Safety Net Analytics Program

Learning Session #15– October 27, 2015

To view and listen to the recording, please go to:

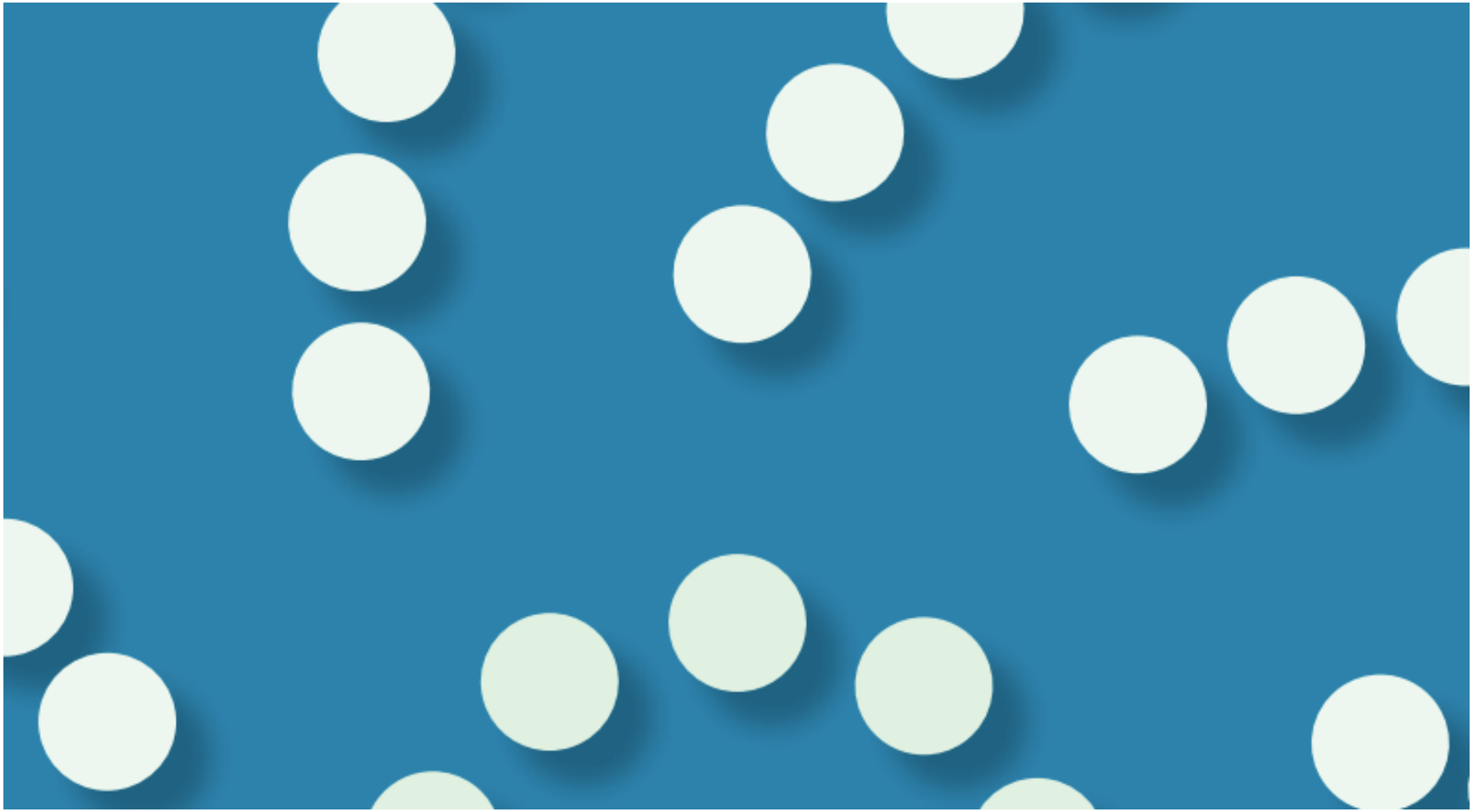
https://vimeo.com/143806060

Safety Net Analytics Program

A Journey to Self-Service Analytics

Learning Session #15 – October 27, 2015

CCI
CENTER FOR CARE INNOVATIONS



Program Updates

1. November 10th Knowledge Building Session
   - **Waterfront Hotel – Jack London Square – Oakland, CA**
   - 8:30 – 9:00 Registration and Breakfast, 4:30 Conclusion
2. Peer Sharing – Breakout Sessions
   - 6 Questions for Reflection Sharing in Small Groups, 15 minutes each
   - Due **November 3rd** by 5:00 p.m. (CCI will make posters for you)
3. Check In Appointments
   - Sign up link available (Roadmap updates will be included in post-program Analytics Capability Assessment)
4. Three Part Empanelment Series - Completed November 3rd
5. Final Grant Deliverables
   - Post-Program **Analytics Capability Assessment** (Including Roadmap factors) – DUE BY THE END OF DECEMBER
   - **Evaluation Interviews** – January 2016

Case Study: Lifelong Medical Care's Journey to Self Service Analytics

Ben Mansalis, MD

LifeLong Medical Care
Health Services For All Ages
a california health+ center

The FQHC and Healthcare Analytics

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Dr. Paul Batalden's (IHI) observation:

> "Every system is perfectly designed to get the results it gets."

Why is healthcare informatics 10-20 years behind retail and financial industries?

Initial Conditions FQHC

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- Numerous EHR platforms and organizations
- Poorly documented database schemas
- Regulatory barriers
- ROI not as clearly defined or mature – often academic or regulatory
- Captive customer base
- Financial constraints
- Organizational structures mission oriented and relational in style

Conway's Law: System Design

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"Organizations … are constrained to produce designs which are copies of the communication structures of these organizations."

—Melvin Conway

FQHC Results

- High cost burden to develop data definitions and quality
- Product specific knowledge a barrier
- Limited growth opportunities internally in IS
- Proprietary solutions abound, unclear costs
- Executive sponsorship can be a challenge
- Just the regulatory reporting is significant
- Hard to be forward thinking in survival mode

Changing the Initial Conditions

Un-Restraining

- Use “Open Source” model to lower the barriers to data ownership (GitHub)
- Internally build data ownership and quality
- Build once and fork for your own use
- Use software you likely already own
- Using common data base tools and source control with versioning – makes for a happy IS workers

Self-Service Business Intelligence (BI)

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What is it?

- Instead of asking IT to build a report, end users using common tools (web based or MS office products) explore, analyze and create reports.
- Examples (low cost or free)
  - SQL Server and SQL Server Analysis Services
  - Pivot Table (excel)
  - Power Pivot (excel with free expansion pack)
  - Power View in Sharepoint
  - Office 365, Power BI
  - And others – including free solutions

Hey, lets just outsource it!

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Why we outsourced and decided to go self service BI path path:

- Last step in IHI is making data actionable
  - No ideal proprietary implementation available at POC
  - We already have great non-proprietary tools
- Low up front costs vs. larger long term costs
- Barriers to accessing a proprietary solutions data (not a real SQL server EDW)
- Fewer barriers to using non-proprietary tools like excel as compared, custom paid interfaces

Hey, lets just outsource it!

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Why we outsourced and decided to go self BI path path:

- Self-service BI allows us to build much greater interest in departments internally in data
- Building on an already existing knowledge base of MS Office to utilize data (non-proprietary)
- We have discovered much about our data building our own meta data, and created many new analysis

Hey, lets just outsource it!

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Why we outsourced and decided to go self service BI path:

- Shift from IT building reports to our end users doing it
- Lower long term costs and much more capable tools
- Committing to non-proprietary, mature technologies (Microsoft) seems like a safer bet than consultants
- Exciting product roadmap for MS products

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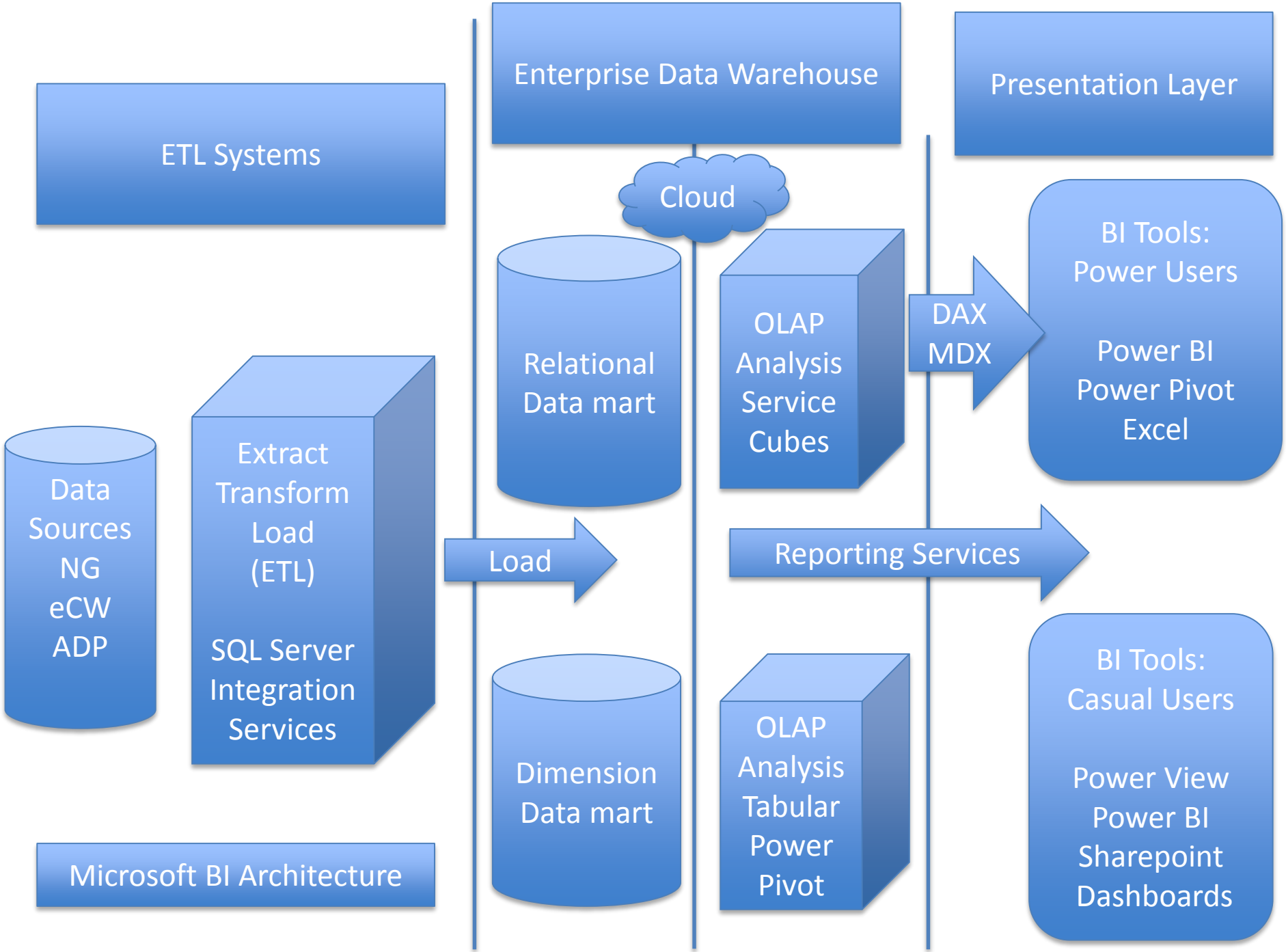
Self-Service BI Technical Architecture


ETL Systems
Enterprise Data Warehouse
Presentation Layer
Cloud
Relational Data mart
OLAP Analysis Service Cubes
DAX MDX
BI Tools: Power Users
Power BI
Power Pivot
Excel
Data Sources
NG
eCW
ADP
Extract Transform Load (ETL)
SQL Server Integration Services
Load
Reporting Services
Dimension Data mart
OLAP Analysis Tabular Power Pivot
BI Tools: Casual Users
Power View
Power BI
Sharepoint
Dashboards
Microsoft BI Architecture

So, what does it cost?

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What you need to get started:

- SQL Server 2012 – Enterprise – $2-3k
- Someone who has 1-2 years SQL skills – ($50-75k/yr)
- Free version of MS Visual Studio

So, what does it cost?

What you need to get started:

- Optional Tools -
  - Excel
  - Power Pivot Add on for Excel – (Free add on)
  - SharePoint/Powerview - Powerview is free
  - Power BI Desktop - Free
  - Power BI (On line) - $10 per user per month
  - Office 365

So, what does it cost?

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What we spent for our solution:

- 2014 Enterprise SQL Server ($13k) – one time
- SharePoint 2013 ($6k) box
- $50 a month in Power BI licenses
- Development Time ($35k)

Get Started – Quick Version

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1. Download ETL code for EDW and dimensional data model
2. Install Analysis Services Tabular
3. Create a Tabular Project in Visual Studio
4. Bring in tables you want to analyze from EDW
5. Install Power BI Desktop – Connect to Model

Considerations

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- Hosting Data in Azure
- Getting used to Fact and Dimensions
- Dealing with Data Quality Issues
- Consider Power BI Pro for sharing Aggregate data pending BA
- Creating Power View Dashboards
- Connecting using Excel and Power Pivot