Finding the balance between data-driven business management and patient care
Learning Objectives

• Learning Objective 1:
  • Attendees will identify one method to centralize a data warehouse for a system where EHRs are not linked.

• Learning Objective 2:
  • From the demonstrated metrics, attendees will be able to extrapolate data in their practice which relate to positive patient outcomes.

• Learning Objective 3:
  • Attendees will be able to assess, from a real world example, how incorporating business key performance indicators into their practice can positively affect patient outcomes.
Introduction

• Largest Opioid Treatment Program System in State
• Currently have 11 OTPs in AK, AZ, MT, & ND
• Currently treating 2400+ patients in AZ, 3500+ nationally
• Since 2010, have treated 33,000+ patients with MAT
Our Mission

• We see challenges as opportunities to demonstrate initiative
• We listen to and honor the reality of those we serve
• We are evangelists for practices grounded in science and evidence
• We value people who are passionate about making an impact
Identifying the Need

- Limited EHR reporting functionality
- Managing based on data
- Managing multiple locations
- Value-Based Purchasing
Identifying the need

Companies are more than three times more likely than average to rate themselves as substantially ahead in financial performance when they rate themselves as substantially ahead of their peers in their use of data.
Server Infrastructure
### Data Collection – Old Method

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
<th>Value 4</th>
<th>Value 5</th>
<th>Value 6</th>
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*Note: The table above represents the data collection methods used in the old procedure. Each column corresponds to a different data point or parameter being collected.*
### Data Visualization – Old Method

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### Clinicion Performance

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<th>Alpha</th>
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<th>Billings</th>
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Data Displayed
Identifying the Need – Challenges

- Cultural ramifications
  - Collecting and displaying data doesn’t make a company “data-driven”.
  - Becoming “data-driven” takes cultural change.
  - Making decisions based on data, not on anecdotal evidence.
  - “Testing Culture” is a culture where experiments are conducted and outcomes are measured.

- Measuring patient outcomes
  - What are the right outcomes to measure?
  - How will we know we’re making a difference in their lives?

- Focusing on KPIs
  - What data is essential to managing our business?
  - What data is required by external partners (ie VBP)

- Difficult to envision needs
  - How can the data be visualized in a way that drives action?
  - MS Access helped with data modeling

- Justifying the cost
## Work Flow

### How we proceeded

**Phase I**
1. **Built the database in MS Access** *(Pulled “Replicated” from SQL)*
2. Worked w/ un-standardized data *(under-the-hood standardization)*

**Phase II**
3. Data Visualization: Tableau *(>>> Access)*

**Phase III**
4. Working on Standardizing the Data
5. Tableau linked to SQL *(rather than Access)*

**Phase IV**
6. Survey data pulled through Tableau
7. Billing & Accounting data collated in Tableau
8. Experimenting
9. HIE Tie-In
10. Incentive/Scorecard Program

### If we could do it again

**Phase I**
1. **Standardize the data** *(Data engineer needed)*
2. Tableau **linked to SQL** *(Champion still needed)*

**Phase II**
3. Survey data pulled through Tableau
4. Billing & Accounting data collated in Tableau
5. Experimenting
6. HIE Tie-In
7. Incentive/Scorecard Program
SQL Architecture – New

SQL Server
- Data Warehouse (Database)
- Database
- Database

Cloud Backup
- Backup 2
- Backup 3

Tableau

Direct Link

Clinic 1
- Table 1a
- Table 1b
- Table 1c

Clinic 2
- Table 2a
- Table 2b
- Table 2c

Clinic 3
- Table 3a
- Table 3b
- Table 3c

NAS 1

Backup 1

EHR DB Backup

NAS 2

NAS 3
Costs

• **Personnel**
  - Data Engineer $417hrs * $50/hr = $20,850
  - Business Intelligence Analyst: 400hrs * $25/hr = $10,000

• **Total:** $30,850

• **Infrastructure**
  - Microsoft Access $150
  - Tableau $1,972 ($400 annual licensing fee)
  - IT Monitoring/Support $370
  - SQL Servers (Depends on current infrastructure) $0

• **Total:** $2,492

• **Total Spent:** $33,342
Data Visualization – Lessons Learned

- How data is presented absolutely matters
- Interactivity aids in engagement
- Survey your audience
- Learn the right questions to ask of your data
- Be patient and flexible
Methadone
C_{21}H_{27}NO
Bibliography/References


Questions

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