Building and Growing Data Services
In Your Organization

Mike Hirst | Director of Data Services
Melanie Binion | Senior Improvement Advisor

65,000 voices

Alaska Native People Shaping Health Care

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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
Vision
A Native Community that enjoys physical, mental, emotional and spiritual wellness

Mission
Working together with the Native Community to achieve wellness through health and related services
Goals

S hared Responsibility
C ommitment to Quality
F amily Wellness
Customer Ownership
Operational Principles

Relationships between customer-owner, family and provider must be fostered and supported

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

Locations convenient for customer-owners with minimal stops to get all their needs addressed

Access optimized and waiting times limited

Together with the customer-owner as an active partner

Intentional whole-system design to maximize coordination and minimize duplication

Outcome and process measures continuously evaluated and improved

Not complicated but simple and easy to use

Services financially sustainable and viable

Hub of the system is the family

Interests of customer-owners drive the system to determine what we do and how we do it

Population-Based systems and services

Services and systems build on the strengths of Alaska Native cultures
Core Concepts

Work together in relationship to learn and grow
Encourage understanding
Listen with an open mind
Laugh and enjoy humor throughout the day
Notice the dignity and value of ourselves and others
Engage others with compassion
Share our stories and our hearts
Strive 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!

- Greatest visionaries
  - Very creative
  - Usually very neat

- “People people”
  - Love committees and teams
  - Warm and fuzzy

- 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

1. Hypothesis?
2. Research & Publication
3. Professional Organization
4. Recommendations & Guidelines
5. NCQA, AHRQ, GPRA, NQF
6. CMS

Organizational Objectives & Initiatives
1. Organizational Score
2. Clinic Score
3. Team Score
4. Individual Score

Empanelment
1. Registries
2. Work Plans
3. Compensation
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
SCF Data Mall

Deploying our Approach
## HEDIS Breast Cancer Screening Scores

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

### Methodology

2015 HEDIS Medicaid Benchmark 75th Percentile = 66.02%

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<tr>
<th>Organization</th>
<th>Clinic</th>
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<th>Numerator</th>
<th>Denominator</th>
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SCF Data Mall

HEDIS Breast Cancer Screening Scores

SCF Breast Cancer Screening

Scores | 66.02% - HEDIS 75th

% |

0 20 40 60 80 100

2014 2015 2016

July 54.9 57.7 55.6 55.9 58.3 55.4 53.8 62.8 62.8 65.3 66.9 66.6 68.9 66.4 68.4 68.3 66.4
August 57.7 57.8 56.2 61.2 62.8 63.8 64.4 65.3 66.9 66.6 68.4 68.3 68.3 66.4
September 55.6 55.7 56.2 62.8 63.8 64.4 65.3 66.9 66.6 68.4 68.3 68.3 66.4
October 55.9 58.8 56.2 61.2 62.8 63.8 64.4 65.3 66.9 66.6 68.4 68.3 68.3 66.4
November 60.2 61.2 62.8 63.8 64.4 65.3 66.9 66.6 68.4 68.3 68.3 66.4
December 62.8 63.8 64.4 65.3 66.9 66.6 68.4 68.3 68.3 66.4
January 58.3 60.2 61.2 62.8 63.8 64.4 65.3 66.9 66.6 68.4 68.3 68.3 66.4
February 62.8 63.8 64.4 65.3 66.9 66.6 68.4 68.3 68.3 66.4
March 63.8 64.4 65.3 66.9 66.6 68.4 68.3 68.3 66.4
April 65.3 66.9 66.6 68.4 68.3 68.3 66.4
May 66.9 66.6 68.4 68.3 68.3 66.4
June 64.4 65.3 66.9 66.6 68.4 68.3 68.3 66.4

Better
SCF Data Mall
Learning from our Approach

HEDIS Breast Cancer Screening Scores

Breast Cancer Screening Comparison Chart (30 or More @ Risk Patients)
As of 06/18/2016

% Screened
# SCF Data Mall Integrating Knowledge into Action

## Diabetes Action List

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

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<th>HRCN</th>
<th>Patient</th>
<th>New Diabetic (≤ 90 Days)</th>
<th>Sex</th>
<th>Age</th>
<th>HBA1C Result</th>
<th>HBA1C Date</th>
<th>Most Recent LDL Result</th>
<th>LDL Date</th>
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<td>M</td>
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<td>2009/01/13</td>
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<td>2009/03/06</td>
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</table>

*Total Diabetic Patients: 47*

**Fictitious customer-owner information**

*Alaska Native People Shaping Health Care*

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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?

- **Managers**
  - Are there variations occurring in our processes and how can I identify it?

- **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
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.

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<tr>
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<th>Type</th>
<th>Size</th>
<th>Description</th>
<th>Example</th>
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<td>Last_Name</td>
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<td>Customer Last Name</td>
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<td>Bill Type</td>
<td>The type of bill, E.g. CMS-1500</td>
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<tr>
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<td>Bill Number</td>
<td>System generated assoc. to bill</td>
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</table>
Step 7: Determine Needs

- Methods
- Prioritization
- Communication
- Empanelment
- Deployment
- Baldrige
- Team Building
- Customer Focus
- Learn
- Relationships
- Data Warehousing
- GPRA
- Registries
- ETL
- Web Portal (MyANMC)
- Demand Forecasting
- Capacity Management
- PI/QA
- Organizational Metrics
- Integrate
- Action Lists
- Approach
- Meaningful Use
- EHRs
- Mandatory Reporting
“Not everything that can be counted counts and not everything that counts can be counted”
Improvement & Measurement - Linked to Objectives

Measurement, Analysis and Knowledge

Voice of the Customer-Owner

Mission, Vision, Key Points, Operational Principles
- Corporate Goals
- Corporate Objectives
- Corporate Initiatives
- Work Plans/Action Items
- Performance Development Plans

Improvement Tool Box
- Operational Principles
- Annual Planning Tool
- Balanced Scorecards
- Change Concepts
- Project Team Charter
- Model For Improvement / Plan-Do-Study-Act (PDSA)
- Measurement Rules Template
- Survey Monkey
- Baldrige Feedback
- ADLI Framework
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

- SCF Employee has a need for data/information
- SCF Employee conveys data need to identified relevant staff in Strategic Area
- Relevant Staff conveys data need to appropriate Data Steward
- Data Steward prioritizes the data request
- Data Steward(s) collectively prioritize data requests
- Integrated Information Team (IIT) addresses data need

- Data/information need identified that cannot be addressed without Data Services assistance
- SCF employee contacts relevant staff utilizing whatever process they have for data requests for their area and has a conversation about their data need
- Identified Relevant Staff could be the Strategic Area Data Steward, manager, identified Departmental Data Steward, etc.
- Data need is conveyed via the Data and Information Request Tool (DIRT)
- Data Steward works with requester to clearly define data need
- Data requests are loaded on the DIRT located on the SCF Data Mall
- Data Steward works with team/committee/SME’s, whatever process they have set, to assign prioritization at the Strategic Area level
- Data Steward(s) work together within their Key Work System to prioritize measures on the DIRT located on the data mall
- Data steward works with requester and IIT to clearly define data need
- Begins addressing the need based on the DIRT and conversations with data steward if necessary
- Works with data steward and requester for clarity if necessary
- Completes request
- Loads the information to appropriate location...Data Mall, Scorecard, excel file, Business Objects, etc
- Notifies Data Steward of
## Step 8: Prioritize Projects

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<tr>
<th>SCF Key Work System</th>
<th>Division</th>
<th>Strategic Areas</th>
<th>Data Steward</th>
<th>Integrated Information Team (IIT) Contact</th>
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<td>Shane Coleman</td>
<td>Erika Wolter</td>
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<td>BSD</td>
<td>BSD Operational</td>
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<td>Julia Smith</td>
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**Step 8: Prioritize Projects**

**NEW REQUEST FOR DATA STEWARDS (?)**

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<th>Details</th>
<th>Category (?)</th>
<th>Strategic Area (?)</th>
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**REQUESTS FOR DATA STEWARDS (?)**

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<th>Strategic Area (?)</th>
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<td>Diabetes Annual Eye Exams</td>
<td>Organizational Measure</td>
<td>MS Medical</td>
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<td>Note</td>
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<td>Please include these on action list and develop measure with HEDIS</td>
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<td>Medicaid 75th Percentile as Benchmark</td>
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**Note**

- Please contact Meera to see how these are being captured in clinical system in addition to billing codes
- Added Description: Please include these on action list and develop measure with HEDIS Medicaid 75th Percentile as Benchmark

**New Stage: Approved**

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<th>Author</th>
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<td>Mike Hirst</td>
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<td>5/20/15 11:09 AM</td>
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<td>10/8/13 7:32 PM</td>
<td>Steve Tierney</td>
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Step 8: Prioritize Projects

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

KEY WORK SYSTEMS (?)
Top three requests for each Key Work System

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<th>Dental</th>
<th>HC Support</th>
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<td>2 - BSD Operational Test_df_1</td>
<td>2 - Dental Operational Test_df_1</td>
<td>2 - Compliance Test_df_2</td>
</tr>
<tr>
<td>3 - BSD Other Test_df_1</td>
<td>3 - Dental Operational Test_df_3</td>
<td>3 - HR Test_df_3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medical</th>
<th>Tribal</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - MS Medical Test_df_1</td>
<td>1 - Tribal Clinical Test_df_1</td>
<td>1 - Meaningful Use TEST1.1</td>
</tr>
<tr>
<td>2 - MS Medical Test_df_2</td>
<td>2 - Tribal Clinical Test_df_2</td>
<td>2 - MUTest_df_1</td>
</tr>
<tr>
<td>3 - MS Operational Test_df_3</td>
<td>3 - Tribal Clinical Test_df_3</td>
<td>3 - MUTest_df_2</td>
</tr>
</tbody>
</table>

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 - Can you collect it?
Measurable - Can you act on something?
Actionable - Is it relevant to our objectives?
Relevant - During what time period?
Time-Based

Lay and technical methods
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 (10th – 25th – 50th – 75th – 90th)
    - 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!

**ETL Tool**
- ETL Packages, Data Source Connections, Control Flow, Data Flow, Event Handler

**Extract**
- EXTRACT

**Transform**
- CLEAN
- CONFORM

**Load**
- DELIVER

**Each Stage will need to consider these operations!**
- OPERATIONS: Scheduling, Exception Handling, Recovery, Restart, Quality Check, Release, Support

**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
    ✓ Eg. 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.
Step 16: Reporting

Business Objects Report

Drag & drop is nice, but joining tables, snapshotting difficult. Restricted to what’s offered.
SQL coding allows you the freedom to bring data in from multiple sources.
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

<table>
<thead>
<tr>
<th>HRN</th>
<th>Patient</th>
<th>New Diabetic (≤ 90 Days)</th>
<th>Sex</th>
<th>Age</th>
<th>HBA1C Result</th>
<th>HBA1C Date</th>
<th>Most Recent LDL</th>
<th>LDL Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>72048</td>
<td>Abbasi, Darren</td>
<td>No</td>
<td>M</td>
<td>71</td>
<td>5.8</td>
<td>2009/01/13</td>
<td>67</td>
<td>2009/01/13</td>
</tr>
<tr>
<td>42457</td>
<td>Abell, Frederick</td>
<td>No</td>
<td>M</td>
<td>67</td>
<td>6.3</td>
<td>2009/03/06</td>
<td>85</td>
<td>2009/03/06</td>
</tr>
<tr>
<td>12916</td>
<td>Allen, Marcus</td>
<td>No</td>
<td>M</td>
<td>82</td>
<td>6.4</td>
<td>2008/06/03</td>
<td>129</td>
<td>2008/06/03</td>
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<td>72098</td>
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<td>M</td>
<td>81</td>
<td>5.3</td>
<td>2008/12/01</td>
<td>90</td>
<td>2008/12/01</td>
</tr>
<tr>
<td>1192</td>
<td>Bark, Samuel</td>
<td>No</td>
<td>M</td>
<td>85</td>
<td>6.9</td>
<td>2009/01/22</td>
<td>110</td>
<td>2009/01/22</td>
</tr>
<tr>
<td>45979</td>
<td>Devis, Michael</td>
<td>No</td>
<td>M</td>
<td>76</td>
<td>5.7</td>
<td>2009/03/09</td>
<td>79</td>
<td>2009/03/09</td>
</tr>
<tr>
<td>32158</td>
<td>Black, Lewis</td>
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<td>M</td>
<td>36</td>
<td>6.3</td>
<td>2009/03/03</td>
<td>116</td>
<td>2008/11/15</td>
</tr>
<tr>
<td>19202</td>
<td>Caldwell, Charlotte</td>
<td>No</td>
<td>F</td>
<td>80</td>
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<td>2009/02/23</td>
<td>93</td>
<td>2009/02/23</td>
</tr>
<tr>
<td>84893</td>
<td>Evarza, Wallace</td>
<td>No</td>
<td>M</td>
<td>40</td>
<td>5.7</td>
<td>2008/06/24</td>
<td>113</td>
<td>2008/06/24</td>
</tr>
<tr>
<td>61328</td>
<td>Ferris, Adam</td>
<td>No</td>
<td>M</td>
<td>40</td>
<td>6.8</td>
<td>2009/02/12</td>
<td>86</td>
<td>2009/02/12</td>
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<tr>
<td>19492</td>
<td>Gafford, Joseph</td>
<td>No</td>
<td>M</td>
<td>41</td>
<td>6.3</td>
<td>2008/03/31</td>
<td>64</td>
<td>2008/03/31</td>
</tr>
</tbody>
</table>

**Total Diabetic Patients: 47**

---

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

Corner Transaction Applications (Millennium, Profit, etc.)
10,000+ tables (normalized)

Corner Solution Works (nightly)
EDW (Kansas City)
2500+ tables (slightly denormalized)

Corner Works using Informatica (nightly)
ANTHC Mike Kiker Verify via BO Report

EDW WH_CLNTables
250+ tables (slightly denormalized)

SCF Data Services: Mike Jacquet
(updated weekly via scheduled stored proc)
CUST_S_Mining Tables & Stored Proc
- Cust_PT_Dtl_XXX
- Cust_PT_Piv_XXX
- Cust.Measure_Scores_V
- Cust_PT_Piv_Multi_V
- Cust_R_Medicaid
- Cust_ICFD_Members

SCF Data Services: Joe Ambrose
(weekly via open query sched. stored procedure)
SCFSQL01.MINING
- Cust_PT_Piv_XXX
- Cust.Measure_Scores_V

Cust_xhst_PT_Dtl_XXX
(weekly historical)
(lifecycle 260 weeks)

Cust_xhst_PT_Piv_XXX
(weekly historical)
(lifecycle 260 weeks)

Cust_xhst_Measures_Scores
(weekly historical)
(forever)

Cust_R_Medicaid
(bi-weekly historical)
(lifecycle 260 weeks)
Step 18: Data Governance

Data Analyst (creates summarized tables for report source)
- Verifies scores with original adhoc query
- Procedure built to pull 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

List skills in each category then score skills accordingly:
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

<table>
<thead>
<tr>
<th>Name:</th>
<th>Hire Date:</th>
<th>Last Promotion Date: N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Analyst</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0 = Not applicable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = Little or No Experience</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 = Theoretical Knowledge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 = Perform with Assistance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 = Perform Independently</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 = Expert can teach</td>
<td></td>
</tr>
</tbody>
</table>

#### Skills & Knowledge Career Progression Checklist

<table>
<thead>
<tr>
<th>Coding Vocabularies</th>
<th>Eval</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICD-9 Codes</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ICD-10 Codes</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CPT Codes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCPCS Codes</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>LOINC Codes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRG Codes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dental CDT Codes</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>SNOMED</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Cerner Code Values</td>
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<td></td>
</tr>
<tr>
<td>Rx Norm</td>
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<td></td>
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<tr>
<td>RPMS Codes</td>
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<td></td>
</tr>
<tr>
<td>RVUs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principle Types/ Cerner Code Sets related to Vocab. (Code Sets 400, 401, 12100)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Code Set Hierarchies</td>
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<td></td>
</tr>
<tr>
<td>Works with Cerner Personnel to Define User Defined Code Sets</td>
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<td></td>
</tr>
<tr>
<td><strong>SUBTOTAL:</strong></td>
<td>15</td>
<td>Apr 15</td>
</tr>
</tbody>
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#### Healthcare Performance Measurement Methods

<table>
<thead>
<tr>
<th>HEDIS</th>
<th>Eval</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>GPRACRS</td>
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<td>UDS</td>
<td>1</td>
<td></td>
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<tr>
<td>Meaningful Use Functional Measures</td>
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</tr>
<tr>
<td>Meaningful Use Clinical Quality Measures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accountable Care Organization Measures (ACO)</td>
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</tr>
<tr>
<td>TCHIC</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>PQRS (GPRO Submission)</td>
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<tr>
<td>Balanced Scorecard</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SUBTOTAL:</strong></td>
<td>9</td>
<td>Apr 15</td>
</tr>
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#### Information Security

<table>
<thead>
<tr>
<th>Annual HIPPA Training</th>
<th>Eval</th>
<th>Date</th>
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<tbody>
<tr>
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<td></td>
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<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The table contains specific categories and options for evaluation and dates, which are crucial for career progression tracking and assessment.
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!

Qağaasakung  
Aleut

Quyanaa  
Alutiiq

Quyanaq  
Inupiaq

‘Awa'ahdah  
Eyak

Mahsi'  
Gwich’in Athabascan

Igamsiqanagghalek  
Siberian Yupik

Háw'aa  
Haida

Quyana  
Yup’ik

T’oyaxsm  
Tsimshian

Gunalchéesh  
Tlingit

Tsin'aen  
Ahtna Athabascan

Chin’an  
Dena’ina Athabascan