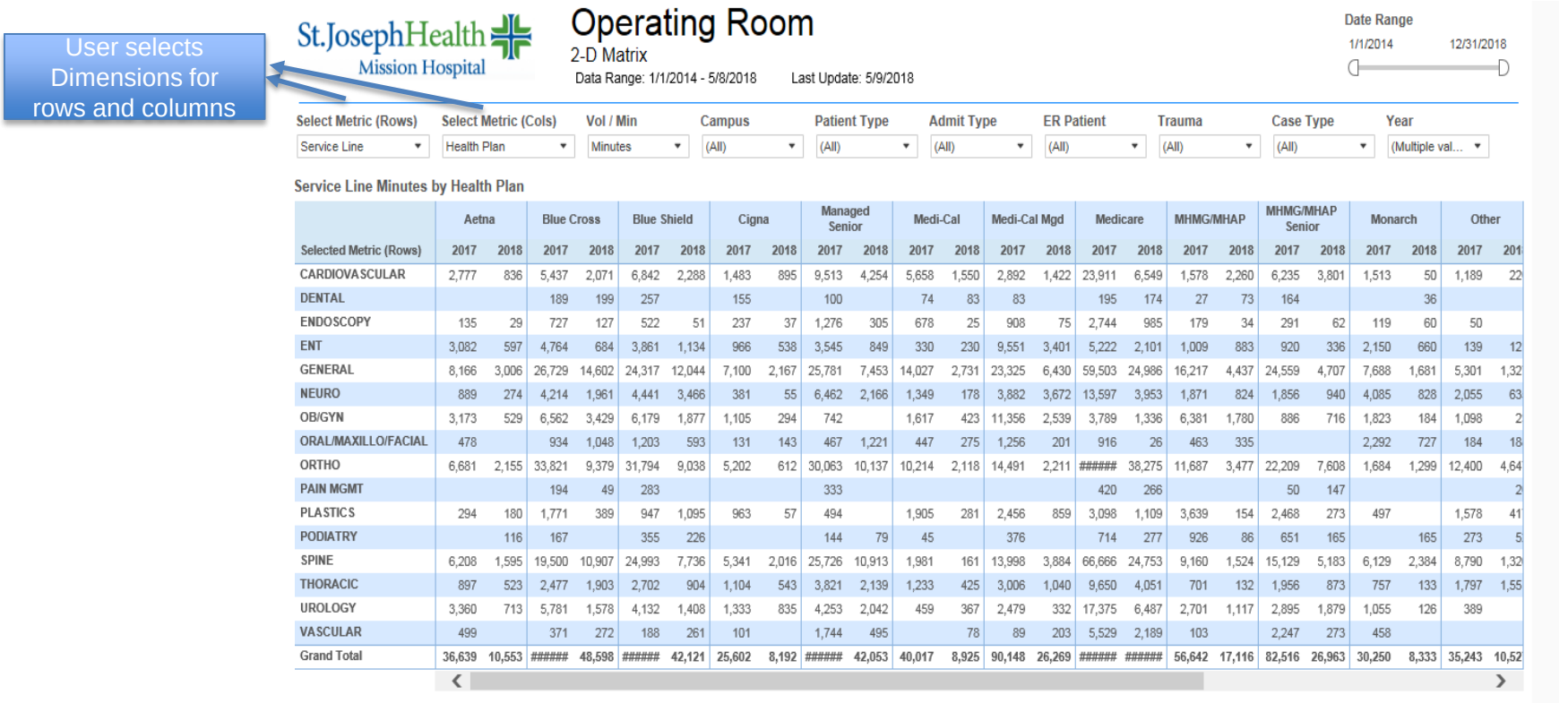
Providence St.Joseph Health

Analytics 30 Example: View 2 - 2-D Matrix Report

Example 3

- View is designed to display case volume or OR minutes for any user selected dimension.
- User can choose the dimension for Rows and Columns display for the selected metric.

User selects Dimensions for rows and columns



St. Joseph Health Mission Hospital

Operating Room

2-D Matrix

Data Range: 1/1/2014 - 5/8/2018 Last Update: 5/9/2018

Date Range 1/1/2014 12/31/2018

Select Metric (Rows)	Select Metric (Cols)	Vol / Min	Campus	Patient Type	Admit Type	ER Patient	Trauma	Case Type	Year
Service Line	Health Plan	Minutes	(All)	(All)	(All)	(All)	(All)	(All)	(Multiple val...

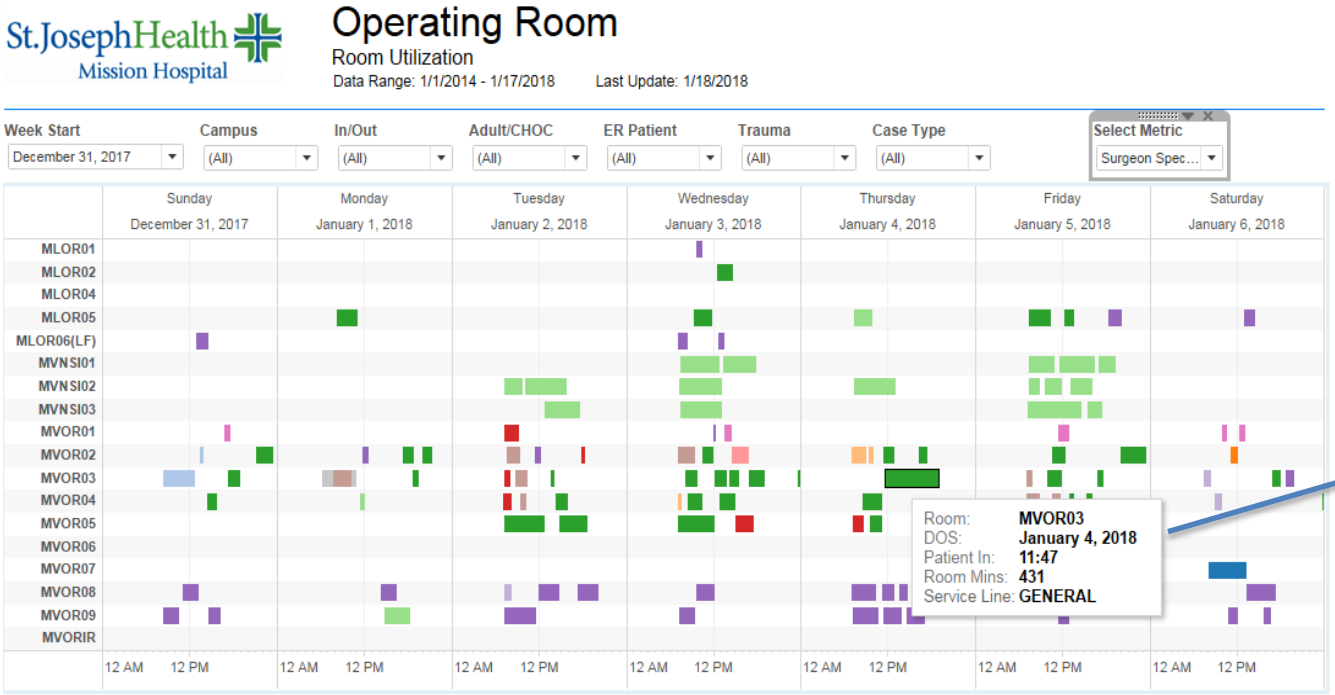
Service Line Minutes by Health Plan

	Aetna		Blue Cross		Blue Shield		Cigna		Managed Senior		Medi-Cal		Medi-Cal Mgd		Medicare		MHMG/MHAP		MHMG/MHAP Senior		Monarch		Other	
Selected Metric (Rows)	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	201
CARDIOVASCULAR	2,777	836	5,437	2,071	6,842	2,288	1,483	895	9,513	4,254	5,658	1,550	2,892	1,422	23,911	6,549	1,578	2,260	6,235	3,801	1,513	50	1,189	22
DENTAL			189	199	257		155		100		74	83	83		195	174	27	73	164			36		
ENDOSCOPY	135	29	727	127	522	51	237	37	1,276	305	678	25	908	75	2,744	985	179	34	291	62	119	60	50	
ENT	3,082	597	4,764	684	3,861	1,134	966	538	3,545	849	330	230	9,551	3,401	5,222	2,101	1,009	883	920	336	2,150	660	139	12
GENERAL	8,166	3,006	26,729	14,602	24,317	12,044	7,100	2,167	25,781	7,453	14,027	2,731	23,325	6,430	59,503	24,986	16,217	4,437	24,559	4,707	7,688	1,681	5,301	1,32
NEURO	889	274	4,214	1,961	4,441	3,466	381	55	6,462	2,166	1,349	178	3,882	3,672	13,597	3,953	1,871	824	1,856	940	4,085	828	2,055	63
OB/GYN	3,173	529	6,562	3,429	6,179	1,877	1,105	294	742		1,617	423	11,356	2,539	3,789	1,336	6,381	1,780	886	716	1,823	184	1,098	2
ORAL/MAXILLO/FACIAL	478		934	1,048	1,203	593	131	143	467	1,221	447	275	1,256	201	916	26	463	335			2,292	727	184	18
ORTHO	6,681	2,155	33,821	9,379	31,794	9,038	5,202	612	30,063	10,137	10,214	2,118	14,491	2,211	######	38,275	11,687	3,477	22,209	7,608	1,684	1,299	12,400	4,64
PAIN MGMT			194	49	283				333						420	266			50	147				2
PLASTICS	294	180	1,771	389	947	1,095	963	57	494		1,905	281	2,456	859	3,098	1,109	3,639	154	2,468	273	497		1,578	41
PODIATRY		116	167		355	226			144	79	45		376		714	277	926	86	651	165		165	273	5
SPINE	6,208	1,595	19,500	10,907	24,993	7,736	5,341	2,016	25,726	10,913	1,981	161	13,998	3,884	66,666	24,753	9,160	1,524	15,129	5,183	6,129	2,384	8,790	1,32
THORACIC	897	523	2,477	1,903	2,702	904	1,104	543	3,821	2,139	1,233	425	3,006	1,040	9,650	4,051	701	132	1,956	873	757	133	1,797	1,55
UROLOGY	3,360	713	5,781	1,578	4,132	1,408	1,333	835	4,253	2,042	459	367	2,479	332	17,375	6,487	2,701	1,117	2,895	1,879	1,055	126	389	
VASCULAR	499		371	272	188	261	101		1,744	495		78	89	203	5,529	2,189	103		2,247	273	458			
Grand Total	36,639	10,553	######	48,598	######	42,121	25,602	8,192	######	42,053	40,017	8,925	90,148	26,269	######	######	56,642	17,116	82,516	26,963	30,250	8,333	35,243	10,52

Analytics 30 Example: View 3 - Room Utilization Minutes

- 7 Day weekly display of operating room minutes by Room Mnemonic
- Bar length indicates number of minutes used by the Room.
- User has the ability to go back to historical weekly data

Example 3



Hovering on the bar chart shows room specific utilization details

Providence St.Joseph Health

Analytics 30 Example:
Executive Summary Year-over-Year Case Volume View

Example 3

	Cases		% of Cases			
	2017	2018	2017	2018	Chg	%Chg
CARDIOVASCULAR	7.0	9.0	2%	2%	2	29%
DENTAL		1.0		0%	1	
ENDOSCOPY	8.0	3.0	2%	1%	(5)	(63%)
ENT	25.0	24.0	7%	6%	(1)	(4%)
GENERAL	97.0	102.0	27%	27%	5	5%
NEURO	11.0	15.0	3%	4%	4	36%
OB/GYN	25.0	24.0	7%	6%	(1)	(4%)
ORAL/MAXILLO/FACIAL	1.0	4.0	0%	1%	3	300%
ORTHO	92.0	90.0	25%	23%	(2)	(2%)
PAIN MGMT	1.0	1.0	0%	0%	0	0%
PLASTICS	16.0	8.0	4%	2%	(8)	(50%)
PODIATRY	1.0	5.0	0%	1%	4	400%
SPINE	41.0	53.0	11%	14%	12	29%
THORACIC	13.0	14.0	4%	4%	1	8%
UROLOGY	25.0	27.0	7%	7%	2	8%
VASCULAR	1.0	3.0	0%	1%	2	200%
Grand Total	364.0	383.0	100%	100%	19	5%

1) Case Volume and % of Total Yearly Case Volume.
2) Change in case volume % for current and prior year.

Top 3 Service Lines: GENERAL ORTHO SPINE

Top 3 Service lines by Case Volume

Highest Change: SPINE 12

Lowest Change: PLASTICS (8)

Service line's with highest and lowest case volume change.

Analytics 30 Example: View 4 - Surgeon/Procedure Tree Map

Example 3

- Tree Map provides at a glance, the Volume and Average Contribution Margin by Surgeon.
- Size of the rectangles in the tree map is indicative of the Surgeon Volume
- Color is indicative of the Average Contribution Margin(Avg CM).

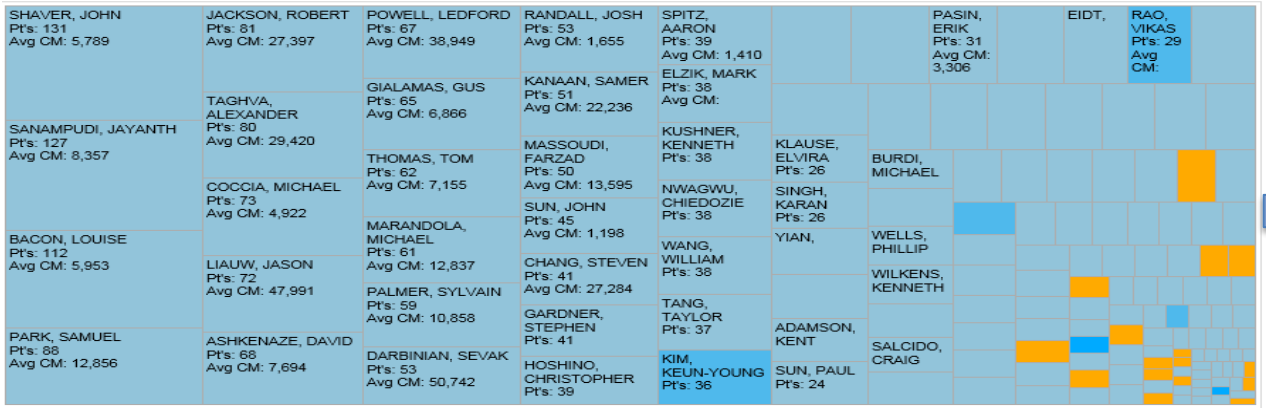
St.JosephHealth Mission Hospital

Operating Room

Surgeon/Procedure Breakdown

Data Range: 1/1/2014 - 5/9/2018 Last Update: 5/10/2018

Year: 2018 | In/Out: (All) | Campus: (All) | Adult/CHOC: (All) | ER Pt: (All) | Trauma: (All) | Service: (All)



AGG(Avg Contrib Mgn)

(49,759) 149,278

Surgeon Name	Procedure Service	Patients	Charges	Avg Charges	Direct Cost	Avg Direct Cost	Contrib Mgn	Avg Contrib Mgn	ALOS	GLOS	CMI
ABDOLLAHI, KARIM	GENERAL	2	121,317	60,658	1,461	730	42,711	21,356	3.5		
	ORTHO	26	1,691,990	65,077	166,528	6,405	70,641	2,717	3.0	2.6	1.64
	PODIATRY	2	143,401	71,701	19,483	9,742	21,285	10,642	6.0	6.3	2.39
	Total	**30**	**1,956,708**	**65,224**	**187,472**	**6,249**	**134,637**	**4,488**	**3.4**	**2.5**	**1.41**
ABEDI, ESRAFIL	ENT	5	173,165	34,633	13,943	2,789	(4,765)	(953)			
	Total	**5**	**173,165**	**34,633**	**13,943**	**2,789**	**(4,765)**	**(953)**			
ABRAVESH, SOODABEH (SUE)	GENERAL	2	87,854	43,927	10,293	5,147	29,602	14,801			
	OB/GYN	2	52,402	26,201	6,719	3,359	6,813	3,407			
	Total	**4**	**140,255**	**35,064**	**17,012**	**4,253**	**36,416**	**9,104**			

Click on Tree Map rectangles to see underlying Volume and Financial details by Surgeon and Procedure.

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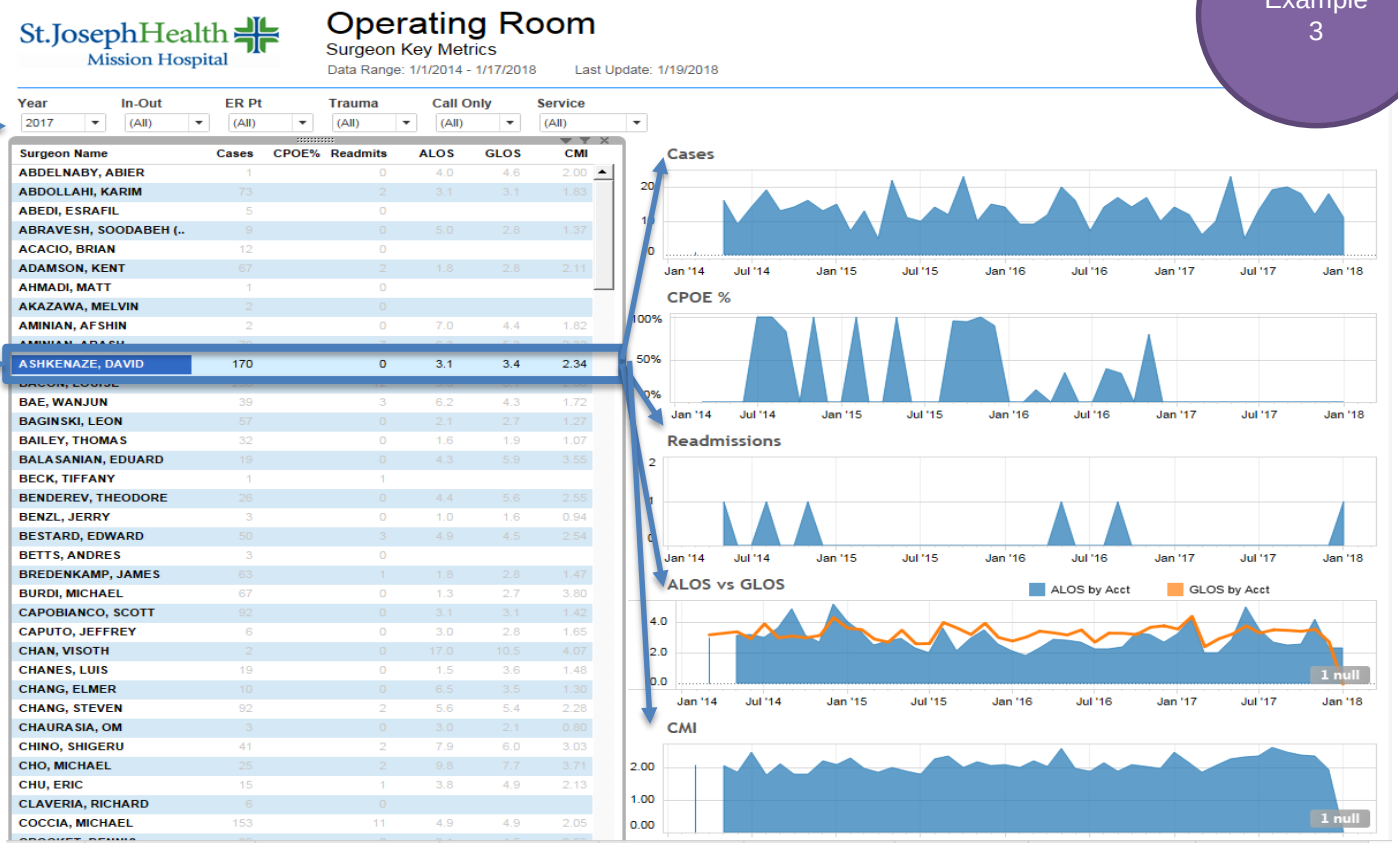
Analytics 30 Example: View 5 - Surgeon Key Metrics Dashboard

Example 3

Self-Service Filters

Clicking on Surgeon Name will display relevant Key Surgeon Metric values over time.



Analytics 30 Example:
SSI: Surgical Site Infections

Example 4

What is an SSI?

A surgical site infection (SSI) is an infection that occurs after surgery in the part of the body where the surgery took place. Many SSIs are superficial infections involving the skin only. Other surgical site infections are more serious and involve tissues under the skin (“deep”), organs (“organ space”), or implanted material (such as following hip or knee replacement surgery), and usually result in continued or rehospitalization.

https://www.cdph.ca.gov/Programs/CHCQ/HAI/CDPH%20Document%20Library/4_SSI.Prevention_Approved10.09.17-ADA.pdf

Analytics 30 Example: SSI Reports

Example 4

Report	Source	Link
SSI_DataValidation_HAI_ReadmissionIndex	Cognos	http://reports-prod.stjoe.org/ibmcognos/bi/?pathRef=.public_folders%2FData+Delivery%2FCorporate+Standard+Reports%2FClinical%2FInfection+Control%2FSSI_DataValidation_HAI_ReAdmissionIndex&format=spreadsheetML&prompt=true&action=run
SSI_DataValidation_HAI_AdmissionIndex	Cognos	http://reports-prod.stjoe.org/ibmcognos/bi/?pathRef=.public_folders%2FData+Delivery%2FCorporate+Standard+Reports%2FClinical%2FInfection+Control%2FSSI_DataValidation_HAI_AdmissionIndex&format=spreadsheetML&prompt=true&action=run
SSI_DataValidation_CPT_ReAdmissionIndex *(new)*	Cognos	http://reports-prod.stjoe.org/ibmcognos/bi/?pathRef=.public_folders%2FData+Delivery%2FCorporate+Standard+Reports%2FClinical%2FInfection+Control%2FSSI_DataValidation_CPT_ReAdmissionIndex&format=HTML&prompt=true&action=run
SSI_DataValidation_HAI_Antibiotic	Cognos	http://reports-prod.stjoe.org/ibmcognos/bi/?pathRef=.public_folders%2FData+Delivery%2FCorporate+Standard+Reports%2FClinical%2FInfection+Control%2FSSI_DataValidation_HAI_AntiBiotic&format=spreadsheetML&prompt=true&action=run

How Data is used?

Example 5

Mandated by CDPH to monitor specific surgeries with specific diagnoses. Specifications and recommendations provided by CDPH

1. Infection Prevention (IP) run SSI reports on a monthly basis, then review each patient to see if they meet criteria for CDPH. If they do, then information is submitted to NHSN data base (CMS & CDPH use this data. CDC owns the NHSN data

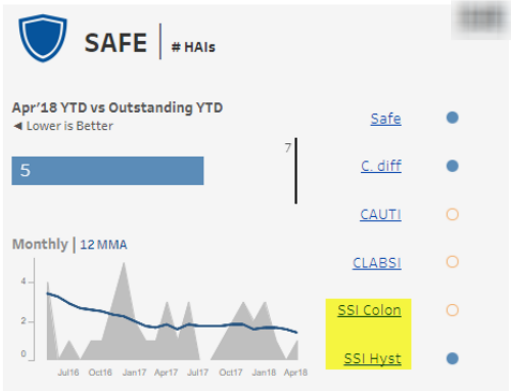
2. If infection rate is high, ministry will implement an Action Plan* –E.g., Quality Tracker and Improvement Plan (Q TIP)

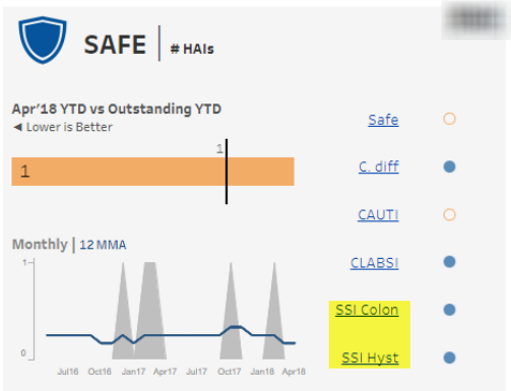
Specific to ministry

2018 QUALITY TRACKER AND IMPROVEMENT PLAN (Q TIP)

Ministry:	**Date: June 30th, 2018**
Metric: HAI infection prevention	**Metric Owner:**
Actual: met the goal; did not meet the goal	**Physician Sponsor:**
Target: SIR < 1 for all HAI categories	**Executive Sponsor:**
Data Source: Tableau, NHSN	**Committee/Taskforce Responsibility: Infection prevention**

Current State





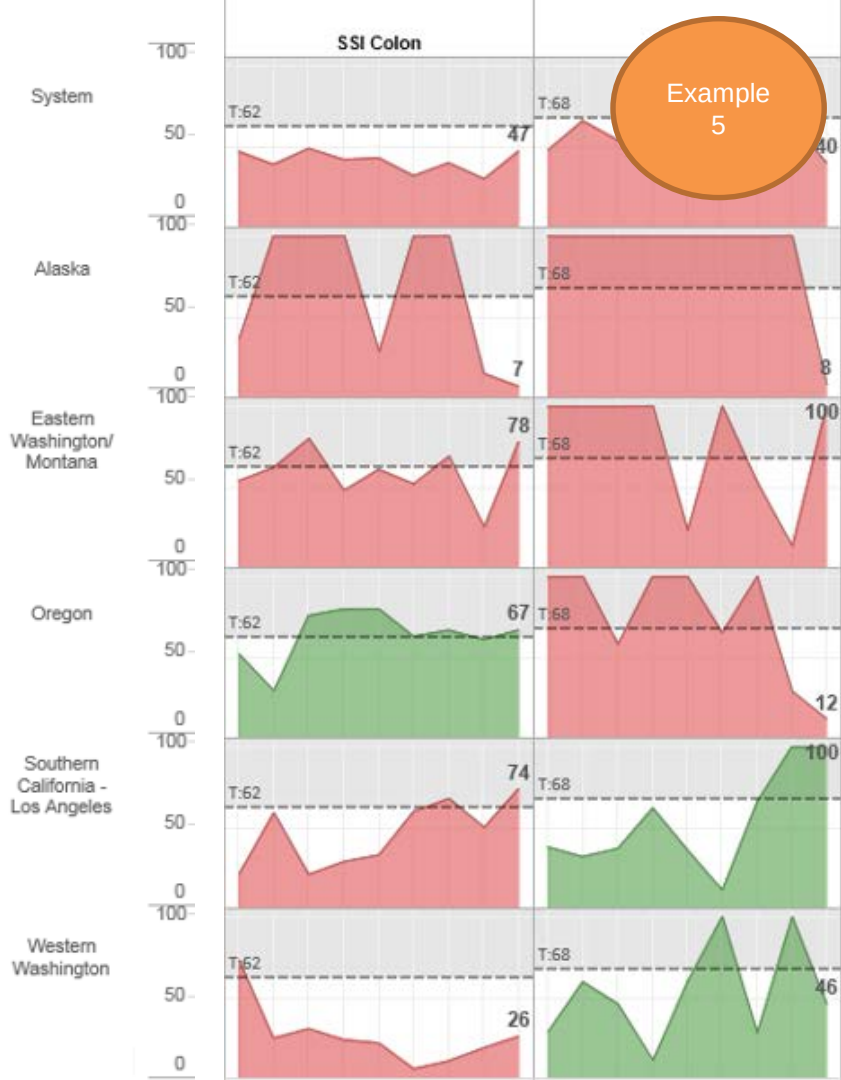
	C. diff	CAUTI	CLABSI	SSI Colon	SSI Hyst	C. diff	CAUTI	CLABSI	SSI Colon	SSI Hyst
April 2018 HAI	0	1	0	0	0	0	0	0	0	0
May 2017 - Apr 2018 HAI	5	4	2	6	0	0	2	0	0	0
May 2017 - Apr 2018 SIR	0.416**	1.031	0.687	3.136	0	0	*	0	0	0

Analytics 30 Example: Future SSI Reports/Dashboards

Providence Health & Service -Inpatient Quality (IPQ) Dashboard

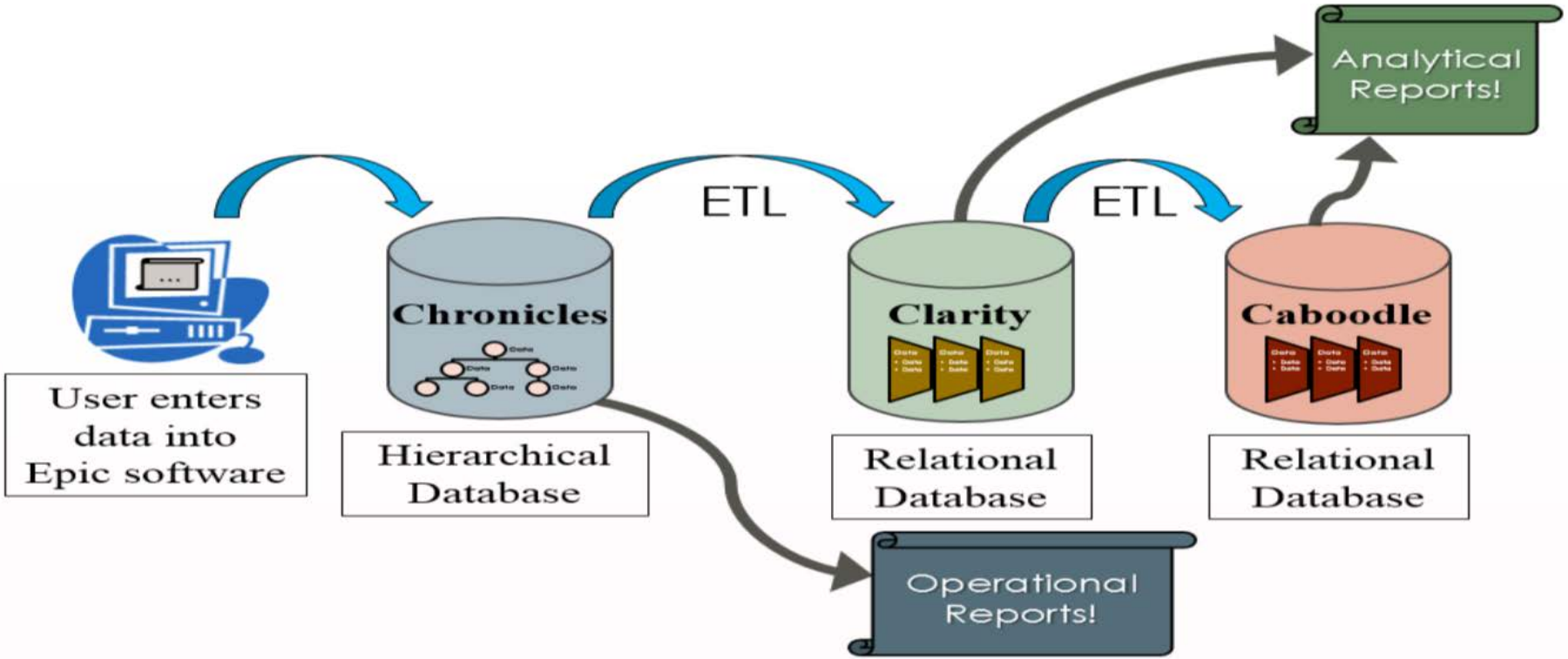
Currently set up for Providence only, SJH to be added in future

https://tableauserver.providence.org/#/workbooks/38565/views



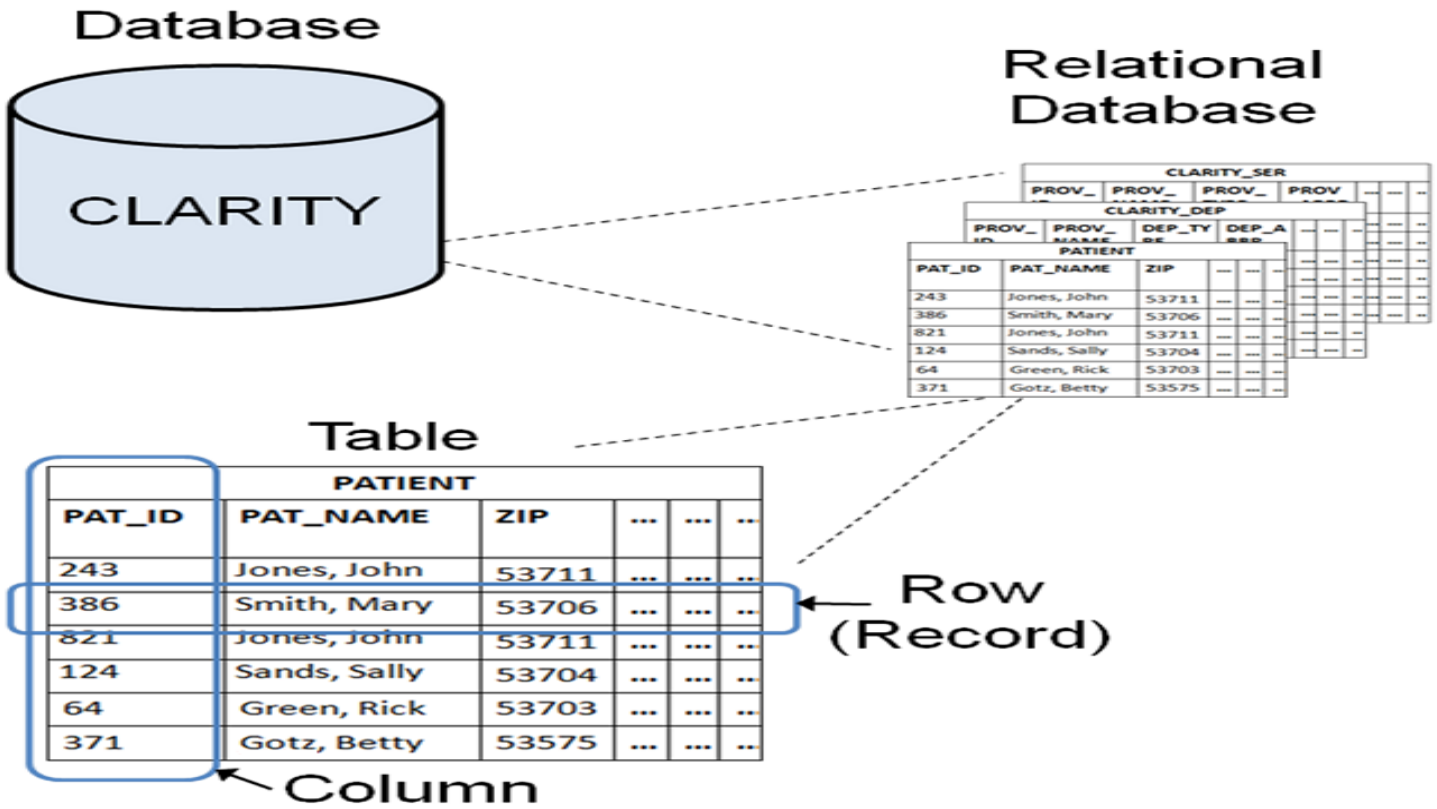
Analytics 30 Example: Epic to Clarity Overview

Example 6



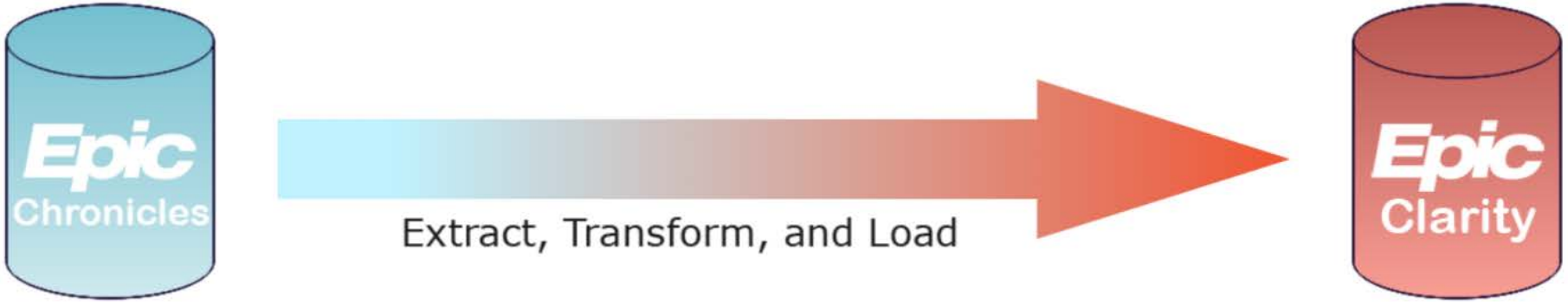
Analytics 30 Example:
Epic Clarity – Relational data structure

Example 6



Analytics 30 Example:
What is ETL? And how does it work?

Example 6



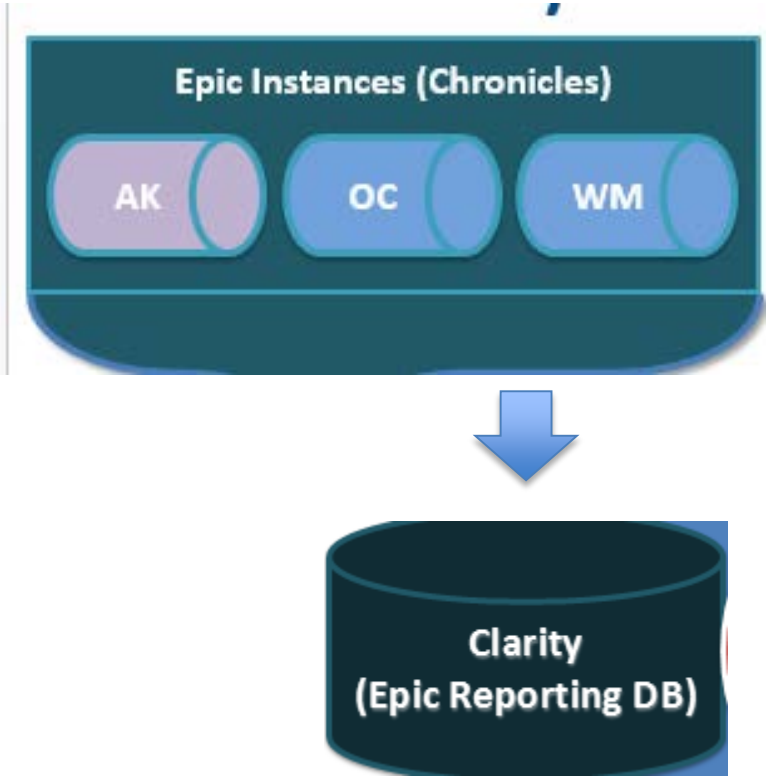
Full:
- Mostly static data
- All data extracted, overwritten every time
- Typically weekly
- Example: BED master file

Incremental:
- Particularly dynamic data
- Only the data that has changed is extracted/loaded
- Typically daily
- Example: EPT master file

Analytics 30 Example: Epic to Clarity - Instances

Example 6

- 3 Epic Instances
  - Alaska – AK
  - Oregon / California – OC
  - Washington / Montana – WM

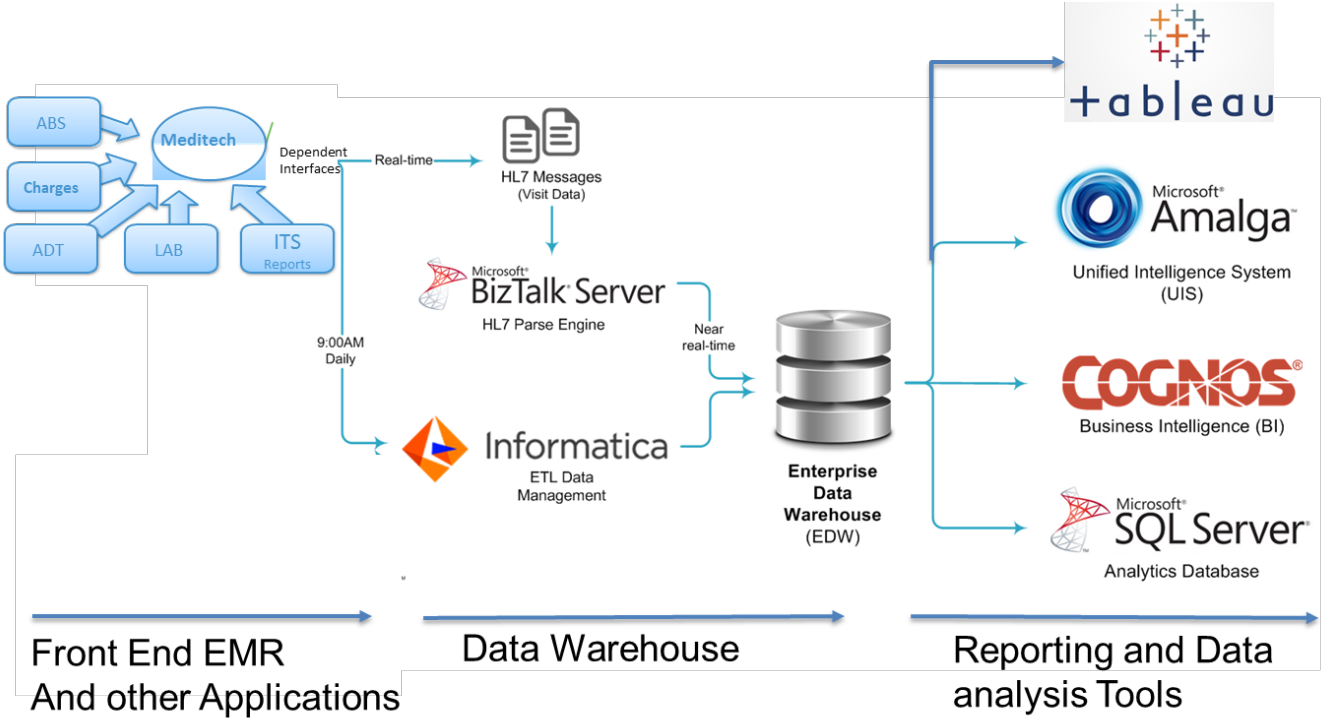


- Nightly ETL into 1 Clarity DB

Example 6

Database: EDW Introductory training

Web-based, short 30 minute overview designed to help you determine which EDW applications or tools best address your business/clinical need



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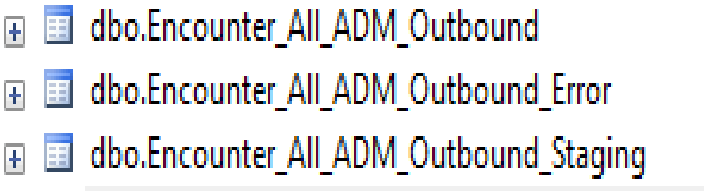
Database : Clinical/ Financial Analytics DBs

Example 7

- Analytics Database created for Self Service Reporting
- Analytics Database is split into 2 areas:
  - Clinical – Contains Clinical data
  - Financial – Contains Financial data
- Analytics Database has 3 Tables for each set of data:
  - Outbound: Contains Transformed data
  - Error: Contains records that errored out and did not make it to Outbound table
  - Staging: Data from EDW is extracted and transformed before loading to Outbound tables
- Example:



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Database : Clinical Analytics

Example 7

Table	Definition
DiagEnc_ALL_ADM_Outbound	Has Diagnosis data for all Encounters by Admit Date
CPTEnc_All_Adm_Outbound	Has CPT Data for Encounters by Admit Date
CPT_MDR_CPTDATE_Outbound	Has CPT data for Visits by CPT Date
Validation ABS AdmVisitOrders_Outbound	Visit order data
ProcEncounter_ALL_ADM_Outbound	Has Procedures data for all Encounters
MCPathBBPt_All_ADM_Outbound	Has Pathology and Blood Bank data for admitted patients
ENCOUNTERS_PHYS_MDR_ADM_Outbound	Physician data for all Encounters by Admit Date
Encounter_All_ADM_Outbound	Encounter data by Admit Date
QryIntVisitPT_All_Activity_Outbound	Contains Query level data for Inpatient Visits
MedAdminMAR_All_Adm_Outbound	Data for Medications Administered by Admit Date
AdmVisits_Outbound	Data for Admitted patients
EDM_EdMetricsStandard_Tbl	Data for ED Metrics and Events Dashboard
ADMVisit_ALL_Insurance_Guarantor_Outbound	Has Insurance data for Admitted patient visits
LabEnc_LabOrders_Dis_Outbound	Has Lab and Orders data combined for all Encounters by Discharged Date
ORProc_NHSN_Proc_Outbound	Has OR Procedures data by Procedure Date

Example 7

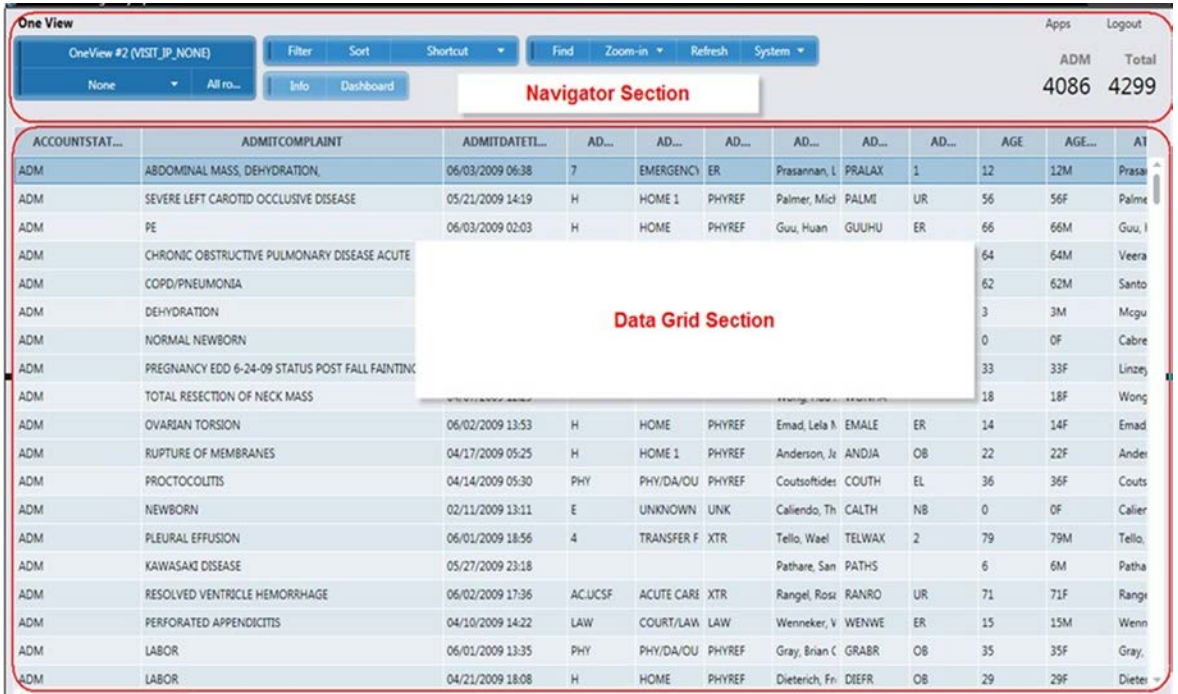
Database : Financial Analytics

Table	Definition
BarBchTxnItems_Payment_Outbound	Transactional data for Payments from BAR
BarBchTxnItems_Charge_Outbound	Transactional data for Charges from BAR
BarBchTxnItems_Adjust_Outbound	Transactional data for Adjustments from BAR
SJHS_CHGCOST_ENCOUNTER_ADM_HHF_Outbound_Archive	Charges and Cost data foe Heritage Encounters
EMPI	EMPI (Enterprise Master Patient Index) from IDX
Dictionary_ChargeMaster_PMM_Crosswalk_Outbound	Crosswalk between Charge Master and PMM data (Items and Charge Codes)
BarUniqueClaimReferenceData_Outbound	Claims and Insurance data from BAR
SJHS_ChgCostSumVisitPt_All_Adm_HHF_Outbound	Charges and Cost realted to Visits for Heritage
SJHS_CHGCOST_ENCOUNTER_ADM_HHF_Outbound_20170417	Charges and Cost realted to Encounter for Heritage
SJHS_CHGCOST_ENCOUNTER_ADM_Outbound	Charges and Cost related to Encounters

Example 8

Reporting Tools : Amalga Hospital training

Web-based, interactive and in-depth, two part course designed to help you create customized views, to quickly and easily access the patient data you need. Amalga Hospital gives you timely inpatient and outpatient data in one place, enabling you to make more informed decisions you will benefit from the most.



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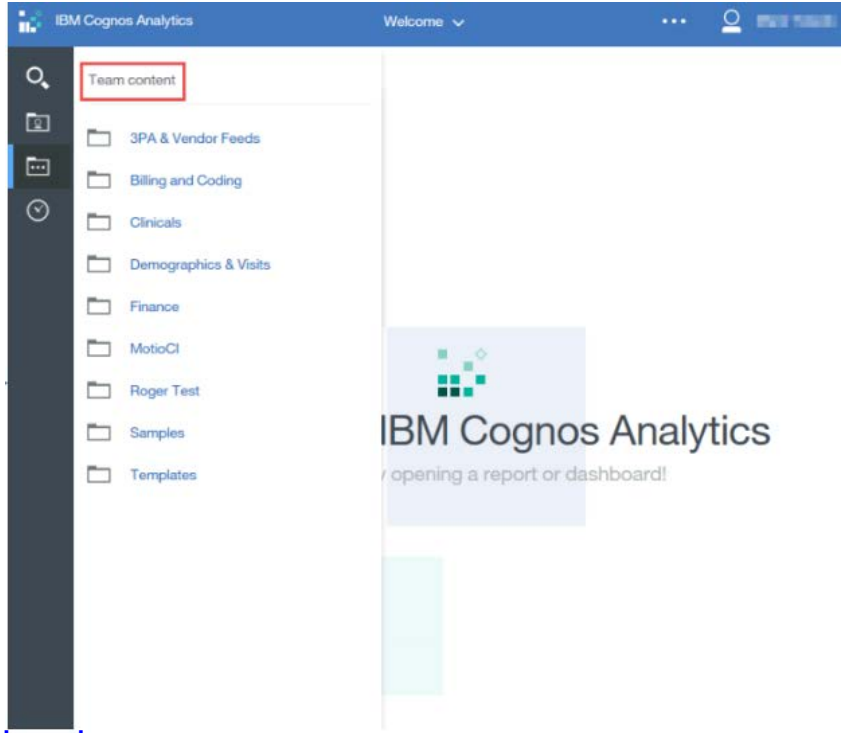
Example 9

Reporting Tools : Cognos training

Web-based, short 30 minute overview designed to go over IBM Cognos platform, reports and underlying features for user/team's reporting needs.

- Faster report generation
- Organization and grouping by departments (global)
- User acceptance testing environment access
- Test new reports in development and provide feedback and validates update/fixes to existing reports before they are promoted to production



http://reports-prod.stjoe.org/ibmcognos/bi/?perspective=home

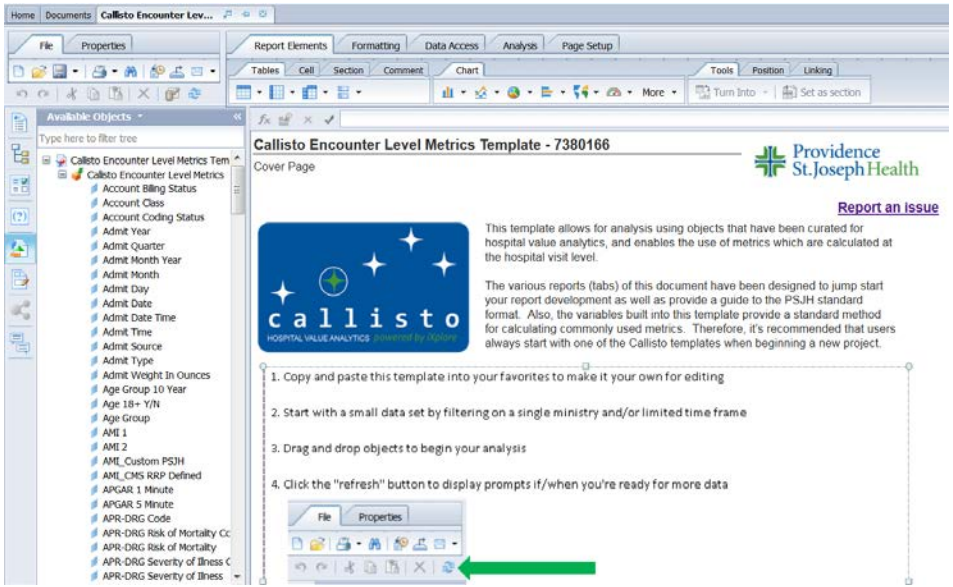
St. Joseph Health

Example 10

Reporting Tools : Web Intelligence (WebI)

Virtual as well as on-site trainings ranging from 4hrs to whole-day designed to go over SAP Web Intelligence reporting tool to build, view and share reports

- Drag and drop reporting and analytics tool
- Create and develop Ad Hoc reports with Healthcare Intelligence (HI) data
- Self-service reporting tool



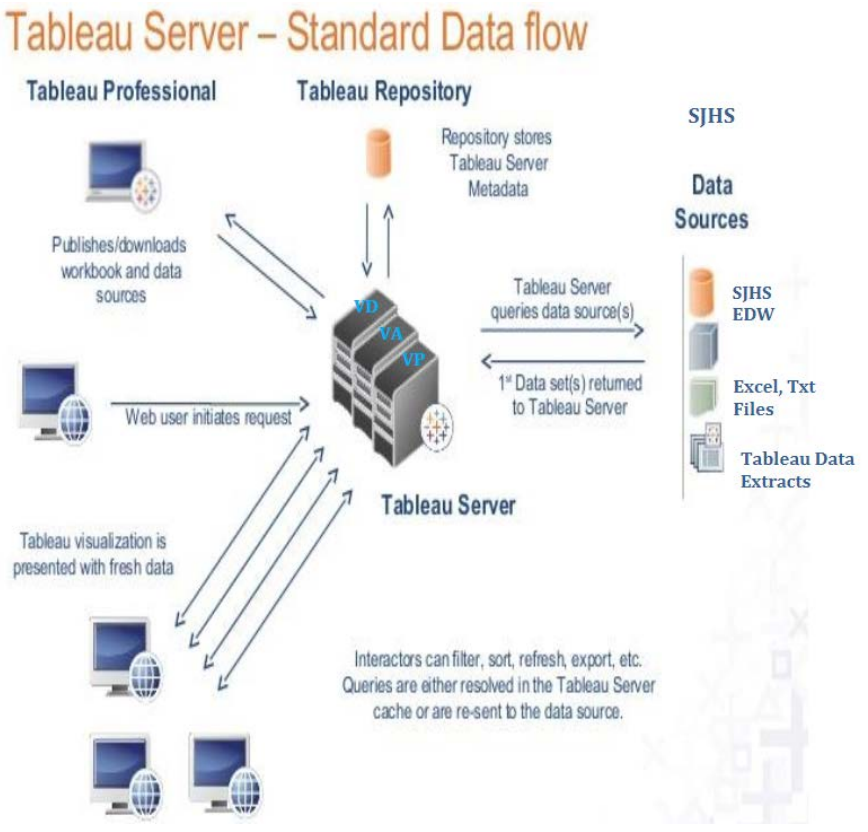
https://hilaunchpad.providence.org/BOE/BI

Example 11

Visualization Tools: Tableau - SJH Implementation

Web-based, hour-long session for SJH Tableau desktop license holders and publishers covering enterprise Tableau server environment and dashboard publication standards

- Overview SJH Tableau Serve environment
- How to request Tableau License
- Tableau Site/Project Access Provisioning
- Standardized Dashboard at SJH
- Creating Dashboard from Excel file
- Defining Metadata for Dashboards
- Publishing Tableau Data Sources to SJH Server
- Publishing Tableau Dashboard to SJH Server
- Tableau Data sources at SJH
- Training resources http://tabapp001-vp/#/projects



Knowledge is Power!

In organizational theory,
knowledge transfer
is the practical problem of
transferring knowledge from
one part of the organization to another.

Like knowledge management,
knowledge transfer
seeks to organize, create, capture or distribute knowledge and ensure its availability for future users.

It is considered to be more than just a communication problem.

en.wikipedia.org/wiki/Knowledge_transfer

Providence St.Joseph Health

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