Building and Growing Data Services

In Your Organization

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Malcolm Baldrige National Quality Award
2011 Award Recipient

Alaska Native People Shaping Health Care

Southcentral Foundation

Objectives

- Review Southcentral Foundation's journey to building a Data Services Department using Baldrige's Approach, Deployment, Learning, Integrate (ADLI) method.
- Provide key steps to consider when building or growing your own Data Services Department
- Define new approach to prioritizing work with Data Stewards and Data/ Information Request Tool (DIRT)
- Preparing for Data Services of the future

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Goals

S hared Responsibility

C ommitment to Quality

F amily Wellness

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Customer Ownership










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Operational Principles

R **elationships** between customer-owner, family and provider must be fostered and supported

E **mphasis** on wellness of the whole person, family and community (physical, mental, emotional and spiritual wellness)

L **ocations** convenient for customer-owners with minimal stops to get all their needs addressed

A **ccess** optimized and waiting times limited

T **ogether** with the customer-owner as an active partner

I **ntentional** whole-system design to maximize coordination and minimize duplication

O **utcome** and process measures continuously evaluated and improved

N **ot** complicated but simple and easy to use

S **ervices** financially sustainable and viable

H **ub** of the system is the family

I **nterests** of customer-owners drive the system to determine what we do and how we do it

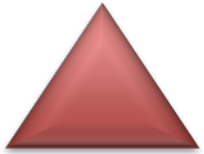
P **opulation-Based** systems and services

S **ervices** and systems build on the strengths of Alaska Native cultures

Core Concepts

Work together in relationship to learn and grow
E ncourage understanding
L isten with an open mind
L augh and enjoy humor throughout the day
N otice the dignity and value of ourselves and others
E ngage others with compassion
S hare our stories and our hearts
S trive to honor and respect ourselves and others

Relational Styles Defined



- Bottom-line focused
- Don't care about the details
- Tell me what you need, and let me do it!

- "People people"
- Love committees and teams
- Warm and fuzzy

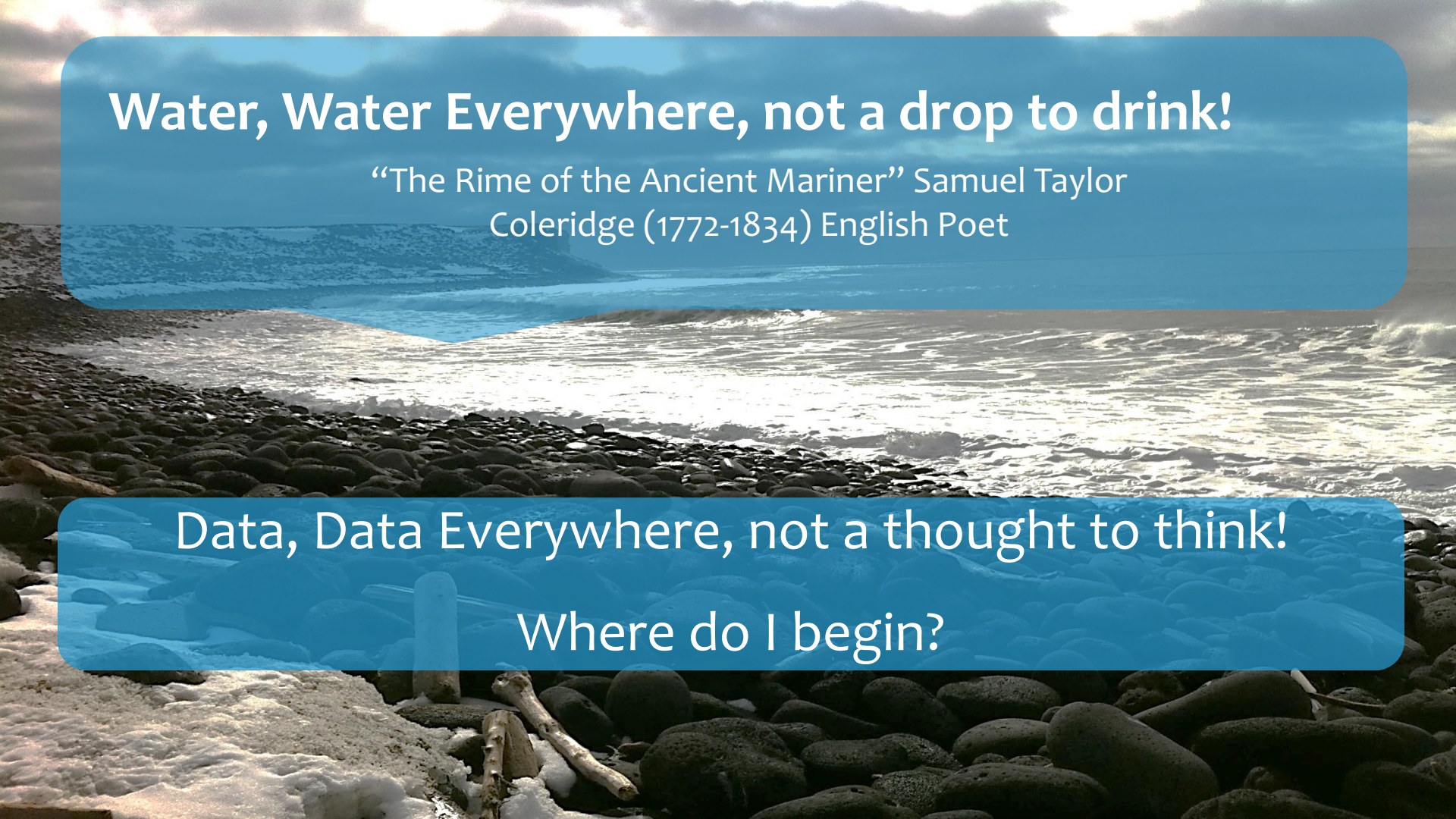
- Greatest visionaries
- Very creative
- Usually very neat

- Hard workers – task oriented
- Structured/organized
- Prefer to work alone
- Love details

Data Services is not IT

- Data Services and IT are not the same!!
- They are partners in a process
- IT Role
  - Maintain hardware (servers, desktop comp., etc.)
  - Focused on data collection and storage
  - Intranet
  - Data security and access
  - Transactional System (EHR) functionality

Data Services Role:
Create Actionable Information


Water, Water Everywhere, not a drop to drink!
"The Rime of the Ancient Mariner" Samuel Taylor Coleridge (1772-1834) English Poet
Data, Data Everywhere, not a thought to think!
Where do I begin?

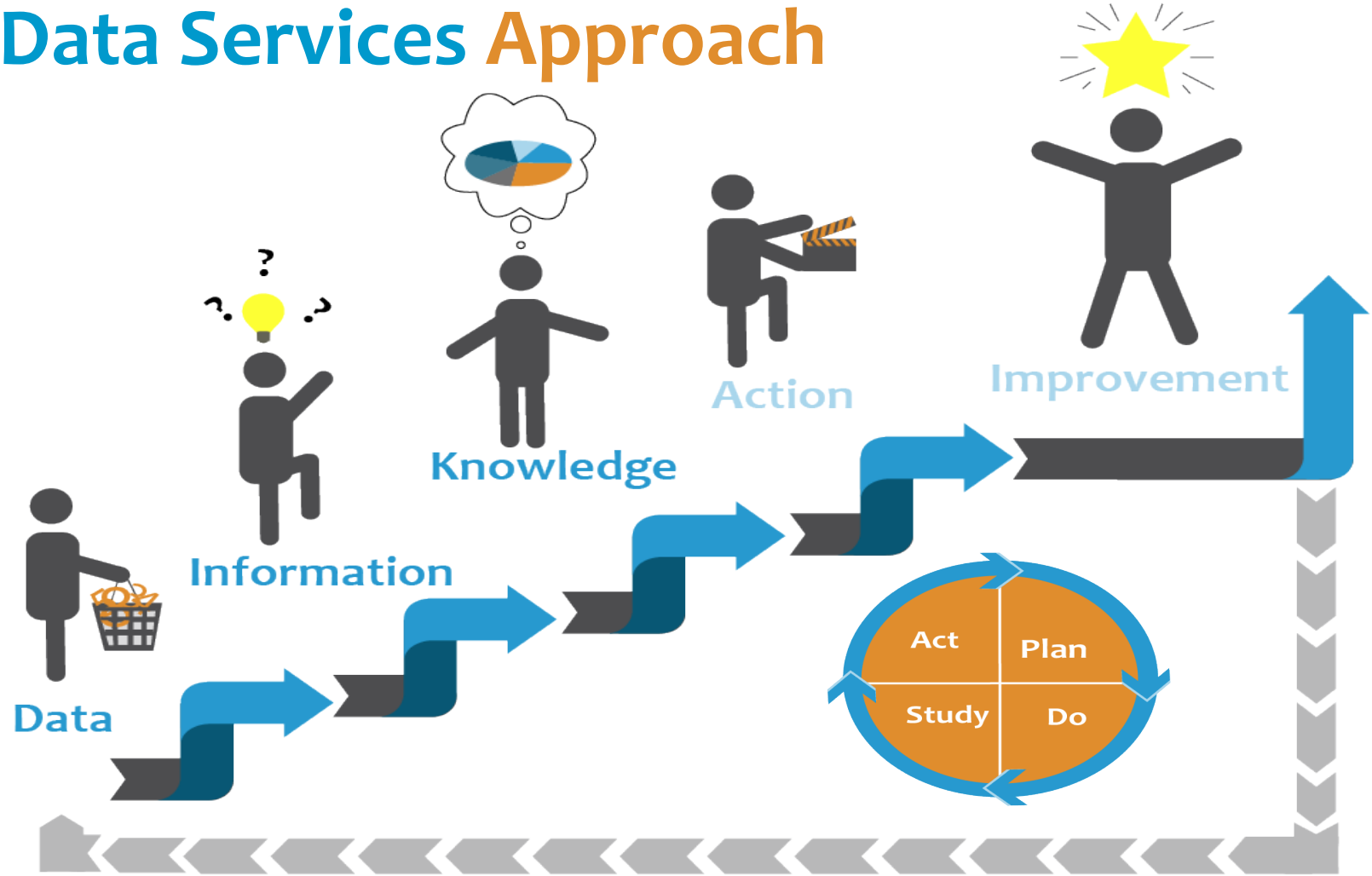
SCF Data Services Past

- **Fragmented**
  - Data & Analysts not centralized
- **Lack of Standardization and Governance**
- **Understaffed & Resourced**
  - 2 Analysts operating individually/ Departments feeling left out
- **Data Dissemination Not Organized or Timely**
  - Not segmented, not web-based, not automated
- **Reactive, Not Proactive**
  - Based on individual prioritization, not organization.
- **Primarily a function of Information Technology (IT)**
- **Empanelment to a Primary Care Provider**
  - *Positive aspect* we wanted to carry forward
  - More commonly known as *Patient Centered Medical Home (PCMH)*

SCF Data Services Today

- Centralization of Data (Data Marts)
  - Major operating systems combine select data into one data warehouse
- Empanelment, cohort groups
- Efficient coding and query practices
  - Master methods reference tables
- Highly Trained Analysts Working Together
  - Clinical/Operational/Financial knowledge combined with technical skills
- Data Stewards determine priorities
  - Data, information request tool (DIRT)
  - Data Collection / Analysis Aligned with Objectives and Process Improvement
- Communication between IT/IM/Clinical/Business
- Have an **Approach**, **Deploy** It, **Learn** from it, **Integrate** it (**ADLI**)

Data Services Approach



REPORTS | MY BOOKMARKS | MY MOST USED | TOOLS | ADMIN TOOLS

You are here: Reports

Search Data Mall

Browse Data Mall

Expanded View

- Behavioral Health 42CFR
- Behavioral Health
- Customer Perspective
- Dental
- FHR
- Finance
- HBS
- Meaningful Use Performance Measures
- Operations
- Organizational Development and Innovation
- Population Based Action Lists
- Population-Based Performance Measures
- Tribal Services
- VA Customer-Owners
- Wellness Care Customer-Owners

SCF Data Mall
Deploying our Approach

For report access & other inquiries, contact the SCF Data Services Team (SCFDataReview@SouthcentralFoundation.com | 907.729.5498)

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HEDIS Breast Cancer Screening Scores

Breast Cancer Screening Rates as of: 6/18/2016

2015 HEDIS Medicaid Benchmark 75th Percentile = 66.02% Methodology

Organization	Clinic	Provider	Numerator	Denominator	% Screened
SCF			**3072**	**4488**	**68.4**
	⊟ **1 East**		**435**	**626**	**69.5**
		Carrick, Erin P, PA-C	40	68	58.8
		Heggen, Leslie N, PA	74	125	59.2
		Leoncio, Ferritha A, MD	83	109	76.1
		Mcwilliams, Ryan T, MD	87	115	75.7
		Ott, Laurie A, PA-C	80	115	69.6
		Zimmer, Laurie E, MD	71	94	75.5
	⊞ **1 West**		**499**	**719**	**69.4**
	⊞ **2 East**		**427**	**626**	**68.2**
	⊞ **2 West**		**395**	**593**	**66.6**
	⊞ **3 East**		**395**	**551**	**71.7**
	⊞ **3 West**		**353**	**538**	**65.6**
	⊞ **Indian Creek Health Center**		**16**	**21**	**76.2**
	⊞ **Life House Rural CHC**		**5**	**30**	**16.7**
	⊞ **Nilavena**		**54**	**74**	**73.0**
	⊞ **Pediatrics**		**0**	**0**	**0**
	⊞ **Quyana Clubhouse**		**2**	**4**	**50.0**
	⊞ **St. Paul Health Center**		**33**	**43**	**76.7**
	⊞ **Upper Kuskokwim**		**40**	**61**	**65.6**
	⊞ **VNPCC East**		**202**	**311**	**65.0**
	⊞ **VNPCC West**		**216**	**291**	**74.2**

SCF Data Mall

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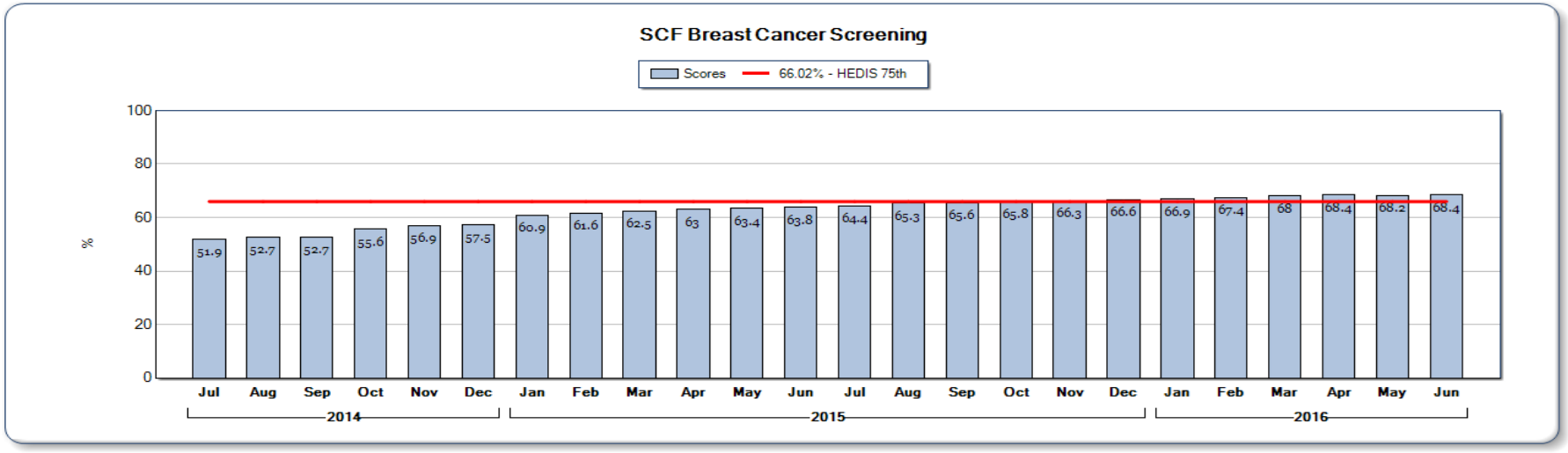
HEDIS Breast Cancer Screening Scores



Better

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Learning from our Approach

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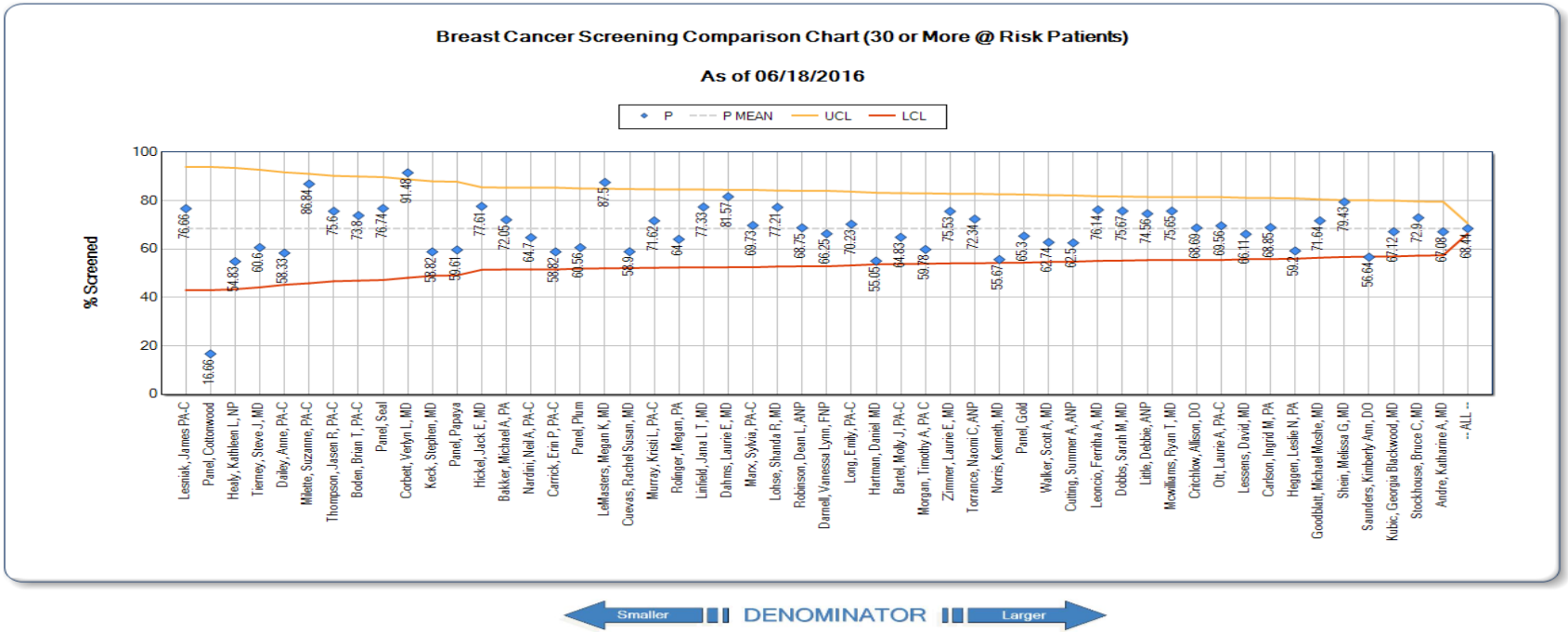
HEDIS Breast Cancer Screening Scores



SCF Data Mall Integrating Knowledge into Action

Diabetes Action List

Links to Documentation: Report Methodology

Data Resolution/Error Correction Process

Diabetic Patient Status as of Week Ending: 3/13/2009

HRCN	Patient	New Diabetic (< 90 Days) *Click Link to see Diagnosis Details!*	Sex	Age	HBA1C Result	HBA1C Date	Most Recent LDL Result	LDL Date
Ko, Patricia A		Total Diabetic Patients: 47						
72048	Abbasi, Darren	No	M	71	5.8	2009/01/13	67	2009/01/13
42457	Abell, Frederick	No	M	67	6.3	2009/03/06	86	2009/03/06
12916	Allen, Marcus	No	M	82	6.4	2008/06/03	129	2008/06/03
72098	Armston, George	No	M	81	5.3	2008/12/01	90	2008/12/01
1192	Bark, Samuel	No	M	85	6.9	2009/01/22	110	2009/01/22
45979	Bevis, Michael	No	M	76	5.7	2009/03/09	79	2009/03/09
32158	Black, Lewis	No	M	36	6.3	2009/03/03	116	2008/11/15
19202	Caldwell, Charlotte	No	F	80	5.8	2009/02/23	93	2009/02/23
84893	Evarza, Wallace	No	M	40	5.7	2008/06/24	113	2008/06/24
61328	Ferris, Adam	No	M	40	6.8	2009/02/12	86	2009/02/12
19492	Gafford, Joseph	No	M	41	6.3	2008/03/31	64	2008/03/31

Fictitious customer-owner information


Building Data Services
Step by Step Approach

Step 1: Build Relationships

- Understand who you're key stakeholders are and build working relationships with them
  - Value the differences and strengths each of your voices bring
- Understand stakeholders needs and how your efforts and output will help meet those needs
  - Executives, Managers, Front-end Staff, Customers
  - Regulatory requirements & grants
  - Operational needs
- Who are the "Data Stewards" in your organization?
  - How do you communicate with them and build relationships?

Step 2: Stakeholder Needs

- **Executive staff**
  - How well are we doing with corporate objectives?
  - Are we meeting our targets?
- **Front line staff**
  - Do I have the information tools I need to proactively do my work?
  - Do the information tools?
    - ✓ Save me time?
- **Customers**
  - I want to take a more active role in my health and wellness
  - I'm in control of my healthcare
    - ✓ Shared decision making is between me and my healthcare team
  - I want tools that give me access to my information
- **Managers**
  - Are there variations occurring in our processes and how can I identify it?

Step 3: Leadership Buy-In

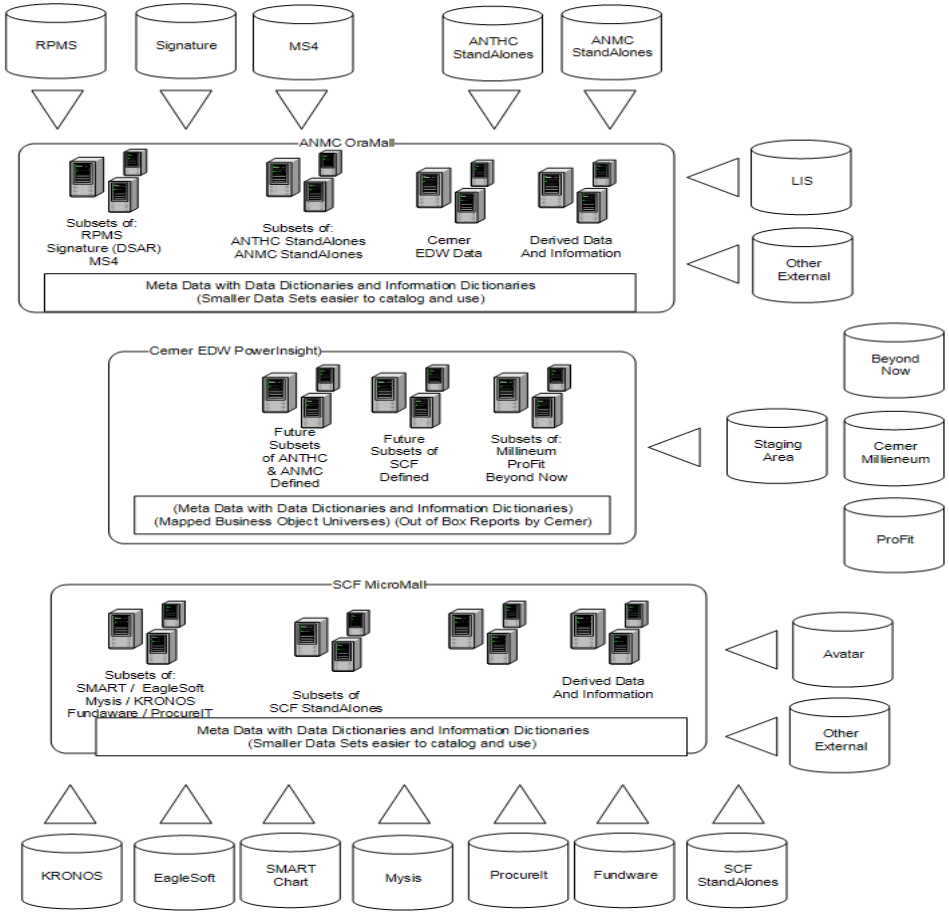
- Have an approach and be able to communicate that to leadership
- Demonstrate and communicate efficiency and value
  - Automate and standardize processes that required individual effort
  - Project Management 101 (Scope, Resources, Time)
  - Keep scope limited to what you have resources and time for
- Align with your corporate goals and objectives

Step 4: What's Current Process for Reporting

- Excel reports
- Canned reports from transactional systems
  - Monarch (data extraction templates)
    - ✓Monarch Data Pump (automation & scheduling)
- Analytical select, drag & drop tools
  - Business Objects
- Program query from transactional systems and data warehouse databases
  - Oracle, Transact SQL, etc..
- Third party reporting tools
  - Registry reporting tools

DON'T STOP CURRENT PROCESS UNLESS YOU CAN REPLACE IT!

Step 5: Data source inventory/map



Step 6: Technical Metadata

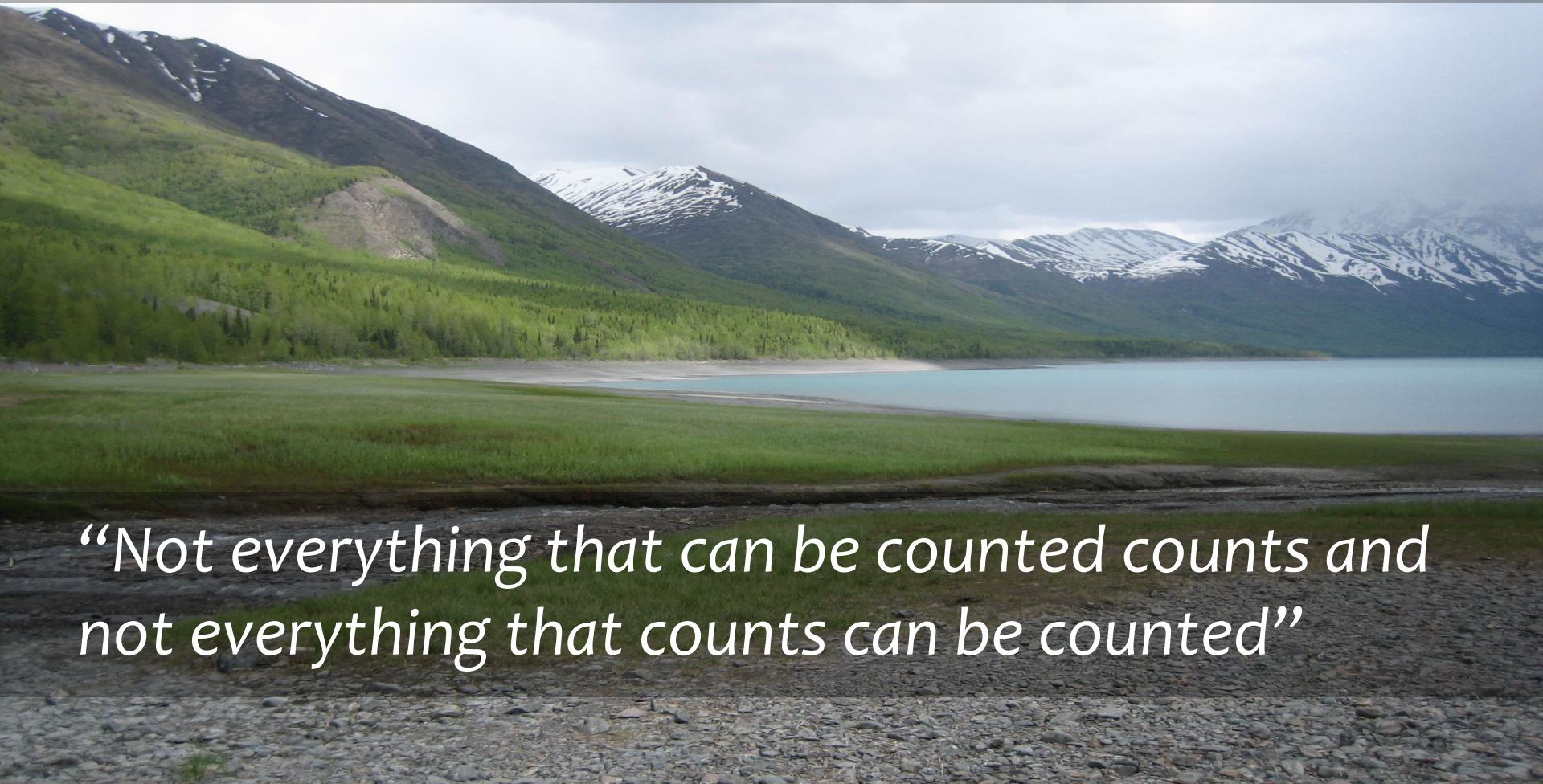
- Metadata: *summarizes basic information about data, which can make finding and working with particular instances of data easier.*

Field_Name	Type	Size	Description	Example
Last_Name	Text	50	Customer Last Name	Smith
Visit_Date	Date	8	YYYYMMDD	20150130

Table Name	Field Name	Description
Adjustment	Bill Type	The type of bill, E.g. CMS-1500
Adjustment	Bill Number	System generated assoc. to bill

Step 7: Determine Needs

PRIORTIES


“Not everything that can be counted counts and not everything that counts can be counted”

Improvement & Measurement -Linked to Objectives

Measurement, Analysis and Knowledge

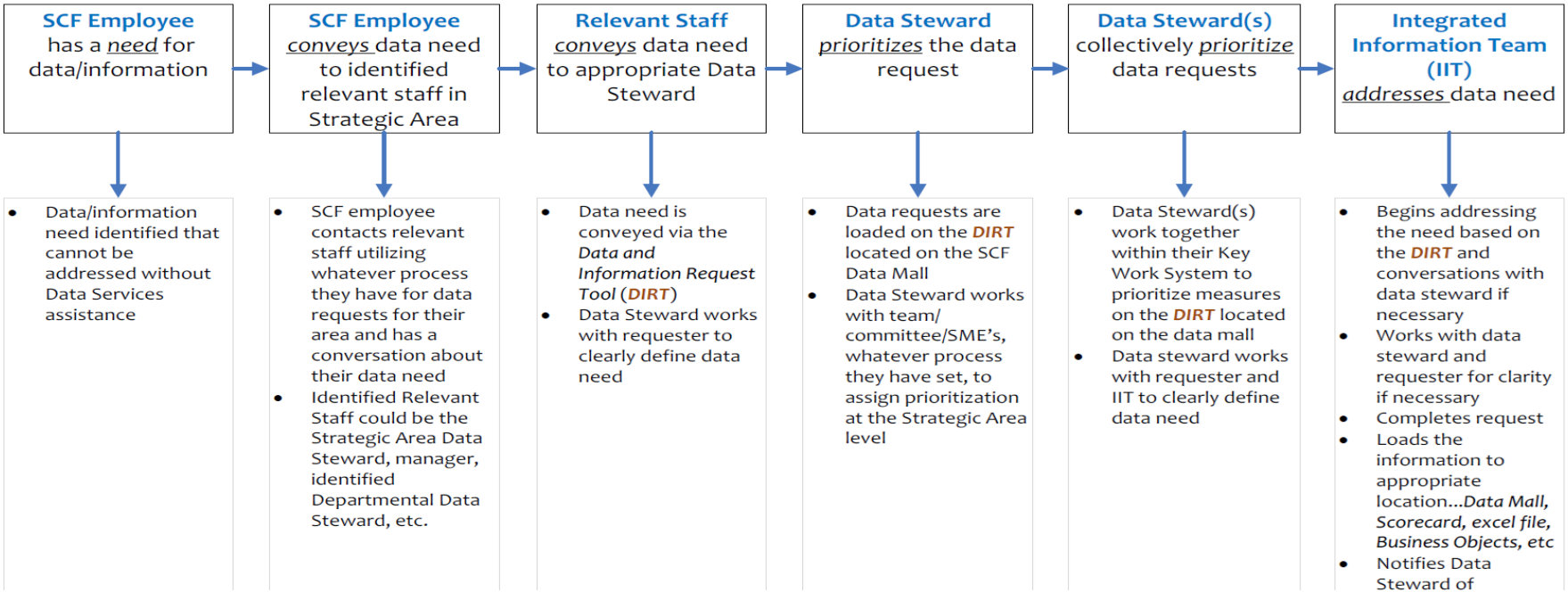
Step 8: Prioritize Projects

- How do your data projects get approved?
  - Who is the approving authority?
- Once approved, how are they prioritized?
  - Who prioritizes?
  - How do they handle competing priorities?
- Do you have processes and tools to assist?
- How do you communicate work being done?
  - New projects, reoccurring work, maintenance

Step 8: Prioritize Projects

Data/Information requests to SCF Data Services

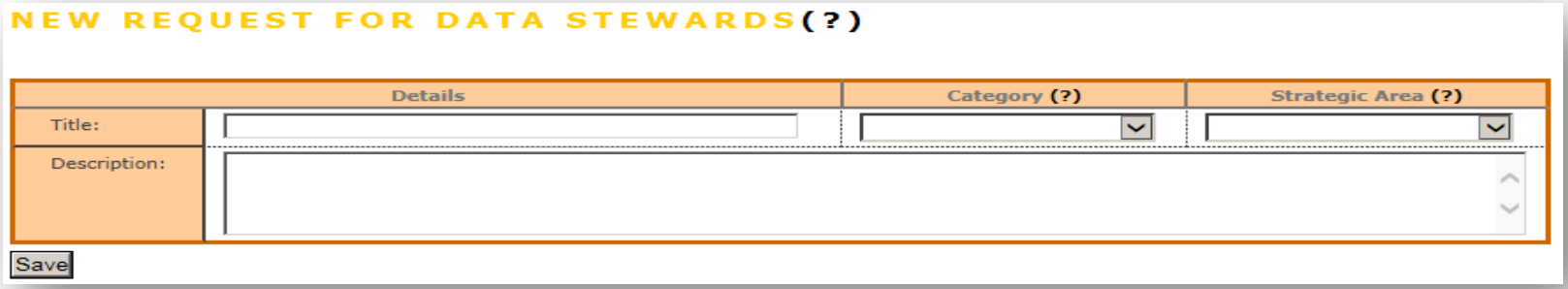
High-Low process map_9-23-13_DF

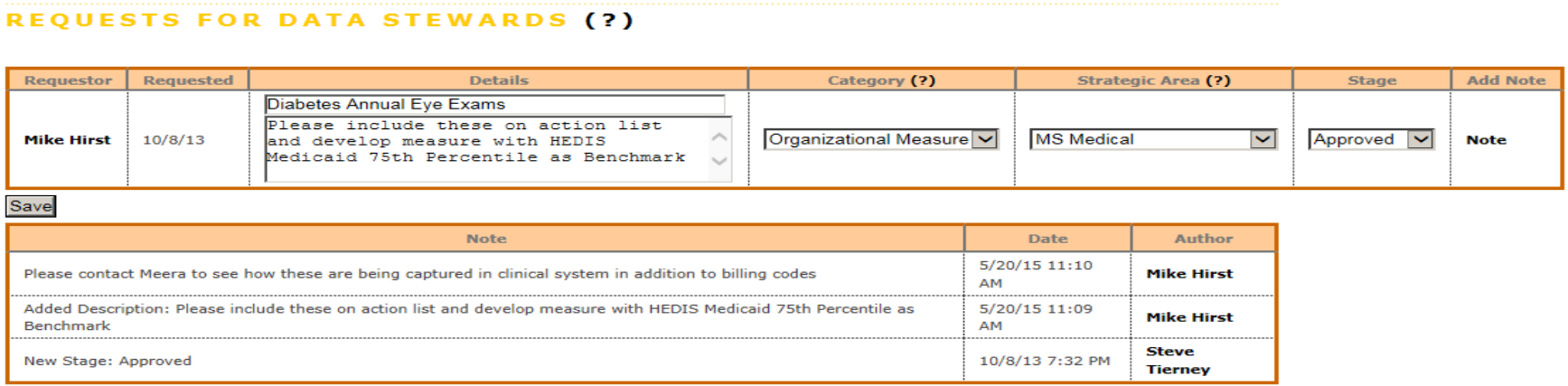


Step 8: Prioritize Projects

SCF Key Work System	Division	Strategic Areas	Data Steward	Integrated Information Team (IIT) Contact
Behavioral	BSD	BSD Clinical	Shane Coleman	Erika Wolter
Behavioral	BSD	BSD Operational	Shane Coleman	Erika Wolter
Dental	RAD	Dental Medical	Mayquelle Buckley	Linda Erdmann
Dental	RAD	Dental Operational	Mayquelle Buckley	Linda Erdmann
HC Support	ODI	ODI	Mike Hirst	Linda Erdmann
HC Support	RAD	IT	Jake Jackson	Linda Erdmann
HC Support	FIN	Finance	Chris Bragg	Linda Erdmann
HC Support	ETS	Planning and Grants	Marissa Wang	Linda Erdmann
Medical	MSD	MS Medical	Steve Tierney	Julia Smith
Medical	MSD	MS Operational	Justin Atteberry	Julia Smith
Tribal	ETS	Tribal Clinical	Tara Fisher	Erika Wolter
Other		Meaningful Use	Chris Bragg	Julia Smith
Other		Other	David Fenn	Julia Smith

Step 8: Prioritize Projects





Step 8: Prioritize Projects

STRATEGIC AREA (?): MS OPERATIONAL

Rank	Title	Category (?)
1	PHR-High Cost Medication List Additions	Organizational Measure
2	PCC Wellness Care Plan % per PCP	Organizational Measure
3	PCC - Wellness Care Plan - cost outcomes	Organizational Measure
4	PCC - Wellness Care Plan - system utilization outcome	Organizational Measure
9	PHR-High utilization of albuterol	
10	PHR-Antimicrobial prescribing for sinusitis	
11	PHR-Antimicrobial prescribing for UTI	
15	PHR-C-Os on more than 10 medications	
15	PHR-Medication Costs	
15	PHR - warfarin	
15	PHR-- TSOAC panel	
15	PHR-- Cholesterol Management for Patients with Cardi	

Data Stewards ***prioritize*** their lists with the **top 3** being the most important. Each Data Stewards Top 3 will progress to next decision level

STRATEGIC AREA (?): MS MEDICAL

Rank	Title	Category (?)
1	Meaningful Use Functional Measures	Regulatory
2	Diabetes Annual Eye Exams	Organizational Measure
3	Diabetes Nephropathy Screening	Organizational Measure
6	Time measurements	Organizational Measure
7	Powernotes unsigned greater than 72 hours	Organizational Measure
8	Children at Risk for Special Healthcare Needs	Grant Support Measure
9	Referral from PCC to Health Education	Grant Support Measure
10	PED CRAFT	Organizational Measure
11	PED Behavioral Based Screeners	Organizational Measure
11	+ Chlamydia/Gonorrhea with abx dispensed within 72 hours of result	Ad Hoc

Data\Information Request Tool

We clean up your data, so you don't have to!

Home - Key Work Systems (*Medical KWS*)

KEY WORK SYSTEM (?): MEDICAL KWS

Rank	Title	Category (?)	Strategic Area (?)	Status
1	**Meaningful Use Functional Measures**	Regulatory	**MS Medical**	Approved
2	**PCC Wellness Care Plan % per PCP**	Organizational Measure	**MS Operational**	Approved
3	**Diabetes Annual Eye Exams**	Organizational Measure	**MS Medical**	Approved
4	**PHR-High Cost Medication List Additions**	Organizational Measure	**MS Operational**	Approved
5	**Diabetes Nephropathy Screening**	Organizational Measure	**MS Medical**	Approved
6	**PCC - Wellness Care Plan - cost outcomes**	Organizational Measure	**MS Operational**	Approved

Update Rank

Strategic Areas (?)
MS Medical
MS Operational

I have a new request
View History

Step 8: Prioritize Projects

Both Data Stewards must now work together to choose their **top 3** from 6

Step 8: Prioritize Projects

Data\Information Request Tool

We clean up your data, so you don't have to!

Home

KEY WORK SYSTEMS (?)

Top three requests for each Key Work System

Behavioral	Dental	HC Support
1 - BSD Clinical Test_df_1	1 - Dental Medical Test_df_1	1 - Finance Test_df_1
2 - BSD Operational Test_df_1	2 - Dental Operational Test_df_1	2 - Compliance Test_df_2
3 - BSD Other Test_df_1	3 - Dental Operational Test_df_3	3 - HR Test_df_3

Medical	Tribal	Other
1 - MS Medical Test_df_1	1 - Tribal Clinical Test_df_1	1 - Meaningful Use TEST1.1
2 - MS Medical Test_df_2	2 - Tribal Clinical Test_df_2	2 - MU Test_df_1
3 - MS Operational Test_df_3	3 - Tribal Clinical Test_df_3	3 - MU Test_df_2

Click on the Key Work System to see the top requests for that area. Click on the title to see more about that request.

I have a new request

Step 8: Prioritize Projects
Communication with Stakeholders

2014_04_25 weekly update
Friday, April 25, 2014
5:03 PM

1. IT has completed the OBGYN and Peds team add on in the ICDT tool. Team assignments should start happening next week by people in empanelment. Yea!
2. We have methods for two OBGYN reports ready to go and are exploring the remaining methods. This involves continued collaboration with OBGYNs who have been very responsive.
3. We worked with Mike Jacquot, Data Architect, on our needs for the data in the Birth Table.
4. Medications are still causing issues for us. Bob is running into many issues with this data and is continuing to work on solutions.
5. Evan has been working with Cerner on the Empanelment switch tool, which will be tested with a mass panel switch this weekend. I will update you on this project next week.
6. We deployed a CRC pathology RPMS report to Data Mall.
7. We completed reports to Kate's group on mammograms for their grant work.
8. Evan has begun working on the clinic Dashboards for PCC clinics only at this point. He is ready to deploy the clinical data, but needs to work with the Finance team to get the financial data that was on the old report.
9. We have begun preliminary work on a request from Katherine Gottlieb to look at health trends since 1999.

Step 9: Build Customer Attributions

- **Building Population Subgroups (Cohorts) for accountability and measurement**

- **Considerations with Attributions**
  - **Eligibility** - *not everyone we see may be eligible*
  - **Enrollment –** *not everyone eligible may decide to enroll*
  - **Empanelment –** *not everyone enrolled may be empaneled*
  - **Primary care –** *accountability for primary care and associated registries, Patient Centered Medical Home (PCMH)*
  - **Specialty care** - *accountability for specialty care and associated registries*
  - **Utilization of services –** *need to capture full spectrum of work being done, anyone who's utilized our services. May utilize services at multiple facilities and be attributed to each under utilization attribution.*
  - **Geographical locations** - *Need to capture work across multiple geographical regions, patients may be assigned to multiple regions based on utilization, referral patterns and rural health care extensions of care*

Step 10: Define & Build Methods
SMART Registries and Measures

Specific	**M**easurable	**A**ctionable	**R**elevant	**T**ime-Based
Lay and technical methods	Can you collect it?	Can you act on something?	Is it relevant to our objectives?	During what time period?

Step 10: Define & Build Methods

- **Does a similar method exist?**
  - HEDIS, PQRS, etc.. Can you use it to get started?
- **What are the questions you are trying to answer?**
  - *What proportion of women have current cervical ca screening?*
- **What information is need to answer the question?**
  - *Persons: Empanelled, Age 24-64, Female*
  - *Location: Reside in Anchorage/Mat-Su*
  - *Time: Within the last 3 years*
  - *Codes (ICD-9CM, CPT, HCPCS, LOINC, etc.), also known as Nomenclatures*
  - *Exclusions: History of Total Hysterectomy*
- **What are the possible data sources?**
  - *Electronic (may be multiple)*
  - *Paper-based Chart with sample if electronic isn't sufficient*
- **How will you ensure your methods are re-usable?**
  - *Reference Master Methods Table*
  - *Standard Nomenclature and Mapping*

Step 10: Method Building Blocks

Standardize, Logically Group, and Reuse and Repurpose

Non Standard Codes in Proprietary Systems (E.g. Observations like blood pressures)

Standardized Nomenclatures (E.g. CPT, SNOMED, LOINC, ICD 10, RxNorm)

Defined Terminologies *: grouped nomenclatures (E. g. Diabetes Type 1, Diabetes Type 2, Diabetes Meds, HbA1c, outpatient visit)

Facts *: grouped terminologies (E.g. Diabetes, HbA1C)

Characterizations*: add additional qualifiers to facts: date ranges, present, value range, cardinality (Registry Diabetes, HbA1C > 9%, Metric Denominators and Numerators)

** May need specific terminologies, facts, characterizations and solutions for each different method. E.g. HEDIS vs UDS*

Step 11: Establish Benchmarks

- **What are you're target goals?**
- **Where did they come from?**
  - Compare yourself to yourself over time
  - Compare yourself to a similar organization
  - Compare yourself to a national benchmark
    - ✓National Committee for Quality Assurance (NCQA)
    - ✓Medical Group Management Association (MGMA)
    - ✓Agency for Healthcare Research & Quality (AHRQ)
    - ✓May be cost associated with benchmarks
    - ✓Often percentile based (10^{th} – 25^{th} – 50^{th} – 75^{th} – 90^{th})
    - ✓Professional organizations
  - Professional journal articles using similar measurement rules

Step 12: Data Collection

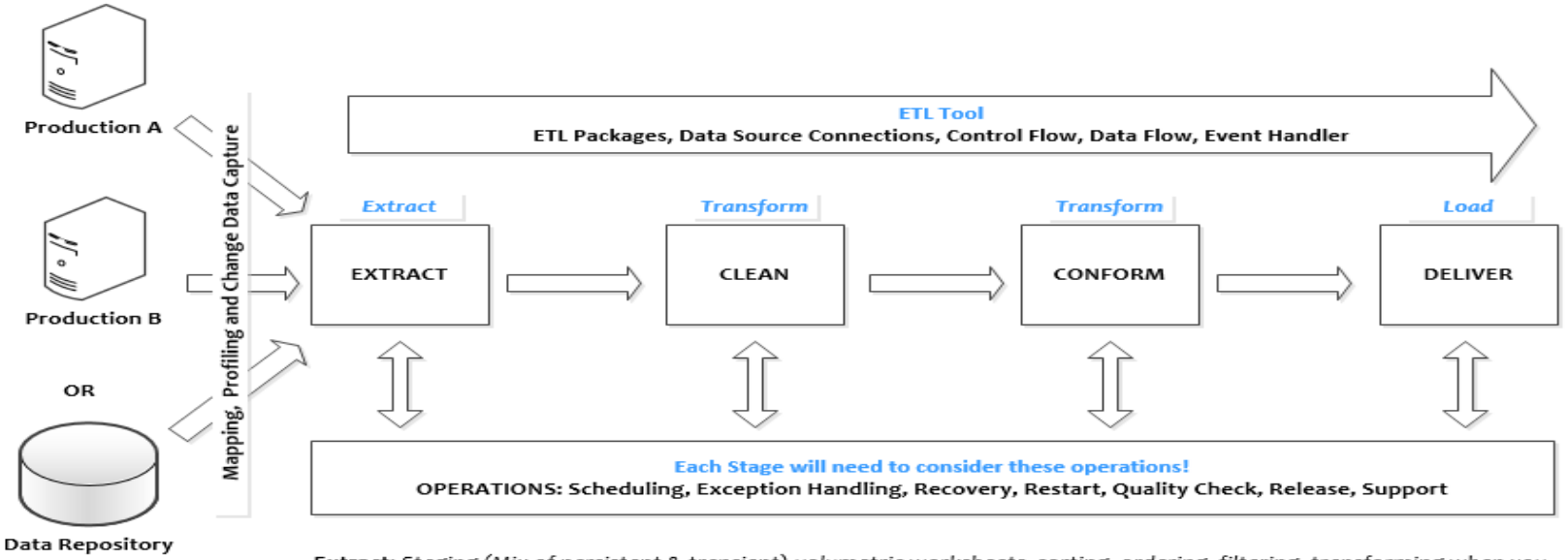
- "**Where**" does the data reside?
- "**Who**" is going to collect it?
- "**How**" are they going to collect it?
- "**How frequently**" should it be collected?
- "**How much**" is needed to answer questions?
- "**How should it be stored**"? Sensitivity (PHI)?
- "**Who has access**" and how?
- What is the "**lifecycle**" of the data?
- "**Cost**" of Collection (human/other resources)?

Step 13: Ability to Query Data

- Querying depends on:
  - Skill set of data analyst
  - Access to data
  - Type of tools used:
    - Canned reports with parameters to filter
      - ✓ Query and report
    - Business Objects drag and drop environment
      - ✓ Query and report
    - SQL Coding (Oracle and Trans-act SQL) with query tools

Step 14: Extract Transform Load (ETL)

IMPORTANT!!! : ETL is one of the most overlooked and expensive items you'll have to get your hands on!



Extract: *Staging (Mix of persistent & transient),volumetric worksheets, sorting, ordering, filtering, transforming when you can, recoverability, multiple file types, flat files, DBMS, HL-7, SQL*
Clean: *Duplicates, values within a valid range, consistent (eg. Zip codes and city), communicate issues to source to resolve longterm*
Conforming: *Merging multiple data sources to mapping plan based on agreed upon enterprise definitions, aggregation, indexing, metadata*
Deliver: *Star schemas (Fact & Dimensions), Business Object Universes, flat files for MS Reporting Services, security, XML, HL-7*

Step 14: Structuring Data for Optimal Reporting

- You probably don't need all the data
  - Figure out what you need and add later
    - ✓You probably don't need every vital sign ever recorded
- You'd prefer to run queries only once
  - Develop registries and cohorts that can be re-used
    - ✓Eg. Hypertension, Diabetes, Cancer Screening, Medicaid, etc..
  - Run numerator data for everyone, not just metric denominator
    - ✓E.g. Most recent LDL can be used for diabetes, cardiovascular and hypertension pts

Step 15: Structuring Data for Optimal Reporting

- Snapshot data periodically for longitudinal assessments
  - Snapshot at lower levels so it can be rolled up
- Reference tables for data segmentation established
- Data Marts with Fact and Dimensions
  - Difficult to do on your own without highly skilled staff and resources
- Attribute registries and metrics based on provider specialties and the ability to take action on them.

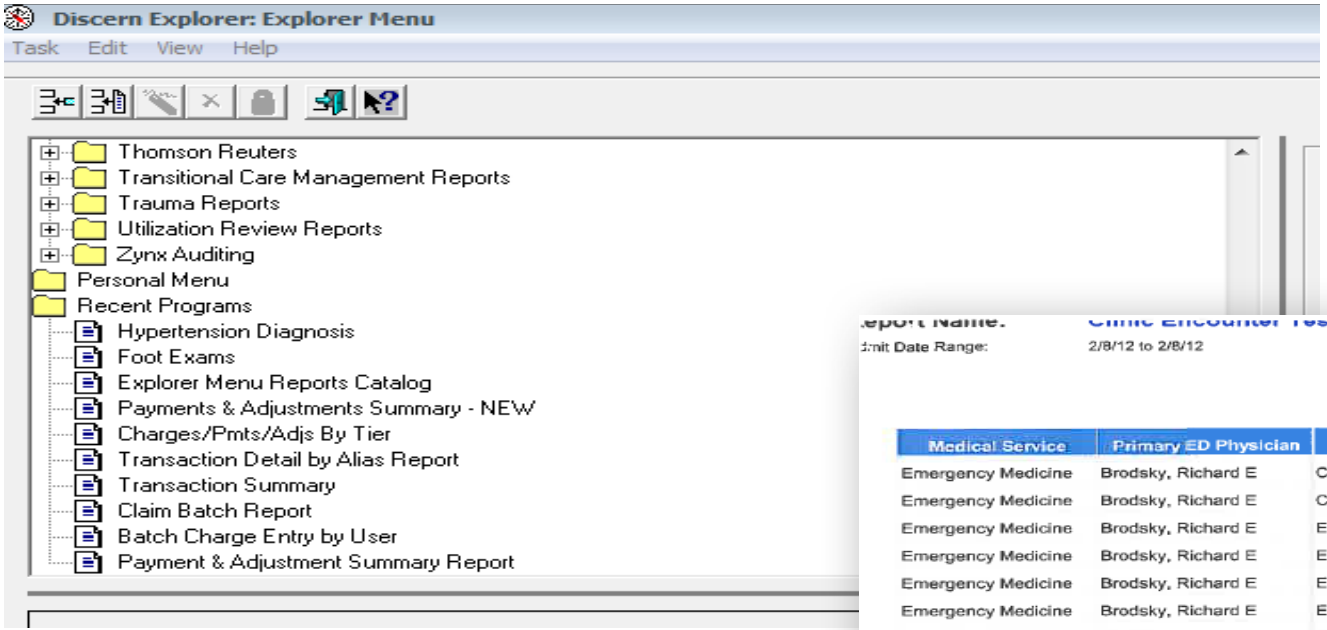
IMPORTANT!!! Structuring Data for Optimal Reporting is the least expensive thing you can do that will give you the most return for your efforts.

Step 16: Reporting

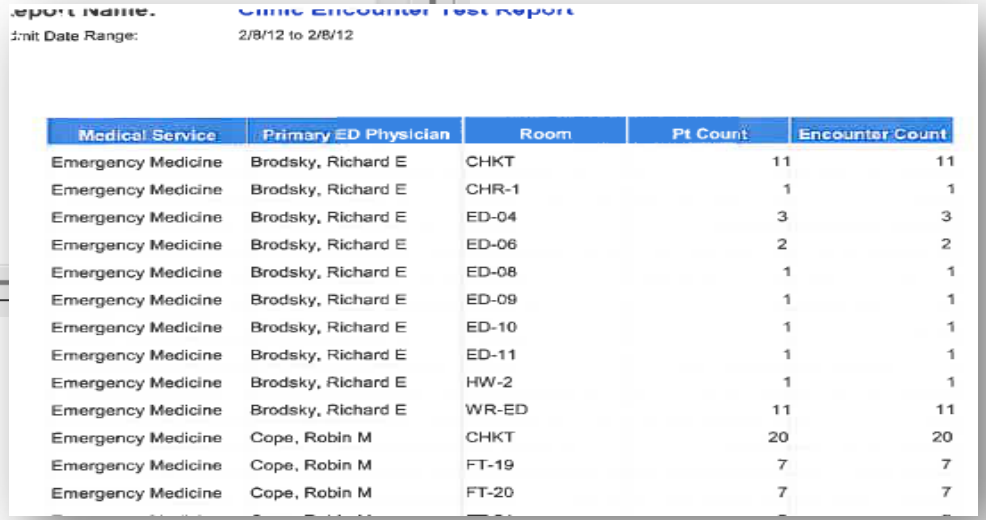
- **Canned Reports**
  - Usually your first type of reports, from transactional system, not customized
- **Analytic Tool Reports**
  - Multiple 3rd party vendor tools, usually require ETL, easier to buy than build
- **Automated reports with Reporting Tools and Templates**
  - SQL Server Reporting Services / Microsoft BI / Tableau
  - Lot's of freedom with designing and templating your own reports
- **Establish Security of Access to Reports**
  - Control with user groups (active directory) or roles, updated by group owner
  - Needs to be flexible to apply to multiple reports and single reports
- **Tables and Graphs that facilitate knowledge**
  - Segmented, Benchmarks, Longitudinal displays, actionable
- **Details**
  - Run date, current "as of" date, methods link, consistent layout, arrows

Step 16: Reporting

Canned Reports



You select report and you get output exactly as the designer built it. Cannot add fields, difficult to export.

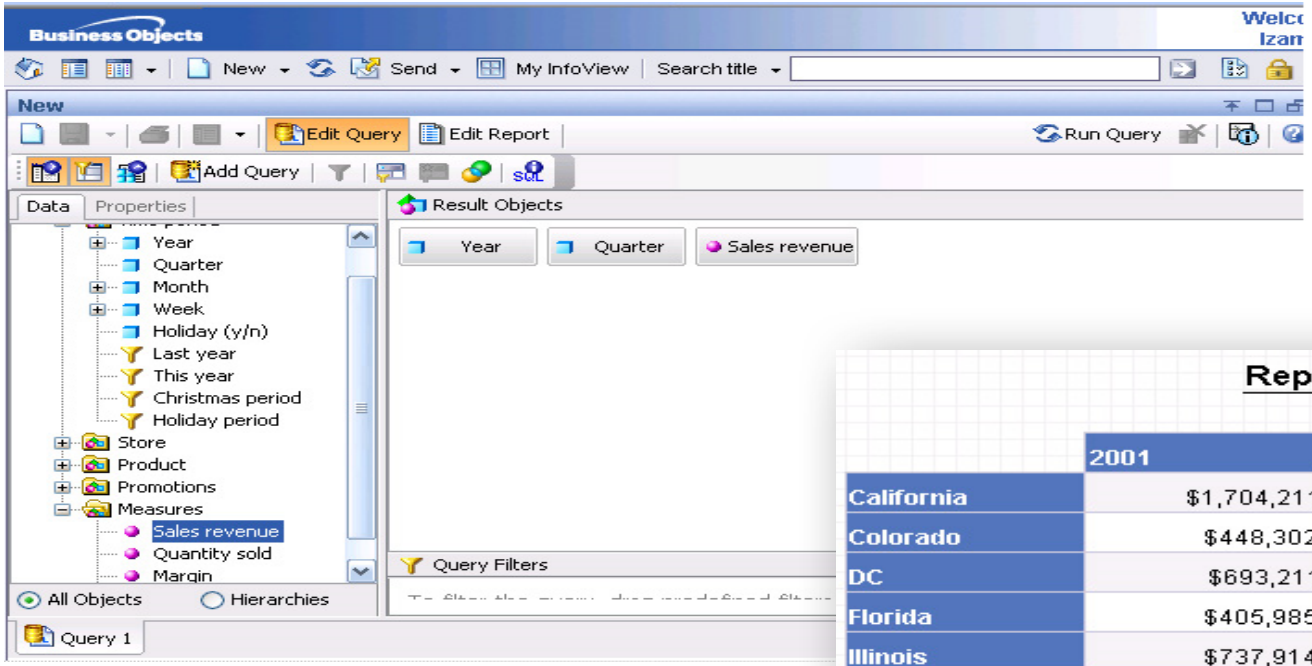


2/8/12 to 2/8/12

Medical Service	Primary ED Physician	Room	Pt Count	Encounter Count
Emergency Medicine	Brodsky, Richard E	CHKT	11	11
Emergency Medicine	Brodsky, Richard E	CHR-1	1	1
Emergency Medicine	Brodsky, Richard E	ED-04	3	3
Emergency Medicine	Brodsky, Richard E	ED-06	2	2
Emergency Medicine	Brodsky, Richard E	ED-08	1	1
Emergency Medicine	Brodsky, Richard E	ED-09	1	1
Emergency Medicine	Brodsky, Richard E	ED-10	1	1
Emergency Medicine	Brodsky, Richard E	ED-11	1	1
Emergency Medicine	Brodsky, Richard E	HW-2	1	1
Emergency Medicine	Brodsky, Richard E	WR-ED	11	11
Emergency Medicine	Cope, Robin M	CHKT	20	20
Emergency Medicine	Cope, Robin M	FT-19	7	7
Emergency Medicine	Cope, Robin M	FT-20	7	7

Step 16: Reporting

Business Objects Report



Drag & drop is nice, but joining tables, snapshotting difficult. Restricted to what's offered

Report Title

	2001	2002	2003
California	$1,704,211	$2,782,680	$2,992,679
Colorado	$448,302	$768,390	$843,584
DC	$693,211	$1,215,158	$1,053,581
Florida	$405,985	$661,250	$811,924
Illinois	$737,914	$1,150,659	$1,134,085
Massachusetts	$238,819	$157,719	$887,169
New York	$1,667,696	$2,763,503	$3,151,022

Step 16: Reporting

SQL Server Reporting Services

```
select Clinic_Name,PC_PHYSICIAN_PRSNL,PC_PHYSICIAN_NAME
,SCFNumerator=(Select BRST_CNCR_SCRN_HEDIS_N from #Temp1
    where Clinic_Name like 'SCF'
    and clinic_id=a.clinic_id)
,SCFDenominator=(Select BRST_CNCR_SCRN_HEDIS_D from #Temp1
    where Clinic_Name like 'SCF'
    and clinic_id=a.clinic_id)
,SCFScore=(Select BRST_CNCR_SCRN_HEDIS from #Temp1
    where Clinic_Name like 'SCF'
    and clinic_id=a.clinic_id)
,ClinicNumerator=(Select BRST_CNCR_SCRN_HEDIS_N from #Temp1
    where
     PC_PHYSICIAN_NAME like '-- ALL --'
    and clinic_id=a.clinic_id
    and Clinic_Name not like 'SCF')
,ClinicDenominator=(Select BRST_CNCR_SCRN_HEDIS_D from #Temp1
    where
    PC_PHYSICIAN_NAME like '-- ALL --'
    and clinic_id=a.clinic_id
    and Clinic_Name not like 'SCF')
,ClinicScore=(Select BRST_CNCR_SCRN_HEDIS from #Temp1
    where
    PC_PHYSICIAN_NAME like '-- ALL --'
    and clinic_id=a.clinic_id
    and Clinic_Name not like 'SCF')
,ProviderNumerator=(Select BRST_CNCR_SCRN_HEDIS_N from #Temp1
    where
     PC_PHYSICIAN_NAME like '-- ALL --'
    and clinic_id=a.clinic_id
    and PC_PHYSICIAN_PRSNL=a.PC_PHYSICIAN_PRSNL
    and Clinic_Name not like 'SCF')
,BRST_CNCR_SCRN_HEDIS_N
,BRST_CNCR_SCRN_HEDIS_D
```

SQL coding allows you the freedom to bring data in from multiple sources

Southcentral Foundation

HEDIS Breast Cancer Screening Scores

Breast Cancer Screening Rates as of: 5/16/2015

2014 HEDIS Medicaid Benchmark 75th Percentile = 65.12% Methodology

Organization	Clinic	Provider	Numerator	Denominator	% Screened
SCF			2738	4332	63.2
	⊟ 1 East		398	625	63.7
		Carrick, Erin P, PA-C	44	78	56.4
		Heggen, Leslie N, PA	60	117	51.3
		Leoncio, Ferritha A, MD	81	111	73.0
		Mcwilliams, Ryan T, MD	70	114	61.4
		Ott, Laurie A, PA-C	76	118	64.4
		Zimmer, Laurie E, MD	67	87	77.0
	⊞ 1 West		412	683	60.3
	⊞ 2 East		372	574	64.8
	⊞ 2 West		329	572	57.5
	⊞ 3 East		388	598	64.9
	⊞ 3 West		347	540	64.3
	⊞ Life House Rural CHC		2	7	28.6
	⊞ Nilavena		52	71	73.2
	⊞ Pediatrics				
	⊞ Quyana Clubhouse		3	5	60.0
	⊞ St. Paul Health Center		11	14	78.6
	⊞ Upper Kuskokwim		38	61	62.3
	⊞ VNPCC East		171	285	60.0
	⊞ VNPCC West		215	297	72.4

Step 17: Integrating Data

- How can you take the data you've processed in queries and reports and repurpose it for:

  - **Operations and Planning**
    - ✓ Demand Forecasting
    - ✓ Capacity Management
  - **Decision Support**
    - ✓ Action Lists
    - ✓ Follow-up and Referral
  - **Customer Portals**
    - ✓ Giving customers more access to their information
  - **Reminders**
    - ✓ Emails, texts, smart watch, other information systems
  - **Others**
    - ✓ Board Report
    - ✓ Scorecards
    - ✓ Presentations

Step 17: Integrating Data

Diabetes Action List

Links to Documentation: Report Methodology

Data Resolution/Error Correction Process

Diabetic Patient Status as of Week Ending: 3/13/2009

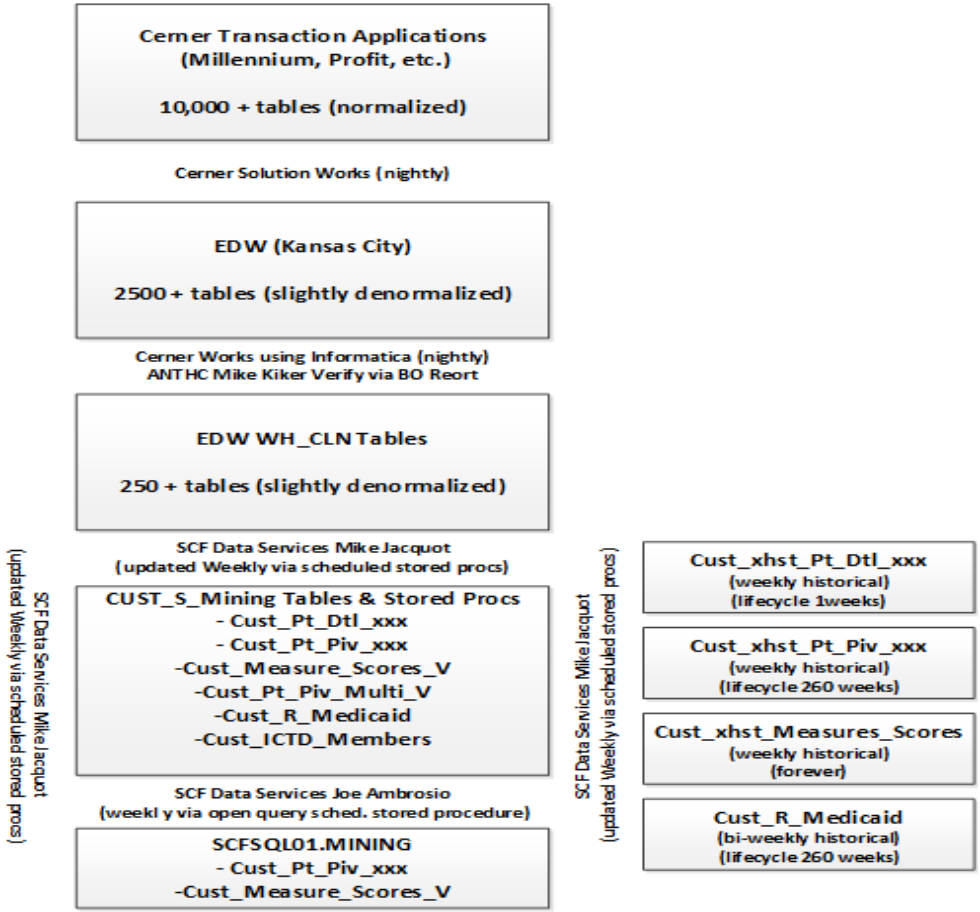
HRCN	Patient	New Diabetic (< 90 Days) *Click Link to see Diagnosis Details!*	Sex	Age	HBA1C Result	HBA1C Date	Most Recent LDL Result	LDL Date
Ko, Patricia A		Total Diabetic Patients: 47						
72048	Abbasi, Darren	No	M	71	5.8	2009/01/13	67	2009/01/13
42457	Abell, Frederick	No	M	67	6.3	2009/03/06	86	2009/03/06
12916	Allen, Marcus	No	M	82	6.4	2008/06/03	129	2008/06/03
72098	Armston, George	No	M	81	5.3	2008/12/01	90	2008/12/01
1192	Bark, Samuel	No	M	85	6.9	2009/01/22	110	2009/01/22
45979	Bevis, Michael	No	M	76	5.7	2009/03/09	79	2009/03/09
32158	Black, Lewis	No	M	36	6.3	2009/03/03	116	2008/11/15
19202	Caldwell, Charlotte	No	F	80	5.8	2009/02/23	93	2009/02/23
84893	Evarza, Wallace	No	M	40	5.7	2008/06/24	113	2008/06/24
61328	Ferris, Adam	No	M	40	6.8	2009/02/12	86	2009/02/12
19492	Gafford, Joseph	No	M	41	6.3	2008/03/31	64	2008/03/31

Fictitious customer-owner information

Step 18: Data Governance

- Establish a Data Governance Committee
  - Should have organization wide representation
- Version Control
- Change Management & Communication
- Policies and Procedures
- Enterprise Vocabulary and Naming Methods
- Metadata (Business, Technical, Process)
- Data Lifecycle
- Standardization
- Access and Security
- Large Project Planning and Timelines

Step 18: Data Governance



Step 18: Data Governance

Data Analyst (creates summarized tables for report source)

- [ ] Verifies scores with original adhoc query
- [ ] Procedure built to Pulls pivot tables to SCFSQL01
- [ ] Procedure Scheduled to run automatically every Sunday after Data Architect jobs are run successfully

Action List Tables:
- [ ] Query
- [ ] Stored Procedure
- [ ] Procedure Scheduled to run automatically

Metric Tables: -- (These are used for page 1 display in Reporting Services)
- [ ] Query
- [ ] Stored Procedure
- [ ] Procedure Scheduled to run automatically

Comparison Chart Tables: (These are used for page 3 display in Reporting Services, should be based of Metric Table)
- [ ] Query
- [ ] Stored Procedure
- [ ] Procedure Scheduled to run automatically

Data Analyst (creates reporting services reports)

- [ ] Builds segmented Metric Report (page 1)
- [ ] Builds Longitudinal Bar Chart (page 2) -- (These are based on the Historical Table already built)
- [ ] Builds Comparison Chart (page 3)
- [ ] Builds Action List
- [ ] Data Mall tab and name are decided on

Security report permissions for viewing set:
- [ ] Reviewed and Approved by Program Analyst and Data Steward
- [ ] Security group added to report

- [ ] Deploy report to Data Mall as Work in Progress

Step 19: Career Progression

Checklist Categories

- General Skills
- Metadata knowledge
- Querying Tools
- Data Sources and Databases
- Reporting Tools
- Coding Vocabularies and Nomenclatures
- Regulatory measurement requirements
- Information Security
- Querying Skills
- Chart/graphing Skills related to improvement
- Statistical Skills
- Population Health and Patient Centered Medical Home
- ETL Tools

<u>List skills in each category then score skills accordingly</u>:

1= Little to No Experience
2= Theoretical Knowledge
3= Perform with Assistance
4= Perform Independently
5= Expert, can teach

Step 19: Career Progression

Checklist Categories

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	**Name:**												
2	**Hire Date:**												
3	**Last Promotion Date: N/A**												
4													
5	**Data Analyst**												
6	0= Not applicable												
7	1= Little or No Experience												
8	2= Theroretical Knowledge												
9	3= Perform with Assistance												
10	4= Perform Independently												
11	5= Expert can teach												
12													
13									Report Writer Level 1	Business Analyst Level 2	Senior Business Analyst Level 3	Data Arch & ETL Prog.	
14													
15	**Skills & Knowledge Career Progression Checklist**	**Eval**	**Date**	**Eval**	**Date**	**Eval**	**Date**	**Eval**					**DBA**
16	**Coding Vocabularies**												
17	ICD-9 Codes	**1**							X	X	X		
18	ICD-10 Codes	**1**								X	X		
19	CPT Codes	**1**							X	X	X		
20	HCPCS Codes	**1**								X	X		
21	LOINC Codes	**1**								X	X		
22	DRG Codes	**1**								X	X		
23	Dental CDT Codes	**1**								X	X		
24	SNOMED	**1**								X	X		
25	Cerner Code Values	**1**							X	X	X		
26	Rx Norm	**1**									X		
27	RPMS Codes	**1**							X	X	X		
28	RVUs	**1**									X		
29	Principle Types/ Cerner Code Sets related to Vocab. Ref. (Code Sets 400, 401, 12100)	**1**									X		
30	Code Set Hierarchies	**1**									X		
31	Works with Cerner Core Personnel to Define User Defined Code Sets	**1**									X		
32	**SUBTOTAL:**	**15**	**Apr-15**	**0**		**0**		**0**					
33													
34	**Healthcare Performance Measurement Methods**												
35	HEDIS	**1**								X	X		
36	GPRA/CRS	**1**								X	X		
37	UDS	**1**								X	X		
38	Meaningful Use Functional Measures	**1**								X	X		
39	Meaningful Use Clinical Quality Measures	**1**								X	X		
40	Acountable Care Organization Measures (ACO)	**1**								X	X		
41	TCHIC	**1**								X	X		
42	PQRS (GPRO Submission)	**1**								X	X		
43	Balanced Scorecard	**1**							X	X	X		
44	**SUBTOTAL:**	**9**	**Apr-15**	**0**		**0**		**0**					
45													
46	**Information Security**												
47	Annual HIPPA Training	**1**							X	X	X	X	X

Step 20: Leverage Technology

- Keep current on new technologies
  - SQL vs No-SQL, Big Data, HADOOP
- Be flexible
  - Polyglot Persistence: using multiple data storage technologies, based on how the data is going to be used.
- Have a plan before you adopt a new technology
  - Consider all the previous steps we've reviewed
    - ✓ What's your approach? How are you going to deploy it? How is going to help you learn? How will it be integrated throughout the organization?
    - ✓ Do you have leadership buy-in?
    - ✓ Where's the data? How do we get it in a format that's actionable?
    - ✓ Do we have trained staff? How do we keep them current?

Thank You!

Qaĝaasakung
Aleut

Quyanaa
Alutiiq

Quyanaq
Inupiaq

ʻAwa'ahdah
Eyak

Mahsi'
Gwich'in Athabascan

Igamsiqanaghhalek
Siberian Yupik

Háw'aa
Haida

Quyana
Yup'ik

T'oyaxsm
Tsimshian

Gunalchéesh
Tlingit

Tsin'aen
Ahtna Athabascan

Chin'an
Dena'ina Athabascan