How to use data analytics to improve management decision making and enhance care delivery

Ryan Quist, Ph.D.
Riverside County Behavioral Health
Riverside University Health System
Guiding Principles

- Right Time
- Right People
- Right Data
- Right Technology
- Right Staff
## Right Time

### How frequently to report?

<table>
<thead>
<tr>
<th></th>
<th>Pros</th>
<th>Cons</th>
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<tbody>
<tr>
<td>Annually</td>
<td>Good for messaging</td>
<td>Only current 1x/yr</td>
</tr>
<tr>
<td>Quarterly</td>
<td>Good for monitoring / sustaining</td>
<td>Difficult to see improvements in real time</td>
</tr>
<tr>
<td>Monthly</td>
<td>Good for change management</td>
<td>Difficult for real-time accountability</td>
</tr>
<tr>
<td>Daily / On Demand</td>
<td>Good for real-time accountability</td>
<td>Data Overload</td>
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</tbody>
</table>
Right People: Line Staff and Supervisors

- Error Checking
- Productivity
- Monitoring Compliance
- Clinical Tools
- Alerts

- On Demand Reports
- Event Driven Data
- Scheduled Distribution

- Day-to-Day Operations
- Real-Time Information

Right People:

- Line Staff and Supervisors
- Clinical Tools
- Alerts

On Demand Reports
Event Driven Data
Scheduled Distribution
Right People: Supervisors and Management

- Trending
- Drill down reports
- Dashboards

- Change Management
- Maintenance
- Forecasting

- On Demand Reports
- Scheduled Distribution
- Committee Reporting
# Caseload Critical Dates

## COLOR KEY
- **RED** = OVERDUE
- **GREEN** = CURRENTLY DUE
- **BLUE** = UPCOMING DUE DATE
- **= In Draft**
- **= In Missing**
- **ORANGE** = OVER 30 DAYS (LAST BHS NOTE)
- **WHITE** = CURRENT (BHS NOTE)
- **YELLOW** = OVER 90 DAYS (LAST BHS NOTE)

## Caseload Critical Dates - 3301NO OP Older Adult - Desert - Indio

### Older Adults - County
- **3301NO OP Older Adult - Desert - Indio**
- Barbara Jean Strong (bjstrong)

<table>
<thead>
<tr>
<th>Client ID</th>
<th>Name</th>
<th>CCP Start Date</th>
<th>CCP End Date</th>
<th>Assessment Date</th>
<th>Last Date of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>5/22/2017</strong></td>
<td><strong>3/31/2017</strong></td>
<td>3/22/2017</td>
<td>3/22/2017</td>
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<td><strong>8/30/2016</strong></td>
<td><strong>7/31/2017</strong></td>
<td>8/30/2016</td>
<td>3/29/2017</td>
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### Gail Denise Ingram (gdingram)

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<th>Name</th>
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<th>CCP End Date</th>
<th>Assessment Date</th>
<th>Last Date of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>2/17/2017</strong></td>
<td><strong>8/31/2017</strong></td>
<td>2/17/2017</td>
<td>3/31/2017</td>
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### Marc Dobson (mddobson)

<table>
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<th>Client ID</th>
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<th>CCP End Date</th>
<th>Assessment Date</th>
<th>Last Date of Service</th>
</tr>
</thead>
</table>

### Marcia Hudson (mdhudson)

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<th>Last Date of Service</th>
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<td>10/14/2016</td>
<td>4/5/2017</td>
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<td>2/8/2017</td>
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<td>8/18/2016</td>
<td>12/8/2016</td>
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<td></td>
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<td>8/31/2016</td>
<td>3/28/2017</td>
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<td>12/16/2016</td>
<td>4/5/2017</td>
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<tr>
<td></td>
<td></td>
<td><strong>7/14/2016</strong></td>
<td><strong>5/31/2017</strong></td>
<td>7/14/2016</td>
<td>3/30/2017</td>
</tr>
</tbody>
</table>
Right People: Executive Management

- Bulleted points
- Talking points
- Abstracts

- Looking for synthesis
- Messaging
- Business Intelligence

- Executive Summaries
- Briefings
- Priority Highlights
Right People: Communication and Dissemination

• Email
• Websites / Dashboards
• Hard Copies
• Committee Presentations
• Facilitated Discussion
• Action Planning

Passive to Active
Right People: Examples

- Staff Huddle
- Staff Meetings
- Management Meetings
- Quality Improvement Committee
- Executive Management Agenda
# EPIC

**New EPIC Features:**
- SOGI: Sexual Orientation
- Gender Identity

**Remainder:**
- Physical Restraints doc.
- CHB Birth Documentation
- New Patient & Daily Care Log

**Epic Update:**
- Oct 22

# QUALITY AND SAFETY

<table>
<thead>
<tr>
<th>Access</th>
<th>Patient Experience</th>
<th>Employee Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
<td>June</td>
<td>July</td>
</tr>
<tr>
<td># Ets</td>
<td># Ets</td>
<td># Ets</td>
</tr>
</tbody>
</table>

**Employee Engagement:**
- Improvement Initiative
- Code Green: Sarah M
- Newly Hired: Toya O

**UN Staff:**
- Code H: Christine A
- Employee Engagement: Linda H

**Employee Forum:**
- Unit Meeting

# IMPROVEMENT FOCUS

- Property theft (reduces): Refill patient charts
- Completed information on Connects for Qualitative
- S&R Documentation
- Firearms Documentation: Check in/out
- Decreasing Pt. in Pt. Assaults

# EMPLOYEE RECOGNITION

- RN IV: Brendah Toya O
- Psych/FU: Yvonne J
- Congrats graduate! Sarah M
- PMHNP Certification: Jana P

# RUHS Values
- Teamwork
- Respect
- Integrity
- Excellence
- Discovery

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**Riverside University Health System**

**Behavioral Health**
Right Data

• Business Intelligence (BI) Maturity – Gartner
  – Sophistication Level
  – BI Resourcing

• Work Flow Integration

• BI Culture
Right Data: Establishing a Foundation

- What’s currently happening?
  - Hospital census
  - Call volume
  - Productivity
  - Readmissions
- How many consumers receive services
  - How many services do they receive?
  - Who are they? (gender, ethnicity, age, diagnosis…)
Right Data:
Quality Management

- Time to first appointment
- Network Adequacy
- Documentation Compliance
- Grievances and Appeals
- Test Calls
- Consumer Perception
- Call Center Performance
The uncovered area of Riverside County is comprised primarily of 1 sparsely populated census tract with one population center at Desert Center. Population in this area is approximately 207 people according to the 2015 census estimate. Total population of Riverside County is 2,266,899. So, the coverage area represented here includes approximately 99.99% of Riverside County’s population.
Right Data:
Outcomes

• Mental Health Services Act
  – Full Service Partnership
  – Prevention and Early Intervention
  – Innovations

• Evidence-Based Practices
• Grant Funded Programs
• Contract Providers
Right Data: Anticipating Future Needs

- Unmet Need
- Community Needs
- Medi-Cal 2020
- Value-Based Payment Models
- Healthcare Integration
- Child Welfare Initiatives
- Drug Medi-Cal Organized Delivery System
- Correctional BH & AB 109
Right Data: HEDIS Measures

- Healthcare Effectiveness Data and Information Set (HEDIS)
  - Standardized measures
  - Benchmarks are available
  - Evaluates health plan quality
Right Data:
BH HEDIS Measures

• Follow up after hospitalization (7, 30 days)
• Hospital Readmissions
• Children on Antipsychotics
  – Psychosocial Care
  – Metabolic Monitoring
  – Multiple Concurrent
• Schizophrenia
  – Adherence to Antipsychotic Meds
  – Cardiovascular Monitoring
  – Diabetes Screening
• Antidepressant (2) and ADHD (2) Med Management
<table>
<thead>
<tr>
<th>Region</th>
<th>*Discharges</th>
<th>**Readmissions</th>
<th>Readmission Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Children - County</td>
<td>5</td>
<td>1</td>
<td>20.0%</td>
</tr>
<tr>
<td>Crisis Hospital - County</td>
<td>35</td>
<td>11</td>
<td>31.4%</td>
</tr>
<tr>
<td>Desert - County</td>
<td>71</td>
<td>27</td>
<td>38.0%</td>
</tr>
<tr>
<td>Mid County - County</td>
<td>40</td>
<td>5</td>
<td>12.5%</td>
</tr>
<tr>
<td>Not Assigned</td>
<td>242</td>
<td>24</td>
<td>9.9%</td>
</tr>
<tr>
<td>Older Adults - County</td>
<td>11</td>
<td>2</td>
<td>18.2%</td>
</tr>
<tr>
<td>Western Adult - County</td>
<td>32</td>
<td>8</td>
<td>25.0%</td>
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<tr>
<td>Western Children - County</td>
<td>8</td>
<td>1</td>
<td>12.5%</td>
</tr>
<tr>
<td>Contract Providers</td>
<td>12</td>
<td>2</td>
<td>16.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>456</strong></td>
<td><strong>81</strong></td>
<td><strong>17.8%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>*Discharges</th>
<th>Follow-ups w/in 7 days</th>
<th>Follow-up rate w/in 7 days</th>
<th>Follow-ups w/in 30 days</th>
<th>Follow-up rate w/in 30 days</th>
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</thead>
<tbody>
<tr>
<td>Central Children - County</td>
<td>2</td>
<td>1</td>
<td>50.0%</td>
<td>2</td>
<td>100.0%</td>
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<tr>
<td>Crisis Hospital - County</td>
<td>54</td>
<td>29</td>
<td>53.7%</td>
<td>42</td>
<td>77.8%</td>
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<tr>
<td>Desert - County</td>
<td>97</td>
<td>70</td>
<td>72.2%</td>
<td>79</td>
<td>81.4%</td>
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<td>Mental Health New Life - County</td>
<td>1</td>
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<td>100.0%</td>
<td>1</td>
<td>100.0%</td>
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<tr>
<td>MH Treatment - County</td>
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<td>5</td>
<td>71.4%</td>
<td>7</td>
<td>100.0%</td>
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<tr>
<td>Mid County - County</td>
<td>61</td>
<td>28</td>
<td>45.9%</td>
<td>46</td>
<td>75.4%</td>
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<tr>
<td>Older Adults - County</td>
<td>10</td>
<td>4</td>
<td>40.0%</td>
<td>6</td>
<td>60.0%</td>
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<tr>
<td>Substance Abuse - County</td>
<td>10</td>
<td>1</td>
<td>10.0%</td>
<td>7</td>
<td>70.0%</td>
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<tr>
<td>TAY - County</td>
<td>6</td>
<td>5</td>
<td>83.3%</td>
<td>5</td>
<td>83.3%</td>
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<tr>
<td>Western Abuse - County</td>
<td>33</td>
<td>15</td>
<td>45.5%</td>
<td>25</td>
<td>75.8%</td>
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<tr>
<td>Western Children - County</td>
<td>25</td>
<td>11</td>
<td>44.0%</td>
<td>24</td>
<td>96.0%</td>
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<tr>
<td>Contract Providers</td>
<td>20</td>
<td>7</td>
<td>35.0%</td>
<td>13</td>
<td>65.0%</td>
</tr>
<tr>
<td>Not Assigned/No Follow-up - County</td>
<td>157</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>483</strong></td>
<td><strong>177</strong></td>
<td><strong>36.6%</strong></td>
<td><strong>257</strong></td>
<td><strong>53.2%</strong></td>
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Right Technology: Data Management

- Spreadsheets
- SQL
- Electronic Health Record
- Data Warehouse
- Web-based Data Collection
Right Technology: Data Analysis

• Excel & Access
• SAS, SPSS
• Business Intelligence (BI) software
• GIS
• PeopleSoft or other Finance Software
Right Technology: Reporting

• Manual
• Electronic Health Record
• Intranet Websites
  – For reports w/o PHI
• Report Distribution Server
  – Authentication required for reports w/ PHI
Right Staff: Job Classifications

- Information Technology Positions
  - Technical Skills
- Research Positions
  - Analytic Skills
- Teaming IT & Research Positions
## Right Staff: Recruitment

<table>
<thead>
<tr>
<th>Functions</th>
<th>Prior Experience</th>
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</thead>
<tbody>
<tr>
<td>Electronic Health Record</td>
<td>Coding, Scripting, SQL, Crystal Reports</td>
</tr>
<tr>
<td>Research &amp; Evaluation</td>
<td>Advanced Degrees, Research, Data Analysis, Behavioral Health Content Expertise</td>
</tr>
<tr>
<td>Financial Reporting</td>
<td>SQL, Crystal Reports, Accounting</td>
</tr>
</tbody>
</table>
Right Staff: Training & Retention

- Career Ladder
  - Supervising Research Specialist
  - Business Process Analyst II
  - Research Specialist II
  - Business Process Analyst I
  - Research Specialist I
  - Research Analyst
Thank you

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