Building a Data Culture

Data Boot Camp 1.0

Patty Eningowuk, Tammy Wickstrom, and Mala Sablok

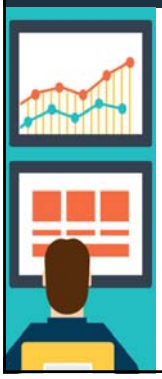
Training Objectives

In this training participants will

- Consider different ways data can be used to measure efficacy
- Practice and apply four foundational data activities—*prepare, collect, aggregate & analyze,* and *use & share*
- Explore techniques and skills to strengthen data analysis
- Develop a plan to improve data systems

Why Is Data Important?

The Language of Data



- Data quality
- Data-driven decision-making
- Data management
- Data visualization
- Data privacy
- Data analysis
- Data storytelling

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The Four Data Activities

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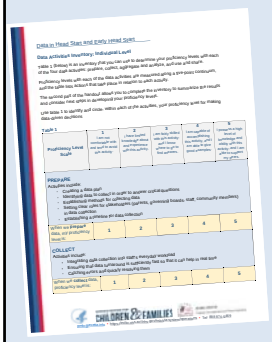
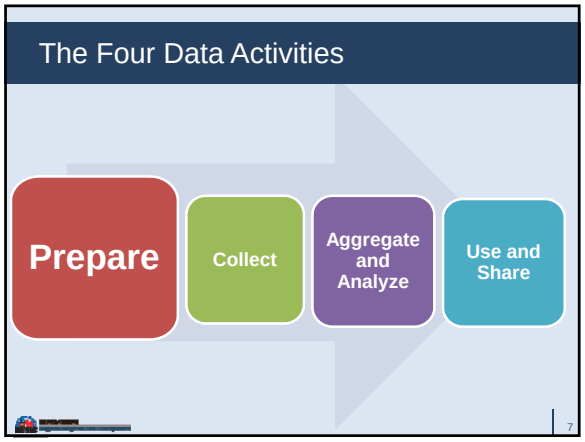
Data Activities Inventory



1. Reflect on the four data activities and complete the data inventory.
2. Take four colored dots.
3. Place them in the appropriate place on the four charts on the wall according to your answers.

6


The Four Data Activities
Prepare
Collect
Aggregate and Analyze
Use and Share
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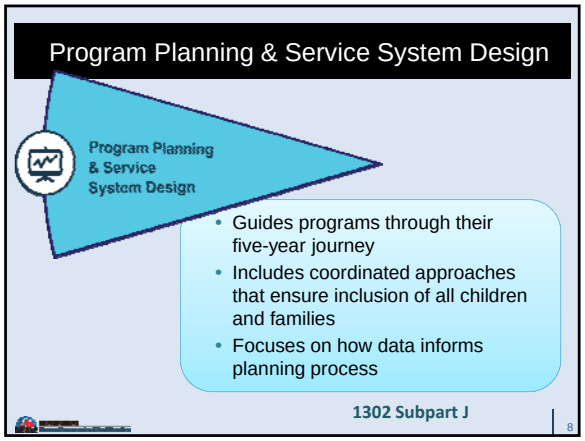
Program Planning & Service System Design
Program Planning & Service System Design
Guides programs through their five-year journey
Includes coordinated approaches that ensure inclusion of all children and families
Focuses on how data informs planning process
1302 Subpart J
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CONCEPTUAL ELEMENTS of Continuous Quality Improvement
Leadership in Data Management
Be Transformational
Adopt and Lead Change Strategy
Communicate Clearly
Motivate for Innovation and Creativity
Distribute Responsibilities
Be a Role Model
Commitment of Resources
Organizational Characteristics
Analytic Capacity
Culture of Collaborative Inquiry
Management of Program Data
Professional Development
Environment
Quality Child & Family Outcomes

Leadership and Data Management

Leadership in Data Management

- Be Transformational
- Adopt and Lead Change Strategy
- Communicate Clearly
- Motivate for Innovation and Creativity
- Distribute Responsibilities
- Be a Role Model

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Conceptual Elements

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Activity: Data…Data Lead the Way

From a leadership perspective, why is _____ critical to the use of data for continuous quality improvement?

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Planning in Head Start and Early Head Start

https://eclkc.ohs.acf.hhs.gov/hslc/tta-system/operations/docs/planning-topic-1.pdf

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Program Goals and Objectives

Program goals are….

BROAD Statements (Your Destination)

- Bold. Beyond Current Expectations
- Responsive
- Organization-wide
- Aspirational
- Dynamic

Carried out through an **Action Plan (Your Road Map)**

Recognized and Accepted as Important by All

Objectives are…

SMART parts of Goals (Your Mile Markers)

- Specific
- Measurable
- Attainable
- Realistic
- Timely

From TA Planning Paper #1

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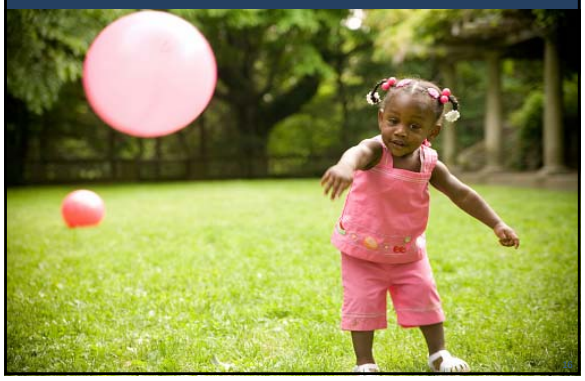
Did You Catch It?



Activity: BROAD and SMART Exploration

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Reflect on Prepare

What's working in your program?

What do you need to strengthen?

How will you improve your abilities in the preparation stage of data collection and use?

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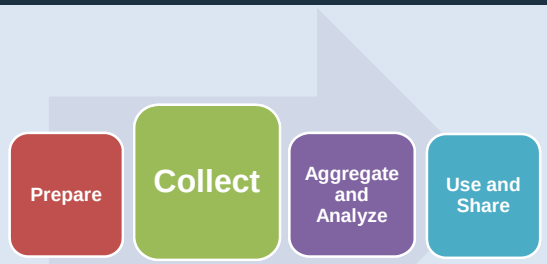
Collect

The Four Data Activities



Data Collection Methods

- Interviews
- Focus groups
- Surveys
- Observations
- Secondary data

Beginning to Think about Data Management

The management of program data effectively supports the

- Availability
- Usability
- Integrity
- Security of data

HSPPS 1302.101 Management of Program Data

Digital Data Inventory

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CONCEPTUAL ELEMENTS of Continuous Quality Improvement

Leadership in Data Management

- Be Transformational
- Adopt and Lead Change Strategy
- Communicate Clearly
- Motivate for Innovation and Creativity
- Distribute Responsibilities
- Be a Role Model

CQI Conceptual Elements

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Some Guiding Principles

The Four R Approach: Are We Using Data….

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Consider the Balance of Power

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Reflect on Collect

What's working in your program?

What do you need to strengthen?

How will you strengthen your ability to collect data?

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Aggregate and Analyze

The Four Data Activities

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Analyzing Qualitative Data

Analyze the qualitative information by coding it to find useful themes

Examples:

- Transcripts from focus group conversations
- Family case notes
- Child observation notes

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Management Meeting

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Data Layering – What story does it tell?

Looking at Multiple Data Sources: A Tool to Cross-Reference Your Data

Data Source:

Crossed with	Could tell you…	Why it matters
Child wellness data		
Family engagement data		
Child outcomes data		
Other data		

CHILDREN & FAMILIES

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Looking at Multiple Sources of Data

Data Source	Child Attendance	
Crossed with…	Could tell you…	Why it matters
Child wellness data	Illness-related absenteeism is caused by: • Insufficient immunizations or preventative care • The need for acute medical or dental care • Insufficient medical treatments or follow-up care • Individual health care needs	Child attendance can be improved with changes in policies and procedures that support children in: • Getting regular checkups and expected immunizations • Accessing medical or dental care • Securing ongoing medical treatments • Addressing special health care needs

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Analyzing Data

- What we want to achieve with the data is very important.
- Do we recognize the biases built into our analysis?
- How do we allow the data to inform our decision-making?
- What are the questions that the data leads us to?

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Community Connections Data Activity

- Each small group reviews the data and answer the following questions:
  1. What stands out for you?
  2. What questions arise for you?
  3. What is clear?
  4. What is confusing?
  5. Does the data identify program strengths?
  6. Are there areas that need attention?

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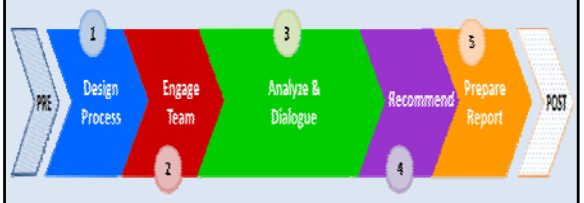
Phases of the Annual Self-Assessment



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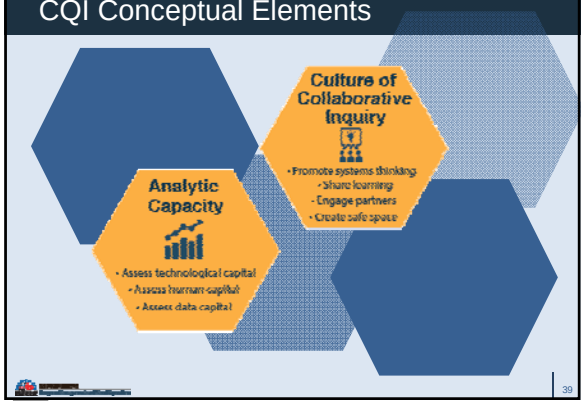
CONCEPTUAL ELEMENTS of Continuous Quality Improvement

CQI Conceptual Elements



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Using Your Own Data Activity: Part 1

- Each team reviews their own data and answers the following questions:
  - What stands out for you?
  - What questions arise for you?
  - What is clear?
  - What is confusing?
  - Does the data identify program strengths?
  - Are there areas that need attention?

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Reflect on Aggregate and Analyze

What's working in your program?

What do you need to strengthen?

How will you improve your ability to aggregate and analyze data?

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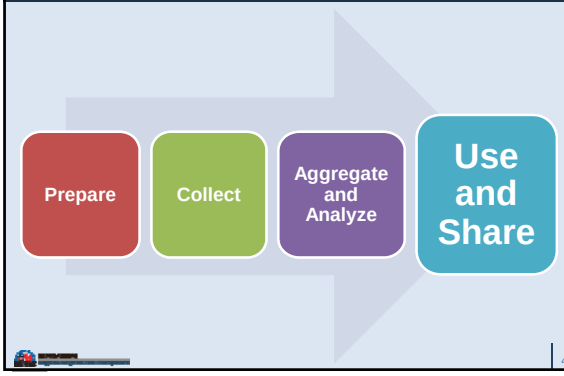
Use and Share

The Four Data Activities



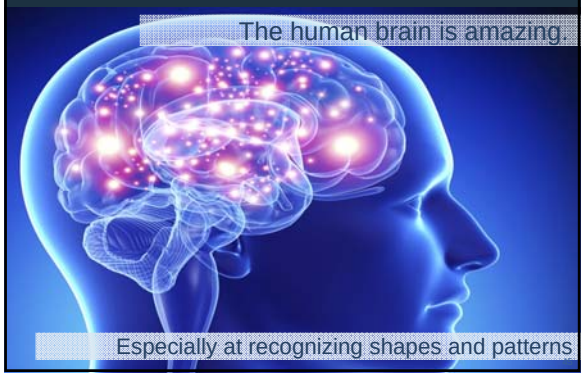
Data visualization can:

- emphasize key points
- provide context
- engage the audience

Ways to use data visualizations effectively:

- Analyze and make decisions
- Discover and identify
- Tell or support a story
- Inform or teach

The Science Factors



The Science Factors

The connection between the eye and brain is so fast that the brain receives 8.96 Mb/s (megabits) of data from the eye every second - which is the **speed of sight.**

Koch, K., (2006). How Much the Eye Tells the Brain. *Current Biology*, 16(14), 1428-1434 Retrieved from http://www.sciencedirect.com/science/article/pii/S0960982206016393

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The Science Factors

The average person comprehends

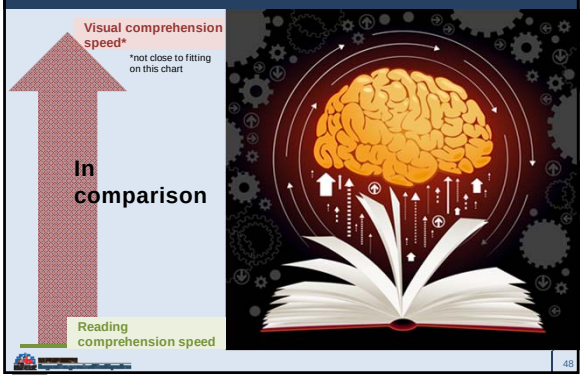
120 words per minute reading

that is equivalent to

81.6 bits (b/s)

of data per second.

The Science Factors



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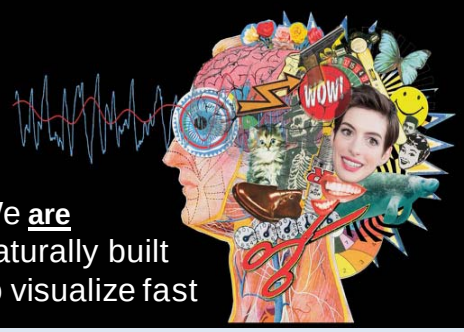
One can conclude…



We **are**
naturally built
to visualize fast

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Data visualizations…

can be
awesome
tools
when used
right way

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A Toolbelt of Techniques

Dashboards

Creative maps

Personal stories

Charts and graphs

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Telling Your Story Well

- Stories bring us together and move us to action
- Combining storytelling with data is powerful
- Use data as an asset to support our stories

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Persuasion and the Power of Story

Jennifer Aaker

Persuasion and the Power of Story

https://www.youtube.com/watch?v=AL-PAzrpgUQ

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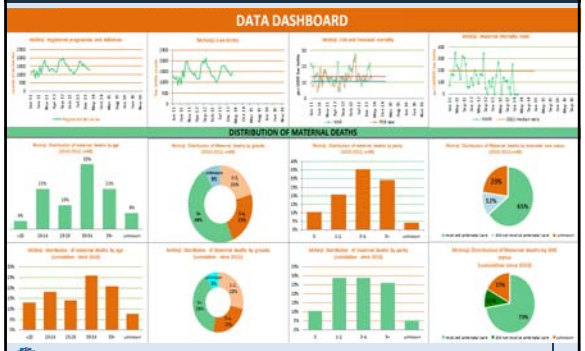
Dashboard Definition



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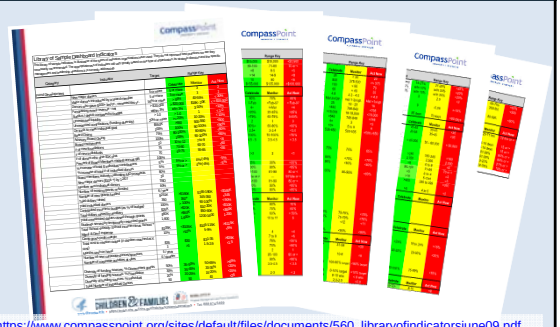
Library of Sample Dashboard Indicators



https://www.compasspoint.org/sites/default/files/documents/560_libraryofindicatorsjune09.pdf

Adapted from Compass Point Nonprofit Services Library of Sample Dashboard Indicators

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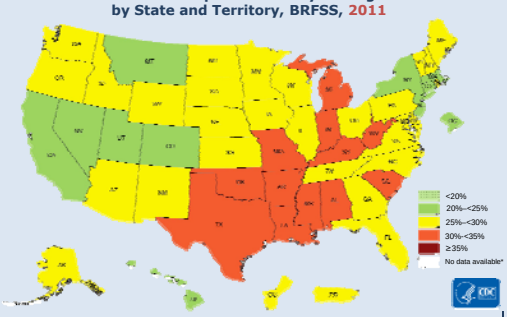
Maps as a Tool for Telling a Story

Prevalence[1] of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2011



[1] Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

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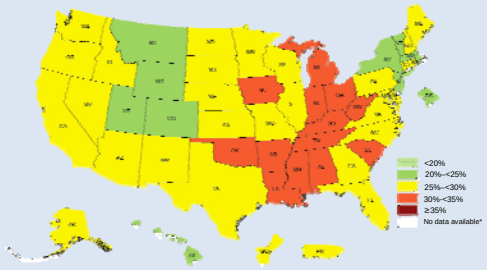

*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.

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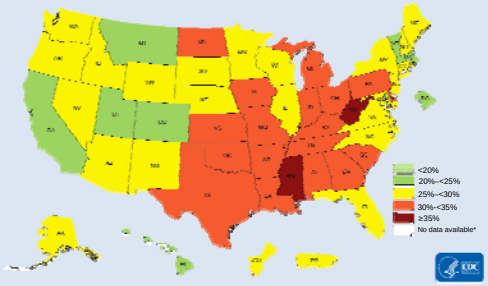
57

Maps as a Tool for Telling a Story

Prevalence[1] of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2013



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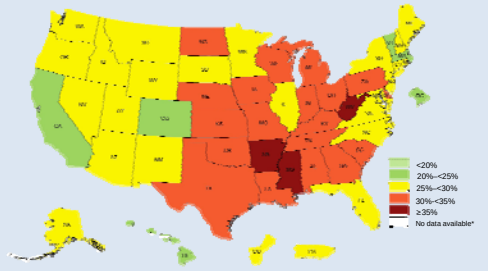
58

Maps as a Tool for Telling a Story

Prevalence[1] of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2014



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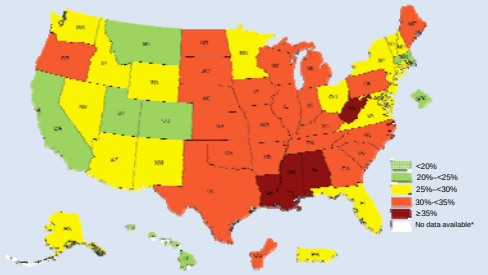
Maps as a Tool for Telling a Story

Prevalence[1] of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2015



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[1] Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates

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Effective Reports…

Follow the Four A's

- **A**ccurate
- **A**udience-specific
- **A**ppealing
- **A**ccessible

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To Create Graphs and Charts

- Create a Chart and Graph
- Microsoft Excel
- Management Information Systems

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Your Annual Report

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Using Data to Tell Your Story
Pair & Share
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CONCEPTUAL ELEMENTS
of Continuous Quality Improvement
Leadership in Data Management
Be Transformational
Adopt and Lead Change Strategy
Communicate Clearly
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Management of Program Data
Professional Development
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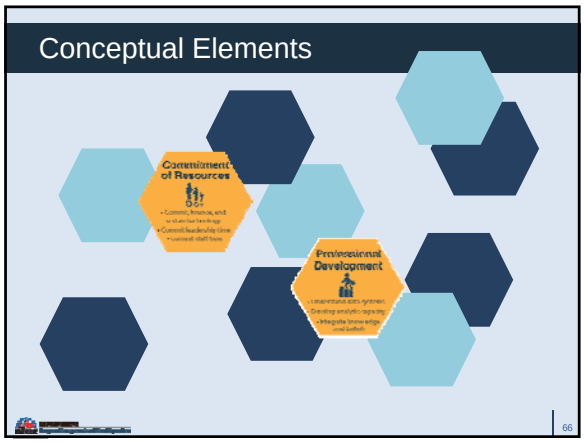
Quality Child & Family Outcomes


Conceptual Elements
Commitment of Resources
Professional Development
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Using Your Own Data Activity: Part 2

Each team reviews the results of their answer to the question:

Are there areas that need attention?

Step 1	Sort the results by similar themes and/or underlying connections.
Step 2	Once sorted, have each group create a short action-oriented statement that describes what needs to be done.

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Reflect on Use and Share

What's working in your program?

What do you need to strengthen?

How will you strengthen your ability to use and share data?

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Bringing It All Together

- What do you expect grantees to be able to do?
- How will this ability help children and families?
- When do you expect this to happen?
- How will you know when it happens?

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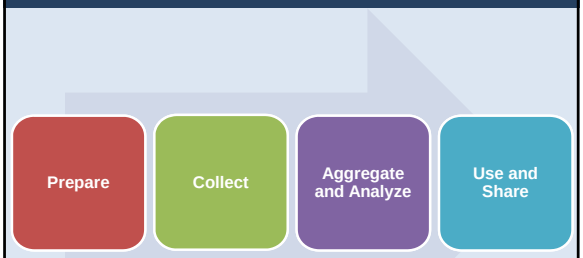
The Four Data Activities



Taking Stock: Data Inventory Revisited

A. PREPARE	B. COLLECT	C. AGGREGATE AND ANALYZE	D. USE AND SHARE
Activities include: • Creating a data plan • Identifying data to collect • Establishing methods to collect data • Setting clear roles for stakeholders (parents, governing boards, staff, community members) • Establishing a timeline for data collection	Activities include: • Integrating data collection into staff's everyday workload • Ensuring data turnaround is fast • Catching errors and quickly resolving them	Activities include: • Examining data to identify what is working and what is not working • Identifying trends • Connecting different data types and sources to get a "bigger picture" • Comparing data	Activities include: • Presenting data graphically • Establishing systematic solutions to identified problems • Identifying new goals and new critical questions based on the results of data analysis • Sharing results with stakeholders

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Develop Your Plan of Action

Goal: _____

SMART Objective: _____

Outcome: _____

Action / Strategy	Person (s) Responsible	Timelines	Data Source(s)	Status

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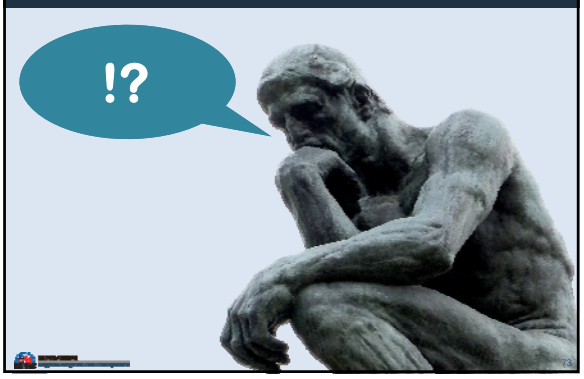
Final Thoughts



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pmfo@ecetta.info

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ADMINISTRATION FOR CHILDREN & FAMILIES