Using Data as a Road Map for Data Driven Decision Making

Center for Drug and Health Studies

July 2020
State Epidemiological Outcomes Workgroup

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Welcome & Thank You!

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Participant Introduction

Please type your name and professional affiliation in the chat box.

As we get to know one another, please also answer the following question...

“What is the best road trip you have ever taken? If it has not happened yet, what would we be your dream road trip?”
Learning Objectives

• Find and interpret data that will help to identify and monitor challenges and assets.

• The impact and role of data on decision making.

• Explore how selected data can be translated into action to maximize outcomes.
FINDING AND SELECTING DATA
For today's purpose, data is that information which can be measured and analyzed.
## Sources of Data

### School Level
- Early Warning System Data
- Assessments and Screening Instruments
- School Climate Data
- School Health Profiles
- School Nurse, Wellness Center, etc

### Community Based Organization Level
- Program Attendance
- Evidence Based Program Pre/Post Tests
- Youth, Parent, & Staff Focus Groups
Sources of Data

Local & State Levels

- School Surveys - Delaware School Survey & Youth Risk Behavior Survey
- Community Needs Assessment
- Environmental Scan
- Data Portals: Kids Count & My Healthy Community
- Community Focus Groups
- September 30th Student Enrollment and Unit Allotment Reports & DOE School/District Report Cards
- Census
Sources of Data

National Level
• Youth Risk Behavior Survey
• Monitoring The Future
• National Survey of Children’s Health
• Kids Count
• National Survey on Drug Use and Health
• Census
• Healthy People 2020

Case Studies/Journal Articles
“Good Data” vs “Bad Data”

Good Data is ...

• Accessible
• Adds to your understanding of the topic
• Builds on our human capacity to take in information and look for patterns
• Consistent
• Valid & Reliable

All data is “good data” except when...
“Good Data” vs “Bad Data”

“Bad Data”

...does not answer the question you are asking!
What data isn’t...

• a replacement for the “unquantifiable”
  -relationships, motivation, etc.

• a substitution for comprehensive training and professional development
INTEGRATION
Data as a Resource

Data allows for a level of precision not present with intuition.

What is the phenomenon?
- Parameters
  - How big is it?
  - Who is affected?
  - Frequency?

What is the gap in our understanding of the problem?
Where are the gaps in our resources/services?
Key Reminders When Considering Available Data

• The instrument and data you are looking for may already exists.

• Prioritize High Quality Sources
  – Validated and Reliable Instruments
  – Consider the Source

• There are limitations to every question and instrument.
  – Inadequate response options
  – Bias present in instruments and analysis.
Speedbumps When Considering Data

• Study Sample vs Real Life Population
  – What differences exist?
• Trends & Comparisons
  – How has the rate changed over time?
  – How does rate compare with other groups (ex. State and National)?
• Dig Deeper
  – Avoid using only one source of information to understand the full scope of the situation
Projection or Explanation

Strawberry Poptarts - Walmart
(Dr. Seth Stephens-Davidowitz)

Bullying & Absenteeism - West Side High
(Principal Akbar Cook)
Rest Stop: Checking In (Q&A)
APPLICATION
What is Data Driven Decision Making (DDDM)?

- a systematic process using analytics to inform policy and action

*We make data driven decisions all the time...*

- Grocery Shopping
  - budget, dietary restrictions, coupons and sales, events during the week, etc.
- Driving
  - destination, adjusting route due to congestion or roadwork, stops along the way, etc.
- Planning a party, holiday event, or office luncheon
  - # of people, dietary restrictions, traditions, budget, space, music, needed equipment, etc.
Question

Can you think of a time when you have made data driven decisions in your work or in other areas of your life?
Benefits of DDDM

• Action Oriented/Proactive
• Logical & Focused
• Consistent
• Increased stakeholder confidence/buy in
• Refining & Improving Implementation
• Measurable
Data Driven Decision Making Process

1. Common Vision
Are we all moving towards the same destination? Ex. Literacy, Marijuana Use Prevention, etc.

2. Defining the Problem
What is the current status of the issue? What do we hope to do about it?

3. Data Plan
What don’t we know? How can we learn more? Who has the information we need?

4. Data Collection
Not necessarily new collection, but rather an inventory of available data and compiling it all in one place.
Data Driven Decision Making Process

5. Analyzing Available Data

Do we have the information that we need? What is the full picture of the data?

6. Developing a Data Informed Solution

Using SMART objectives, how can we address the issue?

7. Evaluate/Reassess

What have we learned? What is working well? Where are the opportunities for improvement?
Poll

What aspect of Data Driven Decision Making could be the most challenging for your team?
DDDM Tools

• Concept Mapping: Brainstorming & Planning
  – Grounded in Ausubel’s theory of building new knowledge
  – What conceptual connections exist?
DDDM Tools: Concept Mapping

Safe Schools

- Physically Safe
  - Mold/Mildew
  - Exposure to Toxins
  - Secondhand Smoke
  - Weapons
  - Bullying
- Violence

Emotionally Safe

- Supportive Relationships with Adults
- Positive Peer Relationships
- Role Models
- Friendship
- Leadership
DDDM Tools

• Logic Model: Planning, Implementation, and Evaluation
  – Based on a theory of change
  – How are we going to get from here to there?
  – Core: inputs, activities, outputs, and outcomes (impacts)
  – Additional: assumptions, external factors, situation, and priorities
# DDDM Tools: Logic Model

## Appendix A: Food for All Logic Model

<table>
<thead>
<tr>
<th>Project Resources</th>
<th>Core Project Components</th>
<th>Evidence of Project Implementation and Participation</th>
<th>Evidence of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INPUTS</strong></td>
<td><strong>ACTIVITIES</strong></td>
<td><strong>OUTPUTS</strong></td>
<td></td>
</tr>
<tr>
<td>What we invest</td>
<td>What we do</td>
<td>Direct products from program activities</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Short-Term</strong></th>
<th><strong>Medium-Term</strong></th>
<th><strong>Long-Term</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants increase knowledge of:</td>
<td>Participants improve food management practices</td>
<td>Participants improve food security for families</td>
</tr>
<tr>
<td>- Food resource management practices</td>
<td>- Meal planning</td>
<td>- Increase number of families eating healthy foods</td>
</tr>
<tr>
<td>- Food safety practices</td>
<td>- Price comparison</td>
<td>- Improve food environment for children</td>
</tr>
<tr>
<td>- Healthy nutrition practices</td>
<td>- Making grocery lists</td>
<td></td>
</tr>
<tr>
<td>- Cooking techniques</td>
<td>- Participants increase food safety practices</td>
<td></td>
</tr>
<tr>
<td>Participants increase skills in:</td>
<td>- Participants increase self-efficacy for:</td>
<td></td>
</tr>
<tr>
<td>- Cooking</td>
<td>- At-home meal prep</td>
<td>- Participants increase at-home meal preparation</td>
</tr>
<tr>
<td>- Food resource management</td>
<td>- Ability to manage food resources</td>
<td></td>
</tr>
<tr>
<td>- Making healthy family food decisions</td>
<td>- Making healthy choices when eating out</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Corporation for National and Community Service
DDDM Tools

• Decision Trees: Consistency and Understanding
  – Flow chart model
  – Support tool visualizing if-then based decisions
Where should I go on my next road trip?

**Outdoor Activities**
- Close to the ocean
  - Fishing
    - Outer Banks, NC
  - Surfing
    - Malibu, CA
  - State Parks
    - Acadia National Park, ME
- Camping
- Art Museum
  - MOMA (NY)
- Museums
- History
  - Philadelphia, PA
  - Washington, D.C.
- Take in a Show
  - Theatre
    - Broadway, NY
  - Concert
    - Las Vegas, NV
### DDDM Tools

- **Gantt Project Planner: Planning and Project Management**
  - Project timeline and, in some cases, dependency

### Project Tracker

<table>
<thead>
<tr>
<th>Position</th>
<th>Start Date</th>
<th>End Date</th>
<th>Milestone/Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8/1/2020</td>
<td>8/3/2020</td>
<td>Invite Potential Team Members</td>
</tr>
<tr>
<td>2</td>
<td>8/5/2020</td>
<td>8/9/2020</td>
<td>Schedule Brainstorming Session</td>
</tr>
<tr>
<td>3</td>
<td>8/5/2020</td>
<td>8/31/2020</td>
<td>Gather Materials</td>
</tr>
<tr>
<td>5</td>
<td>9/10/2020</td>
<td>9/10/2020</td>
<td>Follow Up: Problem Statement &amp; Data Plan</td>
</tr>
<tr>
<td>6</td>
<td>9/11/2020</td>
<td>10/9/2020</td>
<td>Collect All Available Data</td>
</tr>
<tr>
<td>7</td>
<td>10/15/2020</td>
<td>10/31/2020</td>
<td>Analyze Collected Data</td>
</tr>
<tr>
<td>8</td>
<td>11/5/2020</td>
<td>11/15/2020</td>
<td>Develop Data Informed Solution</td>
</tr>
<tr>
<td>9</td>
<td>11/20/2020</td>
<td>11/20/2020</td>
<td>Share Proposal with Stakeholders</td>
</tr>
<tr>
<td>10</td>
<td>12/1/2020</td>
<td>1/31/2021</td>
<td>Implement New Strategy</td>
</tr>
<tr>
<td>11</td>
<td>4/30/2021</td>
<td>5/15/2021</td>
<td>Evaluate Impact</td>
</tr>
</tbody>
</table>
DDDM Tools: Gantt Chart

- July 2020:
  - Facilitate Brainstorming Session (Goal/Vison)
  - Follow Up: Problem Statement & Data Plan
  - Collect All Available Data
  - Analyze Collected Data
  - Develop Data Informed Solution

- August 2020:
  - Follow Up: Problem Statement & Data Plan

- September 2020:
  - Facilitate Brainstorming Session (Goal/Vison)

- October 2020:
  - Collect All Available Data

- November 2020:
  - Analyze Collected Data
  - Develop Data Informed Solution
Translating DDDM into Action

Eating the elephant one bite at a time

Socioecological Model

Source: https://www.cdc.gov/violenceprevention/publichealthissue/social-ecologicalmodel.html
Translating DDDM into Action

• Ensure that data is accessible and meaningful
  – Professional Development
  – Ongoing and Consistent Communication

• Community of Practice
  – Team Effort

• Building a Data Informed Culture
  – Note: Some folks may be in “data denial” or “data averse”
Discussion

How can DDDM inform your work?

What resources do you need to move forward with DDDM?

What is the first step you will take towards DDDM?
THANK YOU!
Resources

A Conceptual Framework for Data-Driven Decision Making

Brigham Young University Center for Teaching and Learning – Concept Mapping
https://ctl.byu.edu/tip/concept-mapping

Community Toolbox: Logic Models

Data-Based Planning for Effective Prevention

Excel Resources (Introduction, Pivot Tables, Charts, etc.)
https://www.youtube.com/watch?v=k1VUZEVuDJ8
https://www.youtube.com/channel/UCSxX7Vgyu9iThxPE1jSDFdw
Resources

PTTC: Demystifying Data Webinar 1 & 2 Recordings

State Epidemiological Outcomes Workgroup (Center for Drug and Health Studies)
https://www.cdhs.udel.edu/seow/what-is-seow
References

Schryvers, P. (2020). Bad data: Why we measure the wrong things and often miss the metrics that matter. Guilford, CT: Prometheus Books.

