HOUSEKEEPING/ZOOM
STRATEGIC FRAMEWORK FOR DATA-DRIVEN AND EVIDENCE BASED PRACTICE

Program Inventory & Literature Review
Logic Models & Process Maps
Contracting Practices
Data Strategy & Dashboards
Program Evaluation & Cost Benefit Analysis

Seminar Series 1: Programming
Seminar Series 2: Data Strategy and Evaluation
Data Strategy, Part 1
• Accessing County Data (Nov 2020)

Data Strategy, Part 2
• Accessing State Data (Jan 2021)

Data Strategy, Part 3
• Integrating County and State Data (Mar 2021)

Data Dashboards
• Visualizing Data (May 2021)

Outcomes Evaluation
• Evaluating Program Outcomes (July 2021)
DATA DASHBOARDS

• Introduction
  ➢ What are data dashboards?
  ➢ Why are they useful?

• Designing Data Dashboards
  ➢ Goal setting
  ➢ Design process
  ➢ Tips on building effective data visualizations

• Case Studies from Probation and Jails
A data dashboard is a related set of data visualizations

- Builds on the data infrastructure you have developed

**Static dashboards** display multiple visualizations on one page

- They are often designed to tell a story

**Dynamic dashboards** allow users to explore data by visually navigating through the dashboard

- They are designed with key questions in mind
- But also allow flexibility for users to bring their own questions to the data
WHY ARE DASHBOARDS USEFUL?

Data dashboards:
• Track key characteristics, interventions, and outcomes
• Show the descriptive relationships between these variables

Importantly, data dashboards also:
• Expand access to data broader audiences (internal & external)
• Empower users to explore and investigate data
• Provide a shared, transparent basis for decision-making
EXAMPLE: PROGRAMMATIC INTERVENTIONS

Data Dashboard can help us to:

• Understand the reach and targeting of current programs
• Identify programmatic gaps overall and for subpopulations
• Compare outcomes for those receiving and not receiving programming
• Identify key programs or practices for outcomes evaluation
DESIGNING DATA DASHBOARDS

Poll Questions:

1. I have experienced data dashboards in the following ways...

2. I have encountered data dashboards built in...
START WITH VALUES: WHAT ARE OUR GOALS?

1. Measure government services
2. Identify communities in need of better assistance
3. Use data to work more efficiently and effectively
4. Stimulate new ideas and innovations
DASHBOARD DESIGN PROCESS

1. Identify key questions
2. Determine data needed
3. Build data infrastructure & summary data files
4. Import summary files & create visualizations
5. Publish to the right audience
IDENTIFY KEY QUESTIONS

**Question**

**Adult**
- What is the flow of people onto supervision? How has it changed over time?
- What kind of reasons do probationers receive violations of probation?
- How many sentencing reports are written and what is role of probation in serving the court?

**Juvenile**
- What is the profile of youth in the juvenile hall?
- What do juvenile crime and arrest trends look like?
- How has probation adapted to Congregate Care reform?

**Subtheme**

- Casetype
- Gender
- Race/Ethnicity
- Age
- Geography
- Criminal History
- Correctional History
- Criminogenic Risk
- Criminogenic Need
DETERMINE DATA NEEDED

Person ID (PFN)
- Gender
- Date of Birth
- Race/Ethnicity
- Zip Code (Last Known)

Docket ID
- Supervision type
- Start Date of Probation Grant
- End date of Probation Grant
BUILD DATA INFRASTRUCTURE & CREATE SUMMARY FILES

Develop a query of relevant fields

CMS developers sends secure files routinely

Dashboard developer creates views from event level data
What **data** is important to show?

What do I want to **emphasize** in the data?

What **options** do I have for displaying this data?

Which option is most **effective** at communicating the data?
## Publish to the Right Audience

<table>
<thead>
<tr>
<th>More Detail</th>
<th>Internal Agency</th>
<th>County Intranet</th>
<th>Public Website</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• All views</td>
<td>• Some views</td>
<td>• Restricted views</td>
</tr>
<tr>
<td></td>
<td>• Internal server</td>
<td>• Internal server</td>
<td>• Public-facing server</td>
</tr>
<tr>
<td></td>
<td>• Underlying data at event or individual levels</td>
<td>• Underlying data at event or individual levels</td>
<td>• Underlying data at summary level only</td>
</tr>
<tr>
<td></td>
<td>• Access based on role within agency</td>
<td>• Access based on shared clients status</td>
<td>• Accompanied by fact sheets and overviews</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less Detail</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Educating the audience around terminology

Matching the dashboard measures to language of your organization

Planning for the way users will likely explore the data

Telling a story, or series of stories, by building a narrative
TIPS FOR BUILDING EFFECTIVE VISUALIZATIONS
VISUAL PERCEPTION IS A HUGE PART OF SHARING INFORMATION

70% of sense receptors are in our eyes

30% is everything else

Information design is important even as software offers new possibilities and accessibility to more users
TO TABLE, OR TO CHART

**Use a table:**
- Looking up individual values
- Precision is required
- Values have multiple units of measure
- There is a summary and detail in the same view

**Use a chart:**
- The message is in the pattern or shape of trends, patterns, and exceptions
- The goal is to reveal relationships among a whole set of values
WHAT'S WRONG WITH THIS CHART?

The visual doesn’t match the scale of change
WHAT'S WRONG WITH THIS CHART?

More than 5 categories make it hard to discern relative differences.
WHAT'S WRONG WITH THIS CHART?

Make comparison useful and perceptible.
WHAT'S WRONG WITH THIS CHART?

Use color with care.
CHOOSING EFFECTIVE CHARTS

**Composition**
- pie charts
- stacked column or bar charts

**Comparisons**
- column or bar charts
- line charts

**Distributions & Relationships**
- scatter plots
- line charts
CASE STUDIES IN DASHBOARD DESIGN
1. Create a visual display that helps to show who probation serves across divisions and supervision types.

2. Use a point in time to show a basic view across different factors.

3. Allow for user queries into specific demographics, including age, race, and gender.

Dashboard 1: Alameda County Population Dashboard
Better Understand the Characteristics of Our Population
Alameda County Probation Department
Adult Field Services

Adult Probationers by City

<table>
<thead>
<tr>
<th>City</th>
<th>Probationers</th>
</tr>
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<tbody>
<tr>
<td>Oakland</td>
<td>3112</td>
</tr>
<tr>
<td>Hayward</td>
<td>843</td>
</tr>
<tr>
<td>San Leandro</td>
<td>361</td>
</tr>
<tr>
<td>Fremont</td>
<td>323</td>
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<tr>
<td>Berkeley</td>
<td>299</td>
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<tr>
<td>Union City</td>
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<tr>
<td>Livermore</td>
<td>163</td>
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<tr>
<td>Alameda</td>
<td>144</td>
</tr>
<tr>
<td>Castro Valley</td>
<td>125</td>
</tr>
<tr>
<td>Newark</td>
<td>107</td>
</tr>
</tbody>
</table>

Total: 8130

Adult Probationers by Supervision Type

- Formal Probation - Felony: 6863
- PRCS: 657
- Formal Probation - Misdemeanor: 580
- Mandatory Supervision: 30

Total: 8130

Adult Probationers by Age and Gender

- Female: 1294 (16%)
- Male: 8822 (84%)

Adult Probationers by Race

- Black: 362
- Hispanic: 777
- White: 954
- Asian/PI: 1517
- Unknown: 857

Number of adult probationers living out of county: 1498

* BOS District information available beginning in Q3 2020
DASHBOARD 2: COUNTY JAIL UTILIZATION DASHBOARD BETTER UNDERSTAND WHO IS BEING BOOKED INTO JAIL

1. Display basic information about bookings and disaggregate by booking circumstance and MH status

2. Use a single year of bookings to tell an annual composition story

3. Allow for users to look at specific subpopulations and geographies
EXAMPLE: JAIL UTILIZATION TOOL

Measure 1: Bookings for those with Mental Health Concerns

All Bookings in 2019: 5,807

New Crimes: 3,377
Non New Crime: 2,430

Percent of New Crime Bookings, by Crime Severity:
- Alcohol: 16%
- Crimes Against Persons: 6% (9%)
- All Others: 7% (5%)
- Narcotics and Drugs: 9% (2%)
- Property Offenses: 5%

Percent of Non New Crime Bookings:
- Court Commitment: 34% (8%)
- Violation of Supervision (Probation/Parole): 10% (18%)
- Warrant: 20% (7%)

Booking Sequence
- (All)
- 1
- 2 & 3
- 4-7
- 8-10
- 11-20
- 21+
QUESTIONS AND DISCUSSION
MATERIALS, GUIDES, AND TEMPLATES

Materials available:

Data Dashboard: Process Overview

Designing a Data Dashboard: Key Questions

Guide to Dashboard Design

Data & Evaluation Series Info:
https://www.counties.org/framework-seminar-series

Support Hub Website:
https://www.counties.org/csac-support-hub
LOOKING AHEAD
This final seminar in the programming series will be a presentation of CSAC team learnings from 10 California counties across various areas of cost benefit analysis. We will discuss how these findings can be interpreted and applied to local decision-making, particularly in resource-constrained environments.
Our final seminar in this series will provide an overview of outcomes evaluation. We will explain the key differences between (1) using data to monitor outcomes and (2) conducting an evaluation that generates findings about the effects of a program on outcomes. We will explain the key methodological steps in conducting an evaluation and discuss how evaluation findings can be used to inform decision-making.
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