Creating Actionable Data

To be actionable, data should describe meaningful outcomes; disaggregate results for subgroups of interest and concern; link outcomes to experiences over which policymakers and practitioners have some control; show trends and comparisons; and support appropriate inferences.

Data are more likely to lead to changes in policy and practice that improve student outcomes, if they do the following:

- **Describe meaningful outcomes.** Stakeholders place a priority on data that describe real-world consequences for students, such as postsecondary remediation, enrollment, persistence, and completion.

- **Disaggregate results for subgroups of interest and concern.** Disaggregating results by district and school and by student subgroups (such as by race-ethnicity, economic disadvantage, and English learner status, among other characteristics) allows for identifying stronger and weaker areas and targeting improvement efforts. Disaggregating postsecondary outcomes by institution type allows for checking assumptions and gaining insight about which students attend and persist at private vs. public and 2-year vs. 4-year institutions.

- **Link outcomes to experiences over which policymakers and practitioners have some control.** State, district, and school policies and practices can influence student achievement results, the courses that students take, and attendance rates, all factors that have been shown by research to be associated with subsequent postsecondary education outcomes. Consequently, pilot reports linked postsecondary education outcomes to high school and 8th-grade test scores, high school course-taking patterns, and 9th-grade attendance, among other measures.

- **Show trends and comparisons.** To provide context for interpreting results, the pilot offered reports showing trends in key outcomes over the most recent 4-year period, as well as reports comparing a school or district’s outcomes with results for similar schools and districts based on the economic disadvantage status, English learner status, and incoming achievement levels of their student populations, among other characteristics.

- **Support appropriate inferences.** Often, education outcomes are associated with the socioeconomic status of students. The longitudinal nature of SLDS data makes it possible to take prior experiences and other contributing factors
into account in a number of ways. For example, grouping high school results by the incoming achievement levels of 9th graders (based on their 8th-grade test scores) can help identify high schools that achieve the best results given their student populations.

The Pilot Model Report illustrates many of the above principles.

Reports and data tools encourage use of data when they provide multiple avenues to information, are attractively designed and easy to use, and offer support for understanding.

Based on stakeholder input, pilot data were made available to participants in three ways:

- A set of standard reports (for the typical user)
- A custom table-building tool (for those who want to dig deeper into the data)
- Longitudinal student-level analysis files (for researchers)

This multi-tiered offering was designed to satisfy the information needs of users with various levels of analytic interest and experience. Both the standard reports and table-building tool were delivered through the pilot web tool, Advance. A prototype of this tool is available at http://pilot.mprinc.com/NSCPilotProto.

Reports that connect high school and postsecondary data, and the terms and measures used to describe these data, are new to many audiences. Providing adequate support for understanding and interpreting the results is therefore vital. As above, this support can be provided in multiple formats and levels of technical detail to reach audiences with different needs and experiences. The following types of support for understanding can assist audiences in making the best use of the information:

- Clear and complete titles, labels, and notes, ideally written in a jargon-free style;
- Definitions of measures and other key terms, along with notes about data sources and limitations embedded directly in the report, graph, or table;
- Narrative explanation that assists with interpretation;
- Links to more detailed technical documentation describing variable sources and creation;

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1 Student-level analysis files were only available for Georgia and Florida. In Texas, student-level records were analyzed on site at the Education Research Center (ERC) at the University of Texas-Dallas, and only aggregate reports were extracted from the ERC. Consequently, the custom table-building feature was more limited for Texas users.
On-line training resources that provide additional help with interpretation of information;
Resources available in print, graphics, and video format;
Explanation of how variables or results may differ from other sources of similar information; and
Access to the research team who analyzed the data and constructed the metrics, to resolve outstanding questions not anticipated in support materials.

As seen in Figure 1 below, the standard reports included in Advance combine all of the most important information and resources requested by stakeholders, including: a graphical data display, a table containing demographic detail, the option to switch between percentages and counts, state-specific variable definitions, notes about the data and interpretation, and questions to prompt thought and action. See also the prototype for Advance (link provided above) and the Pilot Model Report for additional examples of effective data presentations.

Figure 1. Sample report from the Advance Reports Library