

Lessons Learned in Designing a Data Dashboard to Support the Community Needs

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Agenda

- Session Goals and Objectives
- NC Youth and Young Adult Prevention Survey
- Rationale for Dashboard
- Dashboard Lessons Learned
 - *Dashboard Developers Should Start with a Strong Conceptual Framework*
 - *Design for Real-World Prevention Decision-Making*
 - *Balance Local Detail with Data Privacy & Integrity*
- Wrap-Up

Session Goals and Objectives

- Goal: Help other states design **user-friendly, actionable** prevention dashboards
- By the end of this session, participants will be able to:
 - **Describe** key considerations for designing a prevention data dashboard
 - **Identify** features that improve dashboard usability and reduce risk of misinterpretation
 - **Apply** lessons from NC to enhance their own state's data visualization

North Carolina Youth and Young Adult Substance Use Prevention Survey (NCYYAPS)

- Comprehensive prevention survey collecting data on:
 - Substance use behaviors
 - Risk and protective factors
 - Demographics
 - Social determinants of health
 - Other contextual information
- Collected data from 15,000 12-25 year olds weighted to reflect the population of North Carolina who were:
 - Recruited online by Qualtrics by prevention regions intended to cluster counties into regions that felt meaningful to communities to participate in a telephone survey
 - Provided a \$25 cash equivalent incentive

Rationale for Dashboard

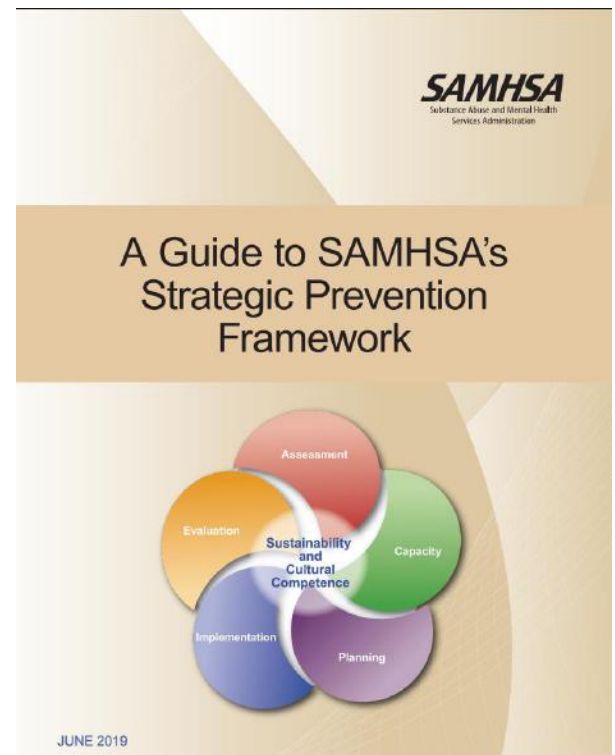
- Effective prevention planning requires localized, actionable data
- Yet, many community organizations lack capacity to collect or interpret survey data
- We conducted the **NCYYAPS** and developed the **NC Substance Use Prevention Data Dashboard** to bridge this gap
 - The dashboard is intended to guide organizations through a **data-driven needs assessment process, with the NCYYAPS serving as the primary data source for the assessment.**
 - The dashboard was intended to be more than just a data display—it was designed for **informed prevention decision-making**

Lesson 1: Start with a Strong Framework

- **Begin with a solid conceptual framework**
- What we did:
 - Designed a **multi-step process** for community organizations
 - Helped them build:
 - A **well-supported, aligned logic model**
 - A **clear strategy selection process**
- Conducted extensive data analyses to identify:
 - Most **prevalent risk & protective factors**
 - Factors most likely to impact substance use if changed
 - **Key Takeaway:**
Structure matters — without a clear process, users may struggle to interpret or act on the data effectively

A Strong Conceptual Framework Draws Upon Existing Knowledge & Resources

We used our experience working with communities on assessment and SAMHSA's Strategic Prevention Framework Guide to structure our process



Our Conceptual Framework

- A high quality, data-driven community assessment
 - Identifies high concern substances, considering:
 - Magnitude of the problem
 - Severity
 - Trends
 - Comparisons
 - Changeability
 - Considers age (and developmental stage) when substance use peaks to determine when to intervene
 - Identifies disparately impacted populations and considers capacity to intervene
 - Prioritizes risk and protective factors

Dashboard Views Old vs New

- Old: https://public.tableau.com/app/profile/amita2507/viz/Story_Substanceuseweighteddata_v1_4/Storyv1_4_wgtd
- New: https://public.tableau.com/app/profile/amita2507/viz/Final_17392039791570/Story1
- Repository: <https://school.wakehealth.edu/about-the-school/prevention-resource-repository>

Lesson 2: Real-World Decision-Making

- **Built based on user feedback and observation**
- What we did:
 - Added feature to **compare local data to state & other regions**
 - Simplified structure with:
 - **Familiar visualization formats**
 - **Collapsed pages** to minimize learning curve
 - Balanced flexibility with guidance:
 - **Default views** for common needs
 - Users can customize data views

Key Takeaway:

Real-world use reveals gaps — dashboards must guide prevention practitioners, not just present data

Needs Assessment Feedback

- We conducted a needs assessment training series across the state
- Through that we gained a plethora of feedback on improvements as users were using the dashboard live in front of us

Needs Assessment Feedback - Partners

- We acknowledge having real time improvements is not achievable most of the time
- Feedback from partners

Conducted Feedback Session

- In this session, we asked key questions about the dashboard such as:
 - *What level of detail should confidence intervals include, and how should they be presented?*
 - *How can the platform balance the inclusion of small region data while minimizing user frustration with potentially overwhelming warnings?*

Lesson 3: Balance Detail with Integrity

- **Challenge:** Users wanted highly localized data
- **Risk:** Too much detail could lead to misinterpretation
- What we did:
 - Created **regional groupings** for coalitions and providers
 - Added **caution flags** and **alternatives** for low-certainty data
 - Built a **tiered region selection structure**:
 - Maximized choice when appropriate
 - Limited detail where data could be misleading (e.g., substance source)
- **Key Takeaway:**
Balance access with responsible use — guardrails are essential to ensure correct interpretation of localized insights

Approach to Balance

- **Preferred Approach:**
 - Keep visualizations simple and logically ordered (state → region(s) → next measure).
 - Provide clear, consistent labeling and ordering of measures.
 - Use default settings for common measures but allow full customization.
- **Detail Management:**
 - Avoid overwhelming lists by letting users filter by substance and type of risk/protective factor.
 - Offer simplified visuals (e.g., for confidence intervals) with optional detailed explanations for advanced users.
 - Balance inclusion of all small region data with clear guidance materials to help interpret warnings.

User Feedback & Recommendations

- **Visual Clarity:**
 - Disliked overly complicated charts (e.g., embedding state data within regions).
 - Preference for color-coding regions to distinguish data.
 - Avoid monochromatic visuals and vague warnings.
- **Guidance & Support:**
 - Strong demand for interactive, scenario-based tutorials over static text-heavy guides.
 - Include clear, neutral, actionable language in warnings/alerts.
- **Customization & Flexibility:**
 - Users want control over measure and region selection, with state-level defaults.
 - Provide clear alternative options in alerts and warnings.

Wrap-Up

Effective dashboards empower communities to make informed, evidence-based prevention decisions

- **Start with structure:** A strong conceptual framework is essential
- **Design for usability:** Real-world users need intuitive, flexible tools
- **Balance detail and responsibility:** Provide localized insights with built-in guardrails
- **Translate lessons to action:** Apply these principles to improve your state's data systems

Prevention data is powerful—but only when it is **accessible, actionable, and responsibly used**

