National Forum on Education Statistics

# FORUM GUIDE TO
# Alternative Measures of Socioeconomic Status in Education Data Systems

National Forum on Education Statistics

# FORUM GUIDE TO
# Alternative Measures of Socioeconomic Status in Education Data Systems

## National Cooperative Education Statistics System

The National Center for Education Statistics (NCES) established the National Cooperative Education Statistics System (Cooperative System) to assist in producing and maintaining comparable and uniform information and data on early childhood, elementary, and secondary education. These data are intended to be useful for policymaking at the federal, state, and local levels.

The National Forum on Education Statistics (Forum) is an entity of the Cooperative System and, among its other activities, proposes principles of good practice to assist state and local education agencies in meeting this purpose. The Cooperative System and the Forum are supported in these endeavors by resources from NCES.

Publications of the Forum do not undergo the same formal review required for products of NCES. The information and opinions published here are those of the Forum and do not necessarily represent the policy or views of NCES or the U.S. Department of Education.

**June 2015**

This publication and other publications of the National Forum on Education Statistics may be found at the websites listed below.

The NCES Home Page address is *http://nces.ed.gov*
The NCES Publications and Products address is *http://nces.ed.gov/pubsearch*
The Forum Home Page address is *http://nces.ed.gov/forum*

This publication was prepared in part under Contract No. ED-CFO-10-A-0126/0002 with Quality Information Partners, Inc. Mention of trade names, commercial products, or organizations does not imply endorsement by the U.S. Government.

**Suggested Citation**
National Forum on Education Statistics. (2015). *Forum Guide to Alternative Measures of Socioeconomic Status in Education Data Systems*. (NFES 2015-158). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

**Technical Contact**
Ghedam Bairu
(202) 502–7304
*ghedam.bairu@ed.gov*

# Working Group Members

This online publication was developed through the National Cooperative Education Statistics System and funded by the National Center for Education Statistics of the U.S. Department of Education. The Alternative Socioeconomic Status (SES) Measures Working Group of the National Forum on Education Statistics is responsible for the content.

## Chair

**Matt Cohen,** Ohio Department of Education

## Members

**Chris Chapman**, National Center for Education Statistics

**Sonya Edwards**, California Department of Education

**Michael Hawes**, United States Department of Education

**Mike Hopkins**, Rochester School Department (NH)

**Tom Howell,** Michigan Center for Educational Performance and Information

**Robert Rodosky**, Jefferson County Public Schools (KY)

**Ross Santy**, National Center for Education Statistics

**Marilyn Seastrom**, National Center for Education Statistics

**Todd Stephenson**, United States Department of Education

**Marie Stetser,** National Center for Education Statistics

**William Ward,** National Center for Education Statistics

## Consultant

**Tom Szuba**, Quality Information Partners

## Project Officer

**Ghedam Bairu**, National Center for Education Statistics (NCES)

## Acknowledgements

The National Forum on Education Statistics would like to thank everyone who reviewed or otherwise contributed to the development of the *Forum Guide to Alternative Measures of Socioeconomic Status in Education Data Systems*. We would especially like to acknowledge the efforts of several individuals who contributed to the working group but were no longer members at the time of publication, including Francie Gilmore-Dunn, formerly of the Mississippi Department of Education; Jim Harrington, formerly of the Hillsboro School District (OR); Tom Ogle, formerly of the Missouri Department of Elementary and Secondary Education; Charlene Swanson, formerly of the New York State Education Department; and Christina Tydeman, formerly of the Hawaii State Department of Education. Wendy Geller of the Vermont Department of Education provided helpful feedback as a reviewer. The content, including sections relating to the National School Lunch Program, was also reviewed by Julie Brewer, Eyang Garrison, and Kevin Maskornick of the U.S. Department of Agriculture's Food and Nutrition Service.

# Foreword

## Document Purpose

The goal of this document is to provide relevant information to the education community as it considers alternatives to free- and reduced-price meal (FRP) eligibility data as a proxy for individual student and family socioeconomic status (SES). It provides "encyclopedia-type" entries for eight different alternative SES measures and, as such, will help readers better understand the implications of collecting and interpreting a range of SES-related data in education agencies. More specifically, it strives to

- explain the context of SES data collection and use in administrative records systems in the education community;
- describe the benefits, challenges, and limitations of plausible SES alternatives;
- emphasize standard definitions and calculations for SES alternatives in order to encourage comparability; and
- recommend good practices for adopting and implementing new SES elements in education agencies and data systems.

It should be noted that this document focuses on the needs and possible solutions for administrative records in education data systems and does not reflect the full spectrum of opportunities available to the research community.

## Why Do Socioeconomic Data Matter?

The term "socioeconomic status" can be defined broadly as one's access to financial, social, cultural, and human capital resources.[1] SES has been correlated with an individual's skill development, academic achievement, work and life outcomes, and overall psychological and behavioral well-being.[2] SES data are used by education policymakers and practitioners primarily to

- identify individuals who are eligible to participate in a range of supplemental programs and services or otherwise receive public benefits;
- allocate financial, instructional, and support resources to groups of people (e.g., students, schools, and communities); and
- report on the effectiveness of schools, programs, and services for a wide range of student groups.

SES data can have direct and substantial influence on decisionmaking relating to classroom instruction, program and service delivery, resource allocation, and policies at all levels of the education enterprise. As such, identifying and implementing SES measures that meet the ongoing needs of the education community is a high priority.

[1] NCES (2012). *Improving the Measurement of Socioeconomic Status for the National Assessment of Educational Progress: A Theoretical Foundation*. Retrieved February 2015 from http://nces.ed.gov/nationsreportcard/pdf/researchcenter/Socioeconomic_Factors.pdf.

[2] American Psychological Association (APA). *Education and Socioeconomic Status Fact Sheet*. Retrieved February 2015 from http://www.apa.org/pi/ses/resources/publications/factsheet-education.aspx. Note, however, that some of these conclusions are based on alternative measures of SES available in research settings.

## Comparability

The alternatives presented in this document may be defined and applied with some variation across the nation. Therefore, the commonly used definitions and characteristics of each measure represent examples of good practice used by some, but not all, education agencies. While these recommendations are not a federal mandate, this document recommends that state and local education agencies (SEAs and LEAs) consider adopting consistent definitions in order to generate useful, valid, reliable, timely, cost-effective, and comparable SES data across the education community.

## Intended Audience

The *Forum Guide to Alternative Measures of Socioeconomic Status in Education Data Systems* is intended for anyone with an interest in elementary and secondary education or socioeconomic data. This includes policymakers charged with deciding which SES measures to implement in an education agency, as well as staff tasked with collecting and using the data. Thus, the primary audience for this resource includes policymakers, program staff, and data staff in education agencies across the nation, including LEAs, SEAs, and the U.S. Department of Education.

## Development of Forum Products

Members of the Forum establish working groups to develop best practice guides in data-related areas of interest to federal, state, and local education agencies. They are assisted in this work by NCES, but the content comes from the collective experience of working group members who review all products iteratively throughout the development process. After a working group completes the content and reviews a document a final time, publications are subject to examination by members of the Forum standing committee that sponsors the project. Finally, Forum members (approximately 120 people) review and formally vote to approve all documents prior to publication. NCES provides final review and approval prior to online publication.

This document is intended to serve as a reference tool for education agencies engaged in identifying, evaluating, or implementing alternative SES measures. It is not a data collection instrument and does not represent a federal reporting requirement. The information and opinions published here are the product of the National Forum on Education Statistics and do not necessarily represent the policies or views of the U.S. Department of Education or the National Center for Education Statistics. Users can modify, customize, or reproduce any or all parts of this document.

# Contents

# Chapter 1: A Need for Alternative SES Measures

## The Education Community Needs High-Quality SES Data for Multiple Purposes

The education community has historically relied heavily on free- and reduced-price meal (FRP) eligibility data in both individual and aggregate form to identify socioeconomically disadvantaged students, schools, areas, and populations.[3] This information, which originates in the National School Lunch Program (NSLP) administered by the U.S. Department of Agriculture, is used by local education agencies (LEAs), state education agencies (SEAs), and the U.S. Department of Education (ED) to target resources to schools with students and families in need of supplementary services. It is also used in other ways that have significant consequences for students, schools, districts, and SEAs, including policymaking related to funding, service availability, program eligibility, accountability, and research.

However, while FRP eligibility data may be appropriate for operating a meals program, it is becoming less suitable to the education community as a measure of an individual student's socioeconomic status (SES) because of three primary reasons:

1. **FRP eligibility data are being interpreted and used in a manner that is not intended by the collection**. FRP eligibility data have become so widely used as a proxy for SES that many people use the term "free- and reduced-price meal eligible" synonymously with "low SES"—even though FRP eligibility reflects only one component of SES (family income). In other words, FRP eligibility status is largely a measure of economic status and does not incorporate other components understood to be relevant to the measurement of SES, such as parent/guardian occupation and education.

2. **Access to FRP eligibility data is severely limited within the education community**. NSLP guidelines require that SEAs, LEAs, and schools ensure that their data systems, school records, and other means of viewing a student's FRP eligibility status are accessible only to officials directly connected with the administration of the meals program (with limited audit and assessment exceptions). Teachers, guidance counselors, principals, and education staff who are not providing such assistance under the appropriate NSLP statutory or

[3] Free- and reduced-price meal (FRP) data are sometimes referred to as free-and reduced-price lunch (FRL) data.

regulatory requirements cannot have access to individual FRP eligibility data, which means that this information is not available to inform instructional and service support decisions for individual students.[4]

In addition to offering financial and administrative benefits to schools and districts, CEP adoption would result in universal meal services, which can have a positive impact in high-poverty communities with high levels of food insecurity.

3. **FRP eligibility data are becoming less applicable as a proxy for individual economic need.** In 2010, the Healthy, Hunger-Free Kids Act was amended to provide an alternative to household applications for free- and reduced-price meals in high-poverty LEAs and schools.[5] This alternative is referred to as the Community Eligibility Provision (CEP) (see appendix A).[6] CEP has two potential advantages compared to conventional reimbursement methods: (1) it can potentially increase student participation in meal programs by expanding access to free meals for all students; and (2) it can decrease household and administrative burden by not requiring regular applications to establish eligibility (simplifying the counting of reimbursable meals). CEP is expected to improve the efficiency and effectiveness of the NSLP; however, it will also result in the loss of individual student-level FRP eligibility data in participating education agencies given that CEP schools are prohibited from collecting NSLP household applications. This change to the NSLP is expected to result in the loss of individual student-level FRP eligibility data in many education agencies, although these effects are diminished if the entity previously participated as a Provision 1, 2, or 3 program (see appendix B). Because many education agencies rely on FRP eligibility as a measure of SES, this change would have serious implications on the quality of the SES proxy in LEA, SEA, and ED data systems.

Socioeconomic status has been correlated with an individual's academic skills development, academic achievement, work and life outcomes, and overall psychological and behavioral well-being; at the community level, schools in low-SES neighborhoods are less likely to have well-qualified teachers.[7] Recent research suggests that rising income inequality in the U.S. has been accompanied by a growing achievement gap between students from low- and high-SES families.[8] This disparity continues into postsecondary education, where students from low-income families have substantially lower enrollment rates and graduation rates in general, as well as lower enrollment and graduation rates in colleges and universities characterized as "elite" academic institutions.[9] Given the predictable academic challenges

[4] USDA Food and Nutrition Service (2013). *Eligibility Manual for School Meals: Determining and Verifying Eligibility*. Retrieved February 2015 from http://www.fns.usda.gov/cnd/Guidance/EliMan.pdf.

[5] PL 111-296 amended Section 11(a)(1) of the Richard B. Russell National School Lunch Act (42 U.S.C. 1759a(a)(1).

[6] Visit http://www.fns.usda.gov/school-meals/community-eligibility-provision for more information about the CEP.

[7] American Psychological Association (APA). *Education and Socioeconomic Status Fact Sheet*. Retrieved February 2015 from http://www.apa.org/pi/ses/resources/publications/factsheet-education.aspx. Note, however, that some of these conclusions are based on alternative measures of SES in research settings.

[8] Reardon, S.F. (2011). *The Widening Academic Achievement Gap Between the Rich and Poor: New Evidence and Possible Explanations*. Retrieved February 2015 from http://cepa.stanford.edu/content/widening-academic-achievement-gap-between-rich-and-poor-new-evidence-and-possible.

[9] The Century Foundation (2013). *Left Behind: Unequal Opportunity in Higher Education*. Retrieved February 2015 from http://tcf.org/assets/downloads/tcf-leftbehindrc.pdf.

facing low-SES students and the substantial portion of the school population living in poverty, targeting support services to this group is a common priority in the education community.

Moreover, many local school boards, most state legislatures, and the federal government have established accountability systems that specifically include performance targets for low-SES populations.[10] Other common applications of SES data in the education community relate to E-rate applications, school financing and funding formulae, and research. SES data are also used to allocate resources to students, schools, and communities based on need. Finally, and quite importantly, the data are often used to identify "peer" schools and to compare academic performance and instructional approaches used in programs, schools, districts, states, and across the nation.

Education policymakers and practitioners need SES data to

- identify individuals who are eligible to participate in a range of supplemental programs and services or otherwise receive public benefits;
- allocate financial, instructional, and support resources to groups of people (e.g., students, schools, and communities); and
- report on the effectiveness of schools, programs, and services for a wide range of student groups.

## What is Socioeconomic Status?

The term "socioeconomic status" has been described as groups of people with similar occupational, educational, and economic characteristics;[11] a person's relative standing in society based on income, power, background, and prestige;[12] the social standing or class of an individual or group;[13] the placement of persons, families, households, census tracts, or other aggregates with respect to the capacity to create or consume goods that are valued in our society;[14] and the hierarchical rank of an individual or family in a particular community or society.[15] In 2012, an expert panel convened by the National Center for Education Statistics (NCES) reported:

[10] NCES (2013). *The Condition of Education*, retrieved February 2015 from http://nces.ed.gov/programs/coe/, and *Title I — Improving The Academic Achievement Of The Disadvantaged*, retrieved February 2015 from http://www2.ed.gov/policy/elsec/leg/esea02/pg1.html.
[11] Santrock J.W. (2004). *Child development* (10th ed.). New York: McGraw-Hill.
[12] Woolfolk, A. (2007). *Educational psychology* (10th ed.). Boston: Allyn and Bacon.
[13] American Psychological Association (APA). *Education and Socioeconomic Status Fact Sheet*. Retrieved June 2013 from http://www.apa.org/pi/ses/resources/publications/factsheet-education.aspx.
[14] Hauser, M.H. and Warren, J.R. (1996). *Socioeconomic Indexes for Occupations: A Review, Update, and Critique*. CDE Working Paper 96-01. Madison, WI: Center for Demography and Ecology. (Available online at http://www.ssc.wisc.edu/cde/cdewp/96-01.pdf).
[15] Davis, R. J. (2009). Socioeconomic status (SES). In K. Lomotey (Eds.), *Encyclopedia of African American education* (pp. 585-590). Thousand Oaks, CA: SAGE Publications.

*SES can be defined broadly as one's access to financial, social, cultural, and human capital resources. Traditionally, a student's SES has included, as components, parental educational attainment, parental occupational status, and household or family income, with appropriate adjustment for household or family composition. An expanded SES measure could include measures of additional household, neighborhood, and school resources.*[16,17]

A range of variables has been used to "measure" socioeconomic status since early use of the concept in the 1920s. Most of these approaches focus on three primary components:

- family income
- parental educational attainment
- parental occupation

Home neighborhood and aggregate SES of a school community are sometimes included when constructing an expanded measure.

## Adopting a Better Measure of SES in Education

Because FRP eligibility has been recognized as an increasingly poor proxy for an individual student's SES, the timely adoption and implementation of one or more practical alternatives to the existing FRP eligibility measure may improve the quality of information available to instructional staff, program staff, administrators, and policymakers at all levels of education.[18] While there is no single way to best describe or measure "student socioeconomic status" or "student need," plausible alternatives are available for consideration by the education community. The following measures cover a broad spectrum of related concepts and methodologies—each having its own benefits and challenges depending on how the data will be collected and used—that are described in greater detail in chapter 3.[19]

### To Replicate Historical FRP Values

1. Eligibility for Other Means-Tested Program
2. Household-Provided Information
3. Student/Family Categorical Status

[16] NCES (2012). *Improving the Measurement of Socioeconomic Status for the National Assessment of Educational Progress: A Theoretical Foundation*. Retrieved February 2015 from http://nces.ed.gov/nationsreportcard/pdf/researchcenter/Socioeconomic_Factors.pdf (appendix C).

[17] Although socioeconomic "need" is often expressed as a yes/no indicator in administrative records systems, the concept is more realistically expressed along a spectrum and can change over time, including very short periods of time, such as when the head of a household loses a job.

[18] Harwell, M. and LeBeau, B. (2010) Student Eligibility for a Free Lunch as an SES Measure in Education Research. *Educational Researcher*, v39, n2, p 120-131.

[19] Other SES measures, including weighted composite indexes, may be available to the research community but are not included in this resource because they are not considered to be practical in administrative data systems managed by local and state education agencies.

### To Reflect the Three Major Components of SES

4. Family/Household Income
5. Highest Level of Education Completed by Resident Parent/Guardian
6. Occupation of Resident Parent/Guardian

### To Incorporate Geographically Based Context

7. Neighborhood SES
8. School District Poverty Estimate

**Important Issues to Consider when Evaluating Alternative SES Measures**

These SES measures are used in the field of education and, therefore, are presented as plausible alternatives for agencies to evaluate.

- Although there is a wide range of needs and circumstances surrounding SES data in education agencies, the development of comparable data across local, state, and national levels will contribute to many desirable analytical, operational, and policy goals of the education community.
- To avoid significant impact on existing state funding formulae and local resource allocation practices, alternatives that are not consistent with historical trends will likely require calibration against past data.
- More accurate SES measures could improve the measurement of achievement gaps between socioeconomically secure and socioeconomically needy students.
- Overcounting (e.g., duplicate counts of the same students) will negatively affect data quality.

## A Call to Action!

The free- and reduced-price meals eligibility indicator is becoming progressively less suitable to the education community as a proxy for an individual student or family's socioeconomic status because of three primary factors:

1. **Interpretation and use in a manner not intended by the collection**: FRP eligibility is being used as a proxy for SES even though it only reflects income (or, in some cases, school-wide characteristics) rather than other components of SES that are widely acknowledged to be relevant at the individual level, such as parent/guardian occupation and education.

2. **Severely limited access within the education community**: FRP eligibility data at the individual level are available only for the purposes of administering the meals program. NSLP prohibits other education staff from using the data to determine the instructional and non-instructional (service eligibility) needs of individual students.

3. **Decreasing applicability as a measure of economic need**: CEP is expected to improve the efficiency and effectiveness of the NSLP meals program; however, it will also result in the loss of individual student-level FRP eligibility data in participating education agencies. Because many education agencies rely on FRP eligibility as a measure of SES, this change would have serious implications on the quality of the SES proxy in LEA, SEA, and ED data systems.

The education community has a unique opportunity to adopt and implement alternative SES measures that may more accurately identify individual students who are socioeconomically in need. Implementing one or more of these alternatives in a timely manner may help to improve data accessibility, data quality, and data continuity:

- **Data accessibility**: Instructional staff such as teachers and principals will be able to use data from an alternative SES measure to identify individual students for the purpose of customizing support services—which is critical given that educators may be professionally responsible for the performance of these students in accountability testing and reporting systems.
- **Data quality**: FRP eligibility data were not designed to be a broadly used measure of an individual student's or family's SES. Alternatives listed in chapter 3 may serve as more accurate and useful proxies of an individual student's or family's SES.
- **Data continuity:** The selection of alternative SES measures that reflect similar underlying concepts as the FRP proxy would minimize the disruption of longitudinal trends in SES data that are used in many states' funding formulae and state and local need-based resource allocation.

# Chapter 2: Strategies for Effectively Selecting and Implementing Alternative SES Measures

While the opportunity to select and implement new socioeconomic status (SES) measures in the education community offers a chance to be innovative and forward thinking, the solutions most needed by many education agencies should be proven and practical. As such, they will need to be

- aligned with the information and reporting needs of the agency (i.e., the functional specifications);
- able to be implemented with reasonable burden;
- perceived as reasonable with respect to personal privacy; and
- consistent with legal and regulatory requirements.

## Establish a Planning Team

Whether the adoption of a new SES measure is a short- or long-term goal of the agency, planning is a time-consuming task that requires considerable data and technical expertise, a thorough understanding of the organization and its data and program operations, and extensive project management skills. As such, a planning team should be established to set the course for the project. Team members will likely include the organization's data manager, a technical authority (e.g., someone who thoroughly understands the technical capacity of the agency's data system), a representative from each of the organization's program and planning areas that deal with student populations, and a member of the data governance body. It is also helpful to include representatives of other stakeholders who may be involved in the collection or use of the new SES data, such as data entry staff, analysts, program staff, and policymakers responsible for data-driven decisionmaking.

## Conduct a Needs Assessment

The primary challenge faced by the planning team will be to adopt and implement a new SES measure that will meet the information and operational needs of many different types of users, collectively referred to as stakeholders. To ensure that the measure being adopted will meet stakeholder expectations, a needs assessment can gather input about the specific requirements stakeholders have for SES data.

Common uses of SES data that might be identified in a needs assessment include activities related to instruction, accountability and public reporting, program and service delivery,

funding and resource allocation, and research and evaluation. Some education agencies also use student SES data to close achievement gaps, plan budgets and legislation, and determine staff assignments and compensation.

The product of a needs assessment is a needs statement. Because implementing alternative SES measure(s) requires the adoption of a relatively limited number of data elements, the needs statement can focus narrowly on the functional needs of stakeholders and the technical needs of the data system. For example, SEA stakeholders may be most interested in aggregate SES data (how many low-SES students are in a given school?) whereas LEA stakeholders such as teachers may be more likely to need to know which individual students are eligible for support services.

## Review External Data Standards and Technical Assistance

Adhering to generally accepted data standards has the potential to yield many benefits to an agency, including

- gaining access to existing definitions, codesets, technical guidance, and metadata that have been tested and endorsed by other organizations;
- improving the likelihood that data will be comparable to data collected by partner organizations (e.g., other districts within a state or other states in the nation); and
- identifying reporting formats that conform to national standards.

Additionally, some groups that support education data standards may be able to provide technical assistance to agency staff working to incorporate new measures that comply with existing definitions, codesets, and formats (appendix D). For example, the Common Education Data Standards (CEDS) is a voluntary effort to develop common data definitions and improve data interoperability, portability, and comparability. Through the collaboration of stakeholder groups, CEDS reflects input from a wide range of likely data partners, including states, districts, institutions of higher education, state higher education agencies, early childhood organizations, federal program offices, interoperability standards organizations, and key education associations and non-profit organizations.[20]

## Consider the Range of Data Sources Available to Your Agency

A range of possible sources exists for SES data, including students, parents or guardians (families), external public assistance agencies, and the U.S. Census Bureau's American Community Survey. These data sources vary across numerous dimensions, such as reliability, response rates and timeliness, privacy concerns, and collection mechanisms (e.g., paper collections, face-to-face inquiries, or database matching). Table 1 provides a brief summary of the types of advantages and disadvantages associated with various data sources that planners should consider when evaluating a measure.

[20] For more information about CEDS, visit https://ceds.ed.gov/.

**Table 1. Advantages and Disadvantages of Data Sources**

| Data Source | Advantages | Disadvantages |
|---|---|---|
| Students | • easily accessible respondents | • accuracy/quality concerns, especially with younger students<br>• unable to authorize data use |
| Parents/guardians/families | • likely to know relevant information<br>• able to legally authorize data use | • may be difficult to access<br>• may not wish to respond<br>• may refuse to grant permissions for use |
| Public assistance agencies | • data availability (i.e., already available from a recognized source)<br>• data quality | • requires data exchange agreements with technical and administrative (legal) issues<br>• often requires data matching<br>• may not match information needs because the data were collected for other purposes |
| Other statistical agencies (e.g., U.S. Census Bureau's American Community Survey) | • data comparability<br>• data quality | • often aggregate in nature<br>• likely to require reformatting<br>• may not match information needs because the data were collected for other purposes |

## Evaluate Plausible Alternative Measures

During the evaluation of prospective new SES measures, it is useful to assess other factors that influence data quality, including a data element's utility, validity, reliability, timeliness, and cost-effectiveness.

New measures should be aligned with the agency's policy goals, data governance requirements, data standards, privacy guidelines, and functional specifications.

- *Utility*: A measure has to be appropriate for its intended purpose. If the measure does not provide useful information, there is no reason to collect it, even if doing so can be accomplished accurately, reliably, cost-effectively, and in a timely manner. Thus, it is important that new measures are aligned with the agency's policy goals, data governance requirements, data standards, privacy guidelines, and functional specifications (i.e., meeting specific information needs).
- *Validity*: Validity is the degree of correspondence between a measure and the process or product being studied. In other words, does the alternative measure what it purports to measure? Is it free from bias (i.e., systematic error in data generation or collection)? If so, the measure is considered valid.
- *Reliability*: Reliability refers to a measure's consistency and dependability. In other words, if the same item were to be measured multiple times, would the same results be generated? Without consistent measurement methods, results from different organizations or even from within the same organization at different points in time (such as time-series data) cannot be reliably compared. Standard collection methods are vital to any data system from which information will be drawn for the purpose of making comparisons.

- *Timeliness*: Data are most valuable when they are readily available for informing decisionmaking, which means that the data have to be accessible in time to influence decisionmakers. For example, state program staff should receive aggregate program eligibility data in time to inform budget planning, and school staff should receive the data in time to inform service delivery planning.
- *Cost-Effectiveness*: Prohibitively expensive data collections, such as one-time surveys, are usually not practical in administrative data systems that need to collect data year after year. "Data burden" is defined as collecting or manipulating data for a requester in a way that is of little value to, or demands significant financial or human resources from, the provider. The concept of burden extends to include any factors that inhibit collection, such as cost, staff effort, and privacy concerns that may make a respondent less likely to share the data being requested.

Planners will need to evaluate the tradeoff between the value of the data collected and the burden required to collect it.

Ideally, all measures in an education data system are useful, valid, reliable, timely, and cost-effective.[21] But these are relative terms—what is useful for one organization may not be so for another. Similarly, different organizations might have differing definitions of what is cost-effective or burdensome. When real world constraints arise (such as the cost of collection), tradeoffs between quality, reliability, and utility often become inevitable. Policymakers must ensure that tradeoffs are made reasonably, and do not compromise the long-term effectiveness of data use.

**Recommendations for Collecting High-Quality Data**

The following suggestions will help your agency identify reliable data sources and collect data in a manner that is more likely to produce accurate, valid, timely, and cost-effective information:

- Data matching from a reputable source is more likely to generate high-quality data than manual collection efforts. Verifiable data sources, such as other state agencies, are preferable to unsubstantiated self-reporting—assuming that the other agencies collect high-quality data.
- Existing data standards, such as the Common Education Data Standards (https://ceds.ed.gov; see appendix D) and the *Alphabetical Indexes of Industries and Occupations* (http://www.census.gov/people/io/) from the U.S. Census, are the foundations of data comparability and are preferable to developing your own terms, definitions, code lists, etc.
- The application of relevant business rules can contribute to effective data collection and analysis. For example, the identification of a student as eligible for a service (because of SES) is often sufficient for determining that all of the student's siblings are also eligible to receive the services.

[21] Utility, validity, reliability, and timeliness are collectively referred to as data quality. For more information, see the *Forum Guide to Building a Culture of Data Quality* at http://nces.ed.gov/forum/pub_2005801.asp.

## Ensure Data Security

Most people recognize that an individual's or family's SES data are sensitive, meaning that if the information were to be disclosed, it could have a negative effect on the owner of the information (such as a loss of privacy). Because of these risks, numerous laws have been enacted to protect student information. In addition to state and local regulations, the Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a federal law requiring that written consent be obtained from parents or eligible students before releasing any information from student education records, except in the case of specific exceptions (34 CFR § 99.31).[22]

Given the power of technology to quickly transmit information, effective strategies and procedures should be used to mitigate the risk of inadvertently disclosing SES data. For example, if a school administrator misplaces a handheld computer, any personally identifiable information it contains may become accessible to the person who finds the device. Similarly, unauthorized parties could intercept data transferred through unsecured email. Fortunately, procedural and technical practices are available to ensure data security and should be applied to any individual-level SES data maintained by an education organization.[23]

## Develop an Implementation Plan

A thorough and realistic implementation plan focuses on the tangible tasks at hand, from planning through post-implementation training. Such a plan addresses what specifically needs to be done, when, how, and by whom. As the introduction of a new SES measure progresses, the plan should also reflect what has been completed. Effective implementation plans often

- present work in discrete, manageable tasks, including detailed information about staff assignments and scheduled due dates;
- anticipate unforeseen circumstances, mistakes, and modification needs so that unexpected delays at the task level do not doom the larger project to failure;
- build in evaluation time for a "feedback loop" that supports the iterative nature of introducing new data elements or collections; and
- stress extensibility, which allows efforts to be expanded, modified, or customized after initial implementation. In other words, once stakeholders have mastered basic data collection tasks, functionality can be extended to include more specialized capabilities.

Adopting, implementing, and coordinating new SES measures across all levels of the education community will take time. LEA, SEA, and ED planners should begin the process as soon as possible.

[22] To learn more about FERPA exceptions, refer to the U.S. Department of Education's FERPA FAQ, available at http://www2.ed.gov/policy/gen/guid/fpco/faq.html.

[23] The U.S. Department of Education established the Privacy Technical Assistance Center (PTAC) as a "one-stop" resource for education stakeholders to learn about data privacy, confidentiality, and security practices related to student-level longitudinal data systems and other uses of student data. For more information about PTAC, visit http://ptac.ed.gov/.

One special consideration when implementing a new measure is the synchronization required between the existing and envisioned data systems. If an organization does not have a clear understanding of its current SES data, the transition to a new SES measure will be more complicated because it will not be building upon (and integrating into) the existing data infrastructure. Knowledge of what data exist, what format they are in, where they are located, what quality they are, who manages the data and, perhaps most importantly, how they are used is crucial to effective synchronization and transition to a new SES measure.

## Coordinate Implementation with Key Stakeholders

Every education agency has key stakeholders with an interest in data collection, use, or reporting. These include both internal staff (e.g., the data governance committee, data stewards, and program staff) and external partners (e.g., contractors, peer agencies involved in data exchanges, and organizations from which data are collected and to which data are reported). Coordination with these partners is necessary to support data quality and utility as well as to minimize disruption in collection and reporting. It is critical to engage the expertise of the data governance committee, data stewards, and program staff when considering a new SES measure's definition, field lengths, and metadata. This important information should be shared with data providers, database administrators, and data exchange partners who will expect to receive the data electronically and use the information it represents for policymaking, operations, or instructional decisions. Similarly, some education agencies rely on vendors for various aspects of data collection, management, and reporting. Proprietary data systems may have technical limitations or other parameters that serve as structural boundaries for new measures, all of which must be coordinated in order to successfully implement the new SES measure.

## Schedule Implementation Activities

A schedule is only effective when its goals and deadlines are well defined and realistic. If the goals are unattainable and deadlines are missed, subsequent deadlines lose credibility. Missed deadlines can also delay other activities, causing the overall project schedule to slip or fail.

The implementation schedule is an important part of any implementation plan. It tells stakeholders when they should reach significant project milestones, and enables them to plan their activities throughout subsequent implementation. For example, an accurate schedule allows respondents (data providers) to prepare themselves to transition from old to new SES reporting; lets IT staff know when user interfaces for submitting data need to be ready; and establishes expectations for program staff who need to make planning decisions based on the new data.

If an agency hires an outside consultant to manage any aspect of the implementation process, establishing a strict schedule for deliverables should be a component of the contract. Many organizations find that payment to outside consultants or contractors should be based on the submission of tangible deliverable items as specified in the agreed-upon project schedule.

## Train Stakeholders to Implement the New Measure

The primary purposes of stakeholder training are to (1) help participants understand the new SES measure; (2) teach them to collect and report the new measure(s) effectively and efficiently; and (3) prepare them to use the new data to inform their decisionmaking (e.g.,

for policymaking, operational decisionmaking, or instructional choices). Unless these major objectives are accomplished, the data produced by the new measure will have little value. Following are important considerations when planning a training program.

- *Defining and explaining the new measure.* Training should be designed so that those unfamiliar with the new measure will not be overwhelmed by technical details, yet participants with some familiarity will not become bored by a lack of new information. One strategy for accomplishing this goal is to develop a customized or modular training approach, with each module building on content from the previous session. Thus, stakeholders enter the training sequence at the level most appropriate for their knowledge and experience. The initial training module might, for example, introduce the new SES measure conceptually without delving too deeply into technical details of collection and management. A subsequent module could begin to address more technical code lists, field lengths, business rules, security requirements, and metadata. A third module might then describe the organization's preferred practices for entering, managing, and using the data. The final module could address reporting, the use and interpretation of the data, and other advanced practices.
- *Customizing training to match audience roles.* Not all stakeholders view SES data from the same perspective. For example, school staff and district administrators might be responsible for collecting or entering the data, whereas data stewards and database administrators are often in charge of the technical management of the data in a system. Program staff and other data users, on the other hand, need to focus on accessing the data to improve analysis and use. Customizing content to reflect stakeholder roles makes training efforts more efficient and effective, and it often makes sense to develop separate training modules that can be combined as appropriate to meet the needs of each major stakeholder group.
- *Including meaningful "real life" examples to illustrate training points.* Participants in training activities may benefit from seeing how their efforts to produce or use high-quality SES data in a timely fashion will affect actual students, teachers, programs, schools, budgets, and policies—the real purpose of anyone working in education. Realistic examples demonstrate how to work with a new data element "on the job" and in practical ways that improve data quality and utility.

SES data quality and accessibility are likely to be improved with the implementation of new measures that are better designed to meet the information needs of educators. However, change often comes with a cost. For example, introducing a new measure(s) may require

- revising collection tools (with development costs for online collections and printing costs for paper collections);
- reformatting databases used to store the information;
- recalibrating trend analyses (because of disruptions to longitudinal collections and values); and
- training staff to implement new methods of collection, storage, analysis, and reporting.

Moreover, because of the critical role SES data play in many funding formulae, any change in SES measures that leads to substantive differences in the ways in which students are identified as socioeconomically disadvantaged could impact the allocation of resources to children and schools.

# Chapter 3:
# Alternative SES Measures

Socioeconomic status (SES) data are needed to

- identify individuals who are eligible to receive benefits;
- allocate resources for related programs and services; and
- make meaningful distinctions in accountability systems and other reporting that influence perceptions about the effectiveness of public schools, programs, and services.

The following measures, often in combination, have been used as components of or proxies for SES in education organizations for these types of purposes (figure 1).

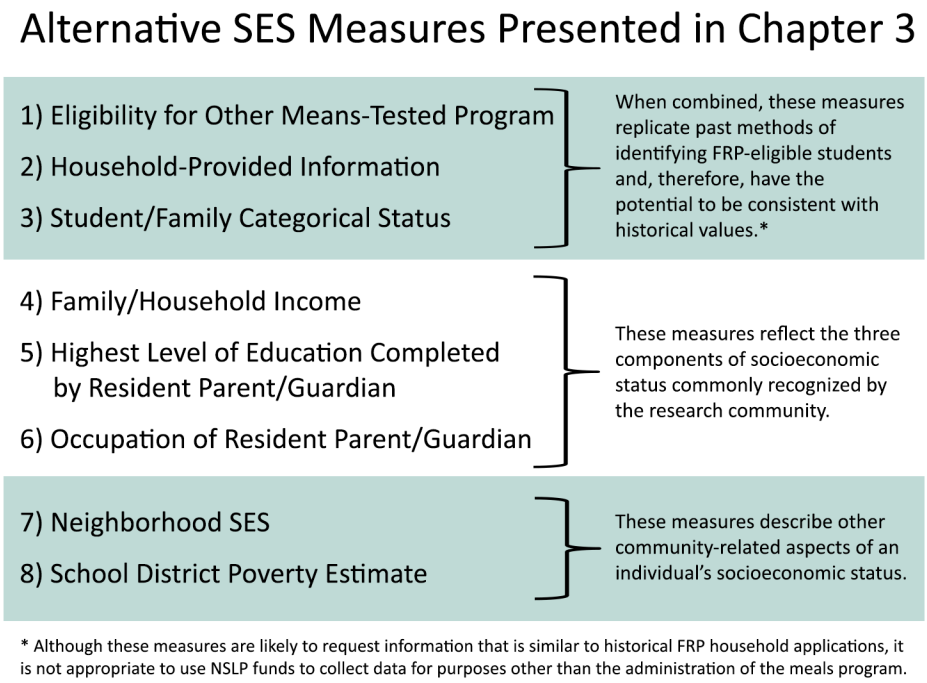



**Figure 1.** Although it is possible to adopt any of these alternative measures as a stand-alone proxy for SES, doing so is not recommended given their limitations to independently reflect the complexity of SES.

Some education agencies may determine that a single measure of SES is not adequate to support their policy or research needs. For example, allocating resources based solely on family or household income may not be adequate. Instead, an agency might wish to use additional measures, such as those related to parent/guardian education and occupation, to produce a combined measure of SES. Combining measures often produces more robust information than a single measure. However, doing so requires procedures that stipulate how the measures will be combined (e.g., weighted measures), which may introduce complexity or uncertainty to the data.

## Formatting Conventions

Detailed descriptions of alternative SES measures comprise the bulk of this chapter. Each of these measures is presented in the following format (template) to facilitate evaluation and comparison.

- **Description**: A brief explanation or definition of the measure.
- **Granularity**: An indication of whether the data are individual or aggregate in nature.
- **Advantages**: A list of factors that describe some of the potential benefits of using the measure.
- **Challenges**: A list of factors that describe some of the potential impediments to using the measure.
- **Verifiability**: A short discussion of the degree to which data quality can be confirmed.
- **Usage Limitations**: Suggestions for the appropriate application of the measure and issues to be considered in order to avoid misapplication or misinterpretation.
- **Example of Common Use**: If available, cases in which the measure has been used in actual education agencies.

This detailed information is shared to encourage thoughtful review, comparison, and planning with an understanding that the utility of a measure depends on actual use, and that there may not be a single measure that meets the needs of all education agencies, settings, and circumstances.

## 1. Eligibility for Other Means-Tested Program

Used with alternatives 2 and 3 to replicate existing FRP eligibility determinations.

*This information is presented as a reference tool; it is not a data collection instrument and does not represent a federal reporting requirement.*

- **Description**: Verification that a student or family is eligible for assistance through a means-tested[24] state or federal program such as the Temporary Assistance for Needy Families (TANF) program[25] or the Supplemental Nutrition Assistance Program (SNAP).[26] Relevant programs usually reflect some type of means-defined eligibility criteria (e.g., a family income threshold), and use of this measure assumes the ability to directly certify eligibility via the public agency legally responsible for administering the economic assistance program.[27] The following are commonly accepted means-tested programs:

    - Social Security Insurance (SSI); Foster Care; Refugee Assistance (cash or medical assistance); Earned Income Tax Credit (EITC); Home Energy Assistance Program (HEAP); Safety Net Assistance (SNA); Supplemental Nutrition Assistance Program (SNAP); and Temporary Assistance for Needy Families (TANF).
    - Medicaid and state-level economic assistance programs and services may also be able to provide evidence of eligibility in a means-tested economic assistance program.

- **Granularity**: This element is likely to be individual (or individual family) in nature and aggregated into categories, such as Eligible or Not Eligible for Participation in a Means-T ested Program.

- **Advantages**: Potential benefits of using this measure are as follows:
    - Currently or previously used in other education agencies.
    - Highly relevant to historical free- and reduced-price meal (FRP) eligibility data.
    - Potentially a direct measure if, for example, collected via direct certification from a state or federal agency.

[24] A means-tested program permits participation only after a determination that an individual or family is eligible for assistance based on whether that individual or family possesses the means to be sufficient without the benefit. Eligibility to participate generally reflects income levels that are below specified limits.

[25] The Temporary Assistance for Needy Families (TANF) program is designed to help needy families achieve self-sufficiency. States receive block grants to design and operate programs that accomplish one of the purposes of the TANF program. The four purposes of the TANF program are to provide assistance to needy families so that children can be cared for in their own homes; reduce the dependency of needy parents by promoting job preparation, work, and marriage; prevent and reduce the incidence of out-of-wedlock pregnancies; and encourage the formation and maintenance of two-parent families. TANF is administered by the U.S. Department of Health & Human Services' Office of Family Assistance. For more information about TANF, visit http://www.acf.hhs.gov/programs/ofa/programs/tanf.

[26] The Supplemental Nutrition Assistance Program (SNAP) is a federal nutritional assistance program for millions of eligible, low-income individuals and families. Administered by the U.S. Department of Agriculture's Food and Nutrition Service, SNAP eligibility is based on the number of people in a household, income, and resources (cash, bank accounts, etc.). Income includes money earned from work as well as benefits like Social Security, unemployment, and Supplemental Security Income. For more information about SNAP, visit http://www.fns.usda.gov/snap/supplemental-nutrition-assistance-program-snap.

[27] Direct certification is a commonly used mechanism for determining a student's eligibility for a program or service based on documentation obtained directly from a federal, state, or local agency or other authorized entity.

- Generally recognized to have integrity, especially when substantiated by official documentation such as an income tax return or record matching with another agency.
- By translating the data into an eligible/not eligible indicator, there is no need to request more detailed (and sensitive) income data.
- Direct matching via a state or federal agency maintaining records of program eligibility decreases the likelihood of respondents refusing to provide data.
- This measure can be used for multiple purposes in education.
- Some targeted programs, such as SNAP, update eligibility on a monthly basis, which would be useful for identifying ongoing need given that a student's or family's income can change very quickly (e.g., if a parent loses a job).

- **Challenges**: Potential impediments to using this measure are as follows:
  - This measure only addresses the income component of SES, effectively excluding other factors widely recognized to be relevant to SES, such as parent occupation and parent education.
  - Educators and policymakers generally acknowledge that income-related data are private, and therefore must be protected as such in data systems and data exchange practices. However, using income to categorize students as eligible or not eligible for participation or services does not pose as large a privacy concern as the use of actual income values.[28]
  - Although eligibility in a means-tested program is generally based on federal poverty guidelines, it is possible that some programs may have other standards or additional criteria that could result in a student or family being eligible for some, but not all, means-tested programs. In these cases, there may be variability in eligibility criteria depending on which program or agency is queried. Because of this, it is likely necessary to only use eligibility status data from programs with comparable eligibility criteria, which should be carefully documented to help ensure that comparisons across states or districts are based on comparable criteria.
  - In many programs, including the National School Lunch Program (NSLP), eligibility is limited to only those students or families who submit an application. Thus, it is possible that some students or families with low incomes may not appear to be "eligible" because they did not apply to participate rather than because they do not meet income eligibility criteria.
  - Some programs have limits to how long a student or family is eligible to participate in a program or receive services (e.g., there is a five-year time limit for TANF). These limits may, therefore, result in a student or family identified as ineligible because of program guidelines rather than because of income eligibility criteria. It is likely that such data would lead to inaccurate identification and, therefore, use of such a source is not recommended for the purpose of identifying individual students or families.
  - Collection via direct certification or other measures will likely require an interagency data sharing agreement between organizations to ensure that applicable confidentiality protections are maintained.[29]
  - This measure assumes that identification would be established independent of the NSLP and without NSLP funds, which are restricted to the administration of the meals program.

[28] The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a federal law requiring that written consent from parents or eligible students be obtained before releasing any information from student education records, except in the case of specific exceptions (34 CFR § 99.31). To learn more about FERPA exceptions, refer to the U.S. Department of Education's FERPA FAQ, available at http://www2.ed.gov/policy/gen/guid/fpco/faq.html.

[29] See http://ptac.ed.gov/toolkit_data_share and http://ptac.ed.gov/sites/default/files/data-sharing-agreement-checklist.pdf for more information about data sharing and written interagency agreements.

- **Verifiability**: Eligibility for a means-tested program can be verified through direct matching with state or federal agencies that have already verified income records.

- **Usage Limitations**: The following are suggestions for the appropriate application of this measure and issues to consider to avoid misapplication and misinterpretation:
  - These data are generally accepted to be private or confidential and must be protected as such, which limits access to those staff who have a need-to-know basis. If these data are used to establish a need for services, the indicator (eligible or not eligible) may be shared with staff on a need-to-know basis without disclosing actual family income.
  - Participation in an economic assistance program does not incorporate all factors commonly accepted to influence SES, and thus should not be presented as a complete measure of socioeconomic status. It is, instead, a measure of program eligibility based on income criteria.
  - The interpretation of family participation in an economic assistance program as a measure of need may be affected by extenuating circumstances (e.g., the family of a highly paid person may temporarily be able to participate in a public assistance program upon the loss of a job, but would not otherwise qualify for service).

- **Example of Common Use**: Below is an example of how this measure has been used in education agencies:
  - Student/family eligibility for a means-tested program such as TANF or SNAP is already conducted in many school districts and states when determining eligibility for the NSLP. Note, however, that this measure assumes that identification would be established independently of the NSLP and without reliance on NSLP funds, which are restricted to the administration of the meals program.

## 2. Household-Provided Information

Used with alternatives 1 and 3 to replicate existing FRP eligibility determinations.

*This information is presented as a reference tool; it is not a data collection instrument and does not represent a federal reporting requirement.*

- **Description**: A collection of requested data (i.e., an application) that verifies a student's or family's income for the purpose of establishing economic need.

- **Granularity**: This element is likely to be individual (or individual family) in nature and aggregated into categories, such as Eligible or Not Eligible for Assistance or Low-Income and Not Low-Income.

- **Advantages**: Potential benefits of using this measure are as follows:
  - Currently or previously used in other education agencies.
  - Highly relevant to historical free- and reduced-price meal (FRP) eligibility data.
  - By translating the data into an eligible/not eligible indicator, there is no need to share more detailed (and sensitive) income data.
  - This measure that can be used for multiple purposes in education.
  - A separate application could be derived from related National School Lunch Program (NSLP) application materials (visit http://www.fns.usda.gov/school-meals/applying-free-and-reduced-price-school-meals for more information about the content found in the NSLP Household Application). Note that funds from school food services cannot be used to develop, distribute, or process an application that is not directly intended for the use of the NSLP.

- **Challenges**: Potential impediments to using this measure are as follows:
  - This measure only addresses the income component of SES, effectively excluding other factors widely recognized to be relevant to SES, such as parent occupation and parent education.
  - Educators and policymakers generally acknowledge that income-related data are private, and therefore must be protected as such in data systems and data exchange practices. However, using income to categorize students as eligible or not eligible for participation or services does not pose as large a privacy concern as the use of actual income values.[30]
  - In many programs, including the NSLP, eligibility is limited to only those students or families who submit an application. Thus, it is possible that some students or families with low incomes may not appear to be "eligible" because they did not apply to participate rather than because they do not meet income eligibility criteria.
  - This measure assumes that identification would be established independent of the NSLP and without NSLP funds, which are restricted to the administration of the meals program.

[30] The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a federal law requiring that written consent from parents or eligible students be obtained before releasing any information from student education records, except in the case of specific exceptions (34 CFR § 99.31). To learn more about FERPA exceptions, refer to the U.S. Department of Education's FERPA FAQ, available at http://www2.ed.gov/policy/gen/guid/fpco/faq.html.

- **Verifiability**: Unless an agency is able to access records from a state taxing authority or request copies of income tax forms, it may be difficult to verify the accuracy of household-provided information.

- **Usage Limitations**: The following are suggestions for the appropriate application of this measure and issues to consider to avoid misapplication and misinterpretation:
  - These data are generally accepted to be private or confidential and must be protected as such, which limits access to those staff who have a need-to-know basis. If these data are used to establish a need for services, the indicator (low-income or not low-income) may be shared with staff on a need-to-know basis without disclosing actual family income.
  - This measure may not incorporate all factors commonly accepted to influence SES and thus should not be presented as a complete measure of SES. It is instead a measure of family status or program eligibility.
  - The interpretation of income-related data as a measure of need depends on many contextual factors including, for example, the number of dependents relying on the income.
  - A reasonable default value of "not low-income" can be assigned to students whose families do not provide household information, but doing so may result in underserving students and families who would be identified if the application were to be submitted.

- **Example of Common Use**: Below is an example of how this measure has been used in education agencies:
  - Detailed student and family household information is already collected in many school districts and states to varying degrees and for a variety of purposes.

## 3. Student/Family Categorical Status

Used with alternatives 1 and 2 to replicate existing FRP eligibility determinations.

*This information is presented as a reference tool; it is not a data collection instrument and does not represent a federal reporting requirement.*

- **Description**: This measure identifies a student's status in any of the categories commonly related to an individual's or family's socioeconomic need or at-risk condition, such as those identified as homeless, migrant, in foster care, or runaway.

- **Granularity**: This element is likely to be individual (or individual family) in nature and aggregated into categories, such as homeless, migrant, foster care, and runaway.

- **Advantages**: Potential benefits of using this measure are as follows:
  - Currently or previously used in other education agencies.
  - Highly relevant to historical free- and reduced-price meal (FRP) eligibility data.
  - This measure can be used for multiple purposes in education.
  - Direct matching via a state or federal agency maintaining records of categorical status decreases the likelihood of respondents refusing to provide data.

- **Challenges**: Potential impediments to using this measure are as follows:
  - Educators and policymakers generally acknowledge that an individual's or family's categorical status is private, and therefore must be protected as such in data systems and data exchange practices.[31]
  - While many educators, policymakers, and research findings agree that the identification of a student in any of these categories is correlated with low-SES/at-risk status, it is likely that some students in a category will not be at risk or in need. Examples include extenuating circumstances such as when a student may be categorically homeless if his or her family's multi-million dollar beach house is destroyed in a hurricane.
  - Collection via direct certification or other measures will likely require an interagency data sharing agreement between organizations to ensure that applicable confidentiality protections are maintained.[32]
  - This measure assumes that identification would be established independent of the NSLP and without NSLP funds, which are restricted to the administration of the meals program.

- **Verifiability**: Categorical status may be difficult to substantiate unless matched to records in other agencies.

[31] The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a federal law requiring that written consent from parents or eligible students be obtained before releasing any information from student education records, except in the case of specific exceptions (34 CFR § 99.31). To learn more about FERPA exceptions, refer to the U.S. Department of Education's FERPA FAQ, available at http://www2.ed.gov/policy/gen/guid/fpco/faq.html.

[32] See http://ptac.ed.gov/toolkit_data_share and http://ptac.ed.gov/sites/default/files/data-sharing-agreement-checklist.pdf for more information about data sharing and written interagency agreements.

- **Usage Limitations**: The following are suggestions for the appropriate application of this measure and issues to consider to avoid misapplication and misinterpretation:
  - Categorical status does not incorporate all factors commonly accepted to influence SES, and thus should not be presented as a complete measure of SES. It is instead a measure of categorical status or program eligibility.
  - These data are generally accepted to be private or confidential and must be protected as such, which limits usage to those staff who have a need-to-know basis. If they are used to establish a need for services, the indicator may be shared with staff on a need-to-know basis without disclosing additional related information.

- **Example of Common Use**: Below is an example of how this measure has been used in education agencies:
  - The identification of a student's status in any of the common categories related to an individual's or family's socioeconomic need or at-risk condition is already conducted in many school districts and states. Note, however, that this measure assumes that identification would be established independently of the NSLP and without NSLP funds, which are limited to the administration of the meals program.

## 4. Family/Household Income

Used with alternatives 5 and 6 to incorporate the most widely recognized components that comprise SES.

*This information is presented as a reference tool; it is not a data collection instrument and does not represent a federal reporting requirement.*

- **Description**: Total income, or an income range, of a family or household from all sources, such as is available on an individual's or household's annual federal income tax return.[33]

- **Granularity**: This element is likely to be individual (or household based) in nature and can be averaged or aggregated into income ranges.

- **Advantages**: Potential benefits of using this measure are as follows:
  - Generally recognized to have integrity, especially when substantiated by official documentation such as an income tax return or record matching with a state or federal taxing authority.
  - By translating the data into income ranges, there is no need to request more detailed information.
  - This measure can be used for multiple purposes in education.
  - When combined with Highest Level of Education Completed by Resident Parent/Guardian and Occupation of Resident Parent/Guardian, these elements would more fully reflect the three major components of the concept of SES.[34]

- **Challenges**: Potential impediments to using this measure are as follows:
  - People may be reluctant to share family income information unless they perceive that they will receive a real benefit from doing so, such as financial or program support.
  - Educators and policymakers generally acknowledge that income data are private, and therefore must be protected as such in data systems and data exchange practices. However using income to categorize students as eligible or not eligible for participation or services does not pose as large a privacy concern as the use of actual income values.[35]
  - Drastic swings in income values can occur in a very short period of time (e.g., if the primary earner in a household suddenly loses a job).

[33] According to the Code of Federal Regulations (7 CFR 273.1 (a) (3)), a household is composed of one of the following individuals or groups of individuals, unless otherwise specified: (1) an individual living alone; (2) an individual living with others, but customarily purchasing food and preparing meals for home consumption separate and apart from others; or (3) a group of individuals who live together and customarily purchase food and prepare meals together for home consumption. Thus, a "household" consists of everyone who purchases food and prepares meals together. By this definition, there can be more than one household living in the same house and people do not have to be part of the same family to be in the same household.

[34] An individual's SES is commonly recognized to reflect components such as parental educational attainment, parental occupational status, and household or family income, with appropriate adjustment for household or family composition. NCES (2012). *Improving the Measurement of Socioeconomic Status for the National Assessment of Educational Progress: A Theoretical Foundation*. Retrieved February 2015 from http://nces.ed.gov/nationsreportcard/pdf/researchcenter/Socioeconomic_Factors.pdf.

[35] The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a federal law requiring that written consent from parents or eligible students be obtained before releasing any information from student education records, except in the case of specific exceptions (34 CFR § 99.31). To learn more about FERPA exceptions, refer to the U.S. Department of Education's FERPA FAQ, available at http://www2.ed.gov/policy/gen/guid/fpco/faq.html.

- Collection via direct contact with another agency will likely require an interagency data sharing agreement to ensure that applicable confidentiality protections are maintained.[36]
- Family/household income as a measure of need depends on many contextual factors including, for example, the number of dependents relying on the income.
- There is not an accepted default value for individuals or families that do not report data.
- Income does not account for a family's debt burden. This is an increasingly important factor influencing SES in recent years and as young people with education debt become parents of school-age children.

- **Verifiability**: Family income values can be verified by tax returns and IRS (or state tax agency) records; theoretically, the incomes of non-family members who constitute a "household" can be aggregated.

- **Usage Limitations**: The following are suggestions for the appropriate application of this measure and issues to consider to avoid misapplication and misinterpretation:
  - As a stand-alone measure, family/household income does not incorporate all factors commonly accepted to influence SES, and thus should not be presented as a complete measure of SES. Unless it is combined with other alternatives (such as alternatives 5 and 6 below), it is a measure of economic status.
  - Some state laws may not permit agencies to request income data as a requirement to receive educational services; however, proof to receive economic-related services may be permissible.

- **Example of Common Use**: Below is an example of how this measure has been used in education agencies:
  - Many postsecondary institutions collect family income for the evaluation and award of financial aid.

[36] See http://ptac.ed.gov/toolkit_data_share and http://ptac.ed.gov/sites/default/files/data-sharing-agreement-checklist.pdf for more information about data sharing and written interagency agreements.

## 5. Highest Level of Education Completed by Resident Parent/Guardian

Used with alternatives 4 and 6 to incorporate the most widely recognized components that comprise SES.

*This information is presented as a reference tool; it is not a data collection instrument and does not represent a federal reporting requirement.*

- **Description**: The highest level of formal instruction achieved by either of a student's resident parents or guardians (i.e., the highest grade in school completed or the highest degree received).[37]
  - Below grade 12
  - 12th grade, no diploma
  - Career and Technical Education certificate
  - High school completion (e.g., certificate of attendance)
  - High school equivalency (e.g., GED)
  - High school diploma
  - Some college but no degree or certificate
  - Formal award, certificate, or diploma (less than one year)
  - Formal award, certificate, or diploma (equal to or more than one year)
  - Associate's degree (two years or more)
  - Bachelor's (Baccalaureate) degree
  - Master's degree (e.g., M.A., M.S., M. Eng., M.Ed., M.S.W., M.B.A., M.L.S.)
  - Doctoral (Doctorate) degree (e.g., Ph.D., M.D., Ed.D.)

- **Granularity**: This element is individual in nature, noting however that the highest level of education completed applies to either of a student's resident parents or guardians.

- **Advantages**: Potential benefits of using this measure are as follows:
  - Currently or previously used in other education agencies.
  - When combined with Family/Household Income and Occupation of Resident Parent/Guardian, these elements would more fully reflect the three major components of the concept of SES.[38]

- **Challenges**: Potential impediments to using this measure are as follows:
  - Self-reported data may not be accurate. While parents and older students may understand the concept of "education level," younger students are generally not recognized to be reliable respondents.
  - Collectors generally must accept what is reported by a respondent given that there is not a direct way to confirm degree status.
  - There is not an accepted default value for individuals or families that do not report data.

[37] The term "resident" refers to a parent or guardian who lives in the same residence as the student.

[38] An individual's SES is commonly recognized to reflect components such as parental educational attainment, parental occupational status, and household or family income, with appropriate adjustment for household or family composition. NCES (2012). *Improving the Measurement of Socioeconomic Status for the National Assessment of Educational Progress: A Theoretical Foundation*. Retrieved February 2015 from http://nces.ed.gov/nationsreportcard/pdf/researchcenter/Socioeconomic_Factors.pdf.

- **Verifiability**: These data may be difficult to substantiate.

- **Usage Limitations**: The following are suggestions for the appropriate application of this measure and issues to consider to avoid misapplication and misinterpretation:
  - As a stand-alone measure, Highest Level of Education Completed by Resident Parent/Guardian does not incorporate all factors commonly accepted to influence SES, and thus should not be presented as a complete measure of SES unless it is combined with other alternatives (such as 4 and 6). As such, on its own this measure is not a strong proxy for SES. For example, a family with both parents in advanced graduate school may not generate much earned income given their status as students. Conversely, a parent with lower education levels may generate a high income.

- **Example of Common Use**: Below is an example of how this measure has been used in education agencies:
  - This measure is used to study first-generation college enrollment as well as to compare a parent's education with the parent's and child's expectation for the child's educational attainment.

## 6. Occupation of Resident Parent/Guardian

Used with alternatives 4 and 5 to incorporate the most widely recognized components that comprise SES.

*This information is presented as a reference tool; it is not a data collection instrument and does not represent a federal reporting requirement.*

- **Description**: The reported occupation of either of a student's resident[39] parents or guardians (e.g., their job type or category as mapped to a national coding taxonomy such as the Alphabetical Indexes of Industries and Occupations).[40]

- **Granularity**: This element is likely to be individual in nature, but because of the availability of a national coding taxonomy it should be possible to aggregate into meaningful categories.

- **Advantages**: Potential benefits of using this measure are as follows:
  - Currently or previously used in other education agencies.
  - When combined with Family/Household Income and Highest Level of Education Completed by Resident Parent/Guardian, these elements would more fully reflect the three major components of the concept of SES.[41]
  - This measure can be used for multiple purposes in education.

- **Challenges**: Potential impediments to using this measure are as follows:
  - Unlike Highest Level of Education Completed by Resident Parent/Guardian, which, once attained, remains an individual characteristic until additional credentials are earned, an individual's occupation may change multiple times a year. Because of the high likelihood of change, these data should be collected frequently (i.e., at least annually), which may become a collection burden over time.
  - Collectors generally must accept what a respondent reports, given that there is not a direct way to confirm occupation.
  - Some individuals believe that an individual's occupation is sensitive information and may not wish to share it.
  - Position titles may vary substantially by employer, organization, and location and may not accurately reflect duties or compensation.
  - There is not an accepted default value for individuals or families that do not report data.

- **Verifiability**: These data may be difficult to substantiate.

[39] The term "resident" refers to a parent or guardian who lives in the same residence as the student.

[40] For more information about the *Alphabetical Indexes of Industries and Occupations* from the U.S. Census, including an explanation of how the indexes are designed and how they are used for coding industries and occupations, visit http://www.census.gov/people/io/methodology/indexes.html.

[41] An individual's SES is commonly recognized to reflect components such as parental educational attainment, parental occupational status, and household or family income, with appropriate adjustment for household or family composition. NCES (2012). *Improving the Measurement of Socioeconomic Status for the National Assessment of Educational Progress: A Theoretical Foundation*. Retrieved February 2015 from http://nces.ed.gov/nationsreportcard/pdf/researchcenter/Socioeconomic_Factors.pdf.

- **Usage Limitations**: The following are suggestions for the appropriate application of this measure and issues to consider to avoid misapplication and misinterpretation:
  - As a stand-alone measure, Occupation of Resident Parent/Guardian does not incorporate all factors commonly accepted to influence SES, and thus should not be presented as a complete measure of SES unless it is combined with other alternatives (such as 4 and 5).

- **Example of Common Use**: Below is an example of how this measure has been used in education agencies:
  - This measure is widely used to study the educational progress of children.

## 7. Neighborhood SES

An expanded SES measure to reflect additional geographical context.

*This information is presented as a reference tool; it is not a data collection instrument and does not represent a federal reporting requirement.*

- **Description**: Characteristics that describe the larger community context in which an individual lives, including the percentage of adults with less than a high school education, the median family/household income in the neighborhood, and the types of possessions in a household. The argument for including neighborhood SES information in an expanded measure of student SES is that not all financial, social, and human capital resources available to the individual student come from the family.[42]

- **Granularity**: This element is likely to be an aggregate measure derived for an entire neighborhood and then applied to all families and individuals residing in that neighborhood.

- **Advantages**: Potential benefits of using this measure are as follows:
  - Currently used in other education agencies.
  - Provides additional geographical and community context to the interpretation of individual-/family-level SES data.
  - Potentially a high-quality measure if, for example, collected from the U.S. Census, which uses consistent definitions and methodologies to produce nationally comparable data.
  - Reasonably accessible with no need for individual respondent permission or response.

- **Challenges**: Potential impediments to using this measure are as follows:
  - Unless collected from a nationally recognized source like the U.S. Census, this measure is only comparable nationally if it is uniformly defined and calculated. The definition of a "neighborhood" varies considerably (e.g., a zip code, a Census tract, school boundaries, and the cultural context of a geographic space).
  - It is possible that some students and families in a neighborhood will not be represented by the aggregate characteristics of the neighborhood. For example, students whose families who are not low SES may be identified as low SES simply because of the neighborhood in which they reside.

- **Verifiability**: Because of variation in state identification policies, data may be difficult to substantiate unless calculated at a national level (e.g., with U.S. Census data).

[42] NCES (2012). *Improving the Measurement of Socioeconomic Status for the National Assessment of Educational Progress: A Theoretical Foundation.* Retrieved February 2015 from http://nces.ed.gov/nationsreportcard/pdf/researchcenter/Socioeconomic_Factors.pdf.

- **Usage Limitations**: The following are suggestions for the appropriate application of this measure and issues to consider to avoid misapplication and misinterpretation:
  - Variation within a single "neighborhood" may be significant and not visible at the level of available detail.

- **Example of Common Use**: Below is an example of how this measure has been used in education agencies:
  - Neighborhood SES data are used in a wide range of ways in education research as well as, for example, in population models used to help state and district planners project future demands on and use of the education system.

## 8. School District Poverty Estimate

An expanded SES measure to reflect additional geographical context.

*This information is presented as a reference tool; it is not a data collection instrument and does not represent a federal reporting requirement.*

- **Description**: The U.S. Census Bureau's Small Area Income and Poverty Estimates program (SAIPE) produces annually updated school district poverty estimates to support the administration and allocation of Title I funding under the No Child Left Behind Act of 2001. These data include estimates of total population, number of children ages 5 to 17, and number of related children ages 5 to 17 in families in poverty. SAIPE school district estimates are developed from model-based county estimates and inputs from the decennial census and federal tax information. These estimates are provided for geographically defined school districts identified by the biennial school district boundary update.[43,44]

- **Granularity**: This measure reflects data for an entire school district based on geographical boundaries and then is applied to all families and individuals residing in that neighborhood.[45]

- **Advantages**: Potential benefits of using this measure are as follows:
  - Currently used in other education agencies.
  - Provides additional geographical and community context to the interpretation of individual-/family-level SES data.
  - Potentially a high-quality measure because the U.S. Census uses consistent definitions and methodologies to produce nationally comparable data.
  - Reasonably accessible with no need for individual respondent permission or response.

- **Challenges**: Potential impediments to using this measure are as follows:
  - The geographic boundaries of a school district are not always aligned with actual school attendance zones. For a variety of reasons, students may be permitted to enroll in a school or district even though they live outside of its geographic boundaries (e.g., special enrollment agreements for special education, virtual schools, charter schools, etc.).
  - Unless collected from a nationally recognized source like the U.S. Census, this measure is only comparable nationally if it is uniformly defined and calculated.
  - It is possible that some students and families will not be represented by the aggregate characteristics of their school district poverty estimates. For example, students whose families are not low SES may be identified as low SES because of the school district boundaries within which they reside.

[43] School District Poverty Estimates are available at https://www.census.gov/did/www/schooldistricts/data/poverty.html.
[44] The NCES School District Demographics System (SDDS) online mapping tool allows users to view maps of states and school districts, while overlaying statistics about population and housing, race and ethnicity, and economics and social characteristics. For information about the SDDS, visit http://nces.ed.gov/surveys/sdds/ed/index.asp.
[45] The U.S. Census Bureau's Geography Division updates school district boundaries every other year as part of the School District Review Program. More information about Census's school district boundaries is available at https://www.census.gov/did/www/schooldistricts/data/boundaries.html.

- **Verifiability**: U.S. Census data should be highly verifiable in spite of variation in local and state characteristics and policies.

- **Usage Limitations**: The following are suggestions for the appropriate application of this measure and issues to consider to avoid misapplication and misinterpretation:
  - Variation within a single school district may be significant and not visible at the level of available detail.
  - It may not be appropriate to compare school districts with varying service area sizes.

- **Example of Common Use**: Below is an example of how this measure has been used in education agencies:
  - SAIPE estimates are specifically designed for use in annual Title I allocations to school districts.

# Appendix A. Free- and Reduced-Price Meal Eligibility Data from the National School Lunch Program

In 2010, the Healthy, Hunger-Free Kids Act of 2010 (HHFKA) (PL 111-296) amended Section 11(a)(1) of the Richard B. Russell National School Lunch Act (42 U.S.C. 1759a(a)(1)) to provide another alternative to household applications for free- and reduced-price (FRP) meals in high-poverty local educational agencies (LEAs) and schools. This alternative is referred to as the Community Eligibility Provision (CEP), which is administered by the Food and Nutrition Service of the U.S. Department of Agriculture. CEP was established for LEAs and schools as an alternative to household applications for FRP meals and conventional reimbursement methods. CEP can be used in an entire LEA (district-wide), a group of schools in an LEA, or an individual school—if the ratio of identified students (that is, those certified for free meals without application) to total enrollment is 40 percent or more in the year prior to adopting CEP (known as the year prior to year 1 of CEP operations). This criterion is known as the "Identified Student Percentage" (ISP). LEAs and schools using CEP must agree to serve both breakfasts and lunches free to all students, and to cover all costs of these meals in excess of Federal reimbursements with non-Federal funds. The percentage of meals reimbursed with Federal funds at the free meals rate (the "claiming percentage") equals the ISP multiplied by a factor of 1.6, as established in the HHFKA; all other meals are served free to students but are reimbursed at the paid meals rate. The applicable ISP is for the entire LEA, the group of schools, or the individual school, depending on how the LEA chooses to implement and establish CEP eligibility for its schools.

**For more information...**

- Visit http://www.fns.usda.gov/nslp/national-school-lunch-program-nslp to learn more about the National School Lunch Program.
- Visit http://www.fns.usda.gov/school-meals/community-eligibility-provision to learn more about the CEP.
- Visit http://www.fns.usda.gov/school-meals/applying-free-and-reduced-price-school-meals to learn more about applying for free- and reduced-price school meals or to download the current Prototype Household Application.

# Appendix B. National School Lunch Program - Provisions 1, 2, and 3

## U.S. Department of Agriculture, Food and Nutrition Services

In an effort to reduce paperwork at the local level, Congress incorporated into Section 11(a)(1) of the National School Lunch Act three alternative provisions to the normal requirements for annual determinations of eligibility for free- and reduced-price school meals and daily meal counts by type (free, reduced price, and paid meals) at the point of service.

### Provision 1

This Provision reduces application burdens by allowing free eligibility to be certified for a 2-year period. In schools where at least 80 percent of the children enrolled are eligible for free- or reduced-price meals, annual notification of program availability and certification of children eligible for free meals may be reduced to once every 2 consecutive school years. All other households must be provided a meal application and are allowed to apply for meal benefits each school year. There is no requirement to serve meals at no charge to all students. Schools must continue to record daily meal counts of the number of meals served to children by type as the basis for calculating reimbursement claims. Provision 1 has been an option for schools since publication of regulations in 1980.

### Provision 2

This Provision reduces application burdens and simplifies meal counting and claiming procedures. It allows schools to establish claiming percentages and to serve all meals at no charge for a 4-year period. Schools must serve meals to all participating children at no charge for a period of 4 years. During the first year, or base year, the school makes eligibility determinations and takes meal counts by type. During the next 3 years, the school makes no new eligibility determinations and counts only the total number of reimbursable meals served each day. Reimbursement during these years is determined by applying the percentages of free, reduced price, and paid meals served during the corresponding month of the base year to the total meal count for the claiming month. The base year is included as part of the 4 years. At the end of each 4-year period, the State agency may approve 4-year extensions if the income level of the school's population remains stable. Schools electing this alternative must pay the difference between Federal reimbursement and the cost of providing all meals at no charge. The money to pay for this difference must be from sources other than Federal funds. Provision 2 has been an option for schools since publication of regulations in 1980.

### Provision 3

This Provision reduces application burdens and meal counting and claiming procedures. It allows schools to simply receive the same level of Federal cash and commodity assistance each year, with some adjustments, for a 4-year period. Schools must serve meals to all participating children at no charge for a period of 4 years. These schools do not make additional eligibility determinations. Instead, they receive the level of Federal cash and commodity support paid to them for the last year in which they made eligibility determinations and meal counts by type (the base year). For each of the 4 years, the level of Federal cash and commodity support is adjusted to reflect changes in enrollment and inflation. The base year is not included as part of the 4 years. At the end of each 4-year period, the State agency may approve 4-year extensions if the income level of the school's population remains stable. Schools electing this alternative must pay the difference between Federal reimbursement and the cost of providing all meals at no charge. The money to pay for this difference must be from sources other than Federal funds. Provision 3 has been an option for schools since 1995 through an implementing memorandum.

Visit http://www.fns.usda.gov/school-meals/provisions-1-2-and-3 for more information about the three alternative provisions to the normal requirements for annual determinations of eligibility for free- and reduced-price school meals.

# Appendix C. NAEP Panel Recommendations Summary

Note that these recommendations are intended to apply only to the National Assessment of Educational Progress (NAEP), the largest nationally representative and continuing assessment of what America's students know and can do in various subject areas. Assessments are conducted periodically in mathematics, reading, science, writing, the arts, civics, economics, geography, U.S. history, and beginning in 2014, in technology and engineering literacy. NAEP is administered by the National Center for Education Statistics (NCES). For more information about NAEP, visit http://nces.ed.gov/nationsreportcard/.

The following information is reported in *Improving the Measurement of Socioeconomic Status for the National Assessment of Educational Progress: A Theoretical Foundation*, a white paper developed by a panel of experts convened by the National Center for Education Statistics (NCES).[46]

- Socioeconomic status (SES) can be defined broadly as one's access to financial, social, cultural, and human capital resources. Traditionally a student's SES has included, as components, parental educational attainment, parental occupational status, and household or family income, with appropriate adjustment for household or family composition. An expanded SES measure could include measures of additional household, neighborhood, and school resources.
- The panel concluded that the components of a core student SES measure were the "big three" variables (family income, parental educational attainment, and parental occupational status), but also suggested that home neighborhood and school SES could be used to construct an expanded measure of SES.
- In addition to current measures of family income, additional variables, such as housing tenure (rent or own), number of moves in the past year, presence of a household member needing healthcare assistance, and others, could be studied for potential use as indirect measures of family income.
- The panel made four key recommendations to improve measurement and reporting of SES:
  1. Family income and other indicators of home possessions and resources, parental educational attainment, and parental occupational status should be considered components of a core SES measure, and should be the subject of immediate focus for NAEP reporting.
  2. Neighborhood and school SES could be used to construct an expanded SES measure, and measures of these variables could contribute to an expanded SES.
  3. Composite measures have many advantages, such as being a single summary useful for reporting, greater reliability, and representing the full range of SES factors. In addition, treating SES as a composite measure does not preclude reporting on relationships between individual SES components and achievement. Therefore, attempts should be made to develop an SES composite measure.
  4. The validity of National School Lunch Program (NSLP) eligibility has been decreasing due to jurisdiction-wide eligibility and other factors, and that trend is likely to continue. Furthermore, there is concern over the quality of student reports, particularly regarding parental educational attainment (for 4th-graders) and occupational status (for all grades). Due to these data quality issues, along with burden considerations, attempts should be made to explore the possibility of linking to Census data on SES components.

[46] The panel's focus was to provide recommendations to NCES for improving NAEP's current SES measure. Investigating new methods for measuring SES could produce benefits that extend beyond NCES and the U.S. Department of Education. For example, in the health sector, there is extensive literature that relates SES to women's health, public health, and psychological health.

- NSLP eligibility

  There are problems with using NSLP eligibility as the main measure of SES in NAEP reporting:
  - NSLP eligibility measures only one SES component, family income (adjusted for household composition). NSLP eligibility does not reflect parental educational attainment or occupational status.
  - Due to the process of eligibility certification, NSLP eligibility may not be the most reliable measure of family income (Harwell & LeBeau, 2010). Approximately 20 percent of students either are not eligible but are deemed eligible or are eligible but are not recognized as such (Food and Nutrition Service, 1990; Harwell & LeBeau, 2010; Hauser, 1994). The problem of eligible students failing to apply (whether due to social stigma or some other cause) increases with grade level, and is particularly prevalent for 12th-graders (Office of Research, Nutrition, and Analysis, 1994). Failure to apply when eligible is also thought to correlate with immigration status and to be more prevalent among students who speak English as a second language.
  - Because there are only three levels of NSLP eligibility, there are large SES differences within categories, particularly in the non-eligible category. Furthermore, the categories contain uneven shares of the distribution; there is approximately an 8:1 ratio of students in the free vs. reduced-price lunch categories.
  - School-level and jurisdiction-level eligibility threatens the validity of NSLP eligibility as a measure of an individual student's family income. All students in a school with greater than 80 percent eligibility are categorized as NSLP eligible, regardless of their family income. Likewise, all students in some jurisdictions, such as Puerto Rico, and many of the urban districts are declared eligible regardless of family income levels.

- Neighborhood SES

  The argument for including neighborhood SES information in an expanded measure of student SES is that not all financial, social, and human capital resources available to the individual student come from the family. Some resources come from the neighborhood or community in which the student resides. The resources shape the home environment, broadly conceived, and have been shown to be associated with school achievement. Traditional indicators of neighborhood SES include the percentages of families below the poverty line, unemployed adults in a neighborhood, and the adults in the neighborhood with a low education level (e.g., percentage without a high school credential). Additional indicators could include the percentage of single parent homes and the percentage of homes where English is not spoken well.

- School SES

  Many students attend school in the neighborhood in which they live, but some students attend schools outside of their neighborhood due to school choice initiatives and other factors. School choice is a major movement that may lead to more disconnect between neighborhood SES and the SES composition of the schools that students attend. Therefore, both school and neighborhood SES information could be included as distinct components in an expanded measure of SES. School SES can be defined as the aggregate of the individual students' SES. Currently, school SES is commonly measured by Title 1 status and percentage of students eligible for NSLP.

- Family income

  The NAEP student background questionnaire also includes items yielding data that could be understood as reflecting family income:
  - books in the home
  - encyclopedia in the home
  - magazines in the home
  - computer in the home

  The 2012 NAEP pilot student background questionnaire includes additional items that may yield data pertaining to family income:
  - home possessions (internet access, clothes dryer, dishwasher, more than one bathroom, your own bedroom)

  The American Community Survey (ACS) includes items pertaining to income:
  - income (9 questions, total) (for each member of the household)
  - home possessions (8 items)
  - rooms in the home (2 items)
  - other indirect measures of family income

  Several other variables could be considered indirect measures of family income, but are not currently measured in NAEP background questionnaires. These include the following:
  - housing tenure (rent or own)
  - number of moves in the past year
  - presence of household member needing healthcare assistance
  - immigration status (recency of immigration)
  - school resources
  - student's perceived level of support (home, school, neighborhood)

- Household composition

  The number of parents and siblings should be included when measuring family income. The 2012 NAEP pilot student background questionnaire includes the following household structure questions:
  - size of household (total, number of adults)
  - household structure (single- vs. dual-parent, and other relatives)

- Parental educational attainment

  The NAEP student questionnaire includes two parental educational attainment questions:
  - mother's educational attainment (8th and 12th grade only)
  - father's educational attainment (8th and 12th grade only)

The ACS includes educational attainment questions for each member of the household:

- whether currently attending school (level and type)
- educational attainment
- major (for bachelor's degree holders)

- Parental Occupational Status and Employment Status

  The NAEP student questionnaire does not include any questions about parental occupation and employment status, nor is such information available from school records. The 2012 NAEP pilot student background questionnaire includes the following:

  - How many adults living in your home have a job?

  The ACS includes the following employment status and occupation questions for each household:

  - employment status (working for pay or not, part-time vs. full-time, etc.; 22 questions total)
  - occupation (6 questions total)

## Implications

Adopting a new measure of SES would have various implications. To begin with, a new measure would have to be clearly explained and communicated, because a new measure of SES might show greater achievement differences between low and high SES groups, compared to free lunch versus non-subsidized lunch groups. A sudden change in how SES was defined might therefore disrupt trends in the relationship between SES and achievement scores, which would create significant challenges to interpreting SES estimates over time.

# Appendix D. Related Data Element Standards

## EDFacts (and CCD)

ED*Facts* is a U.S. Department of Education (ED) initiative to collect, analyze, report on, and promote the use of high-quality, kindergarten through grade 12 (K–12) performance data for use in education planning, policymaking, and management and budget decisionmaking to improve outcomes for students.

ED*Facts* coordinates data from multiple data sources, providing information on students, schools, staff, services, and education outcomes at the state, district, and school levels for grades K–12. ED*Facts* data sources include data collections that were previously coordinated by program offices (legacy collections) and now are collected by ED*Facts* or are currently being migrated into the larger ED*Facts* unified collection. These include

- ED*Facts* State Data Collection;
- Common Core of Data (CCD-Nonfiscal);
- Consolidated State Performance Report (CSPR);
- Individuals with Disabilities Education Act (IDEA);
- Civil Rights Data Collection (CRDC); and
- The Electronic Application System for Indian Education (EASIE).

State education agencies submit education performance data for grades K–12 on approximately 180 data groups (each group includes several data elements that are logically connected) at the state, district, and school levels to the U.S. Department of Education. ED*Facts* data include information on adequate yearly progress, state performance assessments, highly qualified teachers, public school choice, supplemental educational services options, and graduation rates, among other topics. Disaggregated data are also available by student subgroups.

For more information about ED*Facts*, visit http://www2.ed.gov/about/inits/ed/edfacts/index.html.

# Appendix E. Citations and Related Resources

## References from Text

American Psychological Association (APA). *Education and Socioeconomic Status Fact Sheet*. Retrieved February 2015 from http://www.apa.org/pi/ses/resources/publications/factsheet-education.aspx.

Century Foundation (2013). *Left Behind: Unequal Opportunity in Higher Education*. Retrieved February 2015 from http://tcf.org/assets/downloads/tcf-leftbehindrc.pdf.

Davis, R. J. (2009) Socioeconomic status (SES). In K. Lomotey (Eds.), *Encyclopedia of African American Education* (pp. 585-590). Thousand Oaks, CA: SAGE Publications.

Harwell, M. and LeBeau, B. (2010) Student Eligibility for a Free Lunch as an SES Measure in Education Research. *Educational Researcher*, v39, n2, p 120-131.

Hauser, M.H. and Warren, J.R. (1996). *Socioeconomic Indexes for Occupations: A Review, Update, and Critique*. CDE Working Paper 96-01. Madison, WI: Center for Demography and Ecology. Retrieved February 2015 from http://www.ssc.wisc.edu/cde/cdewp/96-01.pdf.

Reardon, S.F. (2011). The Widening Academic Achievement Gap Between the Rich and Poor: New Evidence and Possible Explanations. *Whither Opportunity? Rising Inequality and the Uncertain Life Chances of Low-Income Children*. New York: Russell Sage Foundation Press. Retrieved February 2015 from http://cepa.stanford.edu/content/widening-academic-achievement-gap-between-rich-and-poor-new-evidence-and-possible.

Santrock J. W. (2004). *Child development* (10th ed.). New York: McGraw-Hill.

Woolfolk, A. (2007). *Educational psychology* (10th ed.). Boston: Allyn and Bacon.

## Related Resources from Text

All resources were retrieved electronically in February 2015 unless otherwise acknowledged.

*Alphabetical Indexes of Industries and Occupations* (U.S. Census Bureau)
http://www.census.gov/people/io/methodology/indexes.html

*Community Eligibility Provision* (U.S. Department of Agriculture, Food and Nutrition Service)
http://www.fns.usda.gov/school-meals/community-eligibility-provision

ED*Facts* (U.S. Department of Education)
http://www2.ed.gov/about/inits/ed/edfacts/index.html

*Eligibility Manual for School Meals: Determining and Verifying Eligibility* (U.S. Department of Agriculture, Food and Nutrition Services, 2013)
http://www.fns.usda.gov/cnd/Guidance/EliMan.pdf

*FERPA FAQs* (U.S. Department of Education)
http://www2.ed.gov/policy/gen/guid/fpco/faq.html

*Forum Guide to Building a Culture of Data Quality* (National Forum on Education Statistics, 2005)
http://nces.ed.gov/forum/pub_2005801.asp

*Free- and Reduced-Price School Meals from the U.S. Department of Agriculture National School Lunch Program for SchoolYear (SY) 2015-16* (U.S. Department of Agriculture, Food and Nutrition Services)
http://www.fns.usda.gov/nslp/applying-free-and-reduced-price-school-meals

*Improving the Measurement of Socioeconomic Status for the National Assessment of Educational Progress: A Theoretical Foundation* (National Center for Education Statistics, 2012)
http://nces.ed.gov/nationsreportcard/pdf/researchcenter/Socioeconomic_Factors.pdf

*National School Lunch Program - Provisions 1, 2, and 3* (U.S. Department of Agriculture, Food and Nutrition Services)
http://www.fns.usda.gov/school-meals/provisions-1-2-and-3

*Privacy Technical Assistance Center (PTAC)* (U.S. Department of Education)
http://ptac.ed.gov/

*School District Demographics System* (National Center for Education Statistics)
http://nces.ed.gov/surveys/sdds/ed/index.asp

*School District Poverty Estimates* (National Center for Education Statistics)
https://www.census.gov/did/www/schooldistricts/data/poverty.html

*School District Review Program* (U.S. Census Bureau, Geography Division)
https://www.census.gov/did/www/schooldistricts/data/boundaries.html

*Supplemental Nutrition Assistance Program (SNAP)* (U.S. Department of Agriculture, Food and Nutrition Service)
http://www.fns.usda.gov/snap/supplemental-nutrition-assistance-program-snap

*Temporary Assistance for Needy Families (TANF)* (U.S. Department of Health & Human Services. Office of Family Assistance)
http://www.acf.hhs.gov/programs/ofa/programs/tanf

*The Condition of Education* (National Center for Education Statistics, 2013)
http://nces.ed.gov/programs/coe

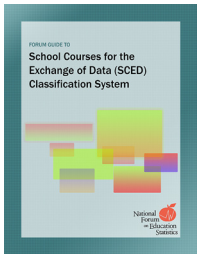
*Title I — Improving the Academic Achievement of the Disadvantaged* (U.S. Department of Education) http://www2.ed.gov/policy/elsec/leg/esea02/pg1.html

## Other Forum Resources


**Forum Guide to College and Career Ready Data (2015)**

http://nces.ed.gov/forum/pub_2015157.asp

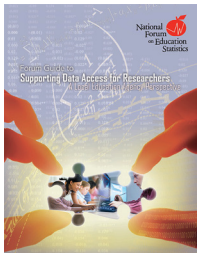
This guide examines how education agencies can use data to support college and career readiness (CCR) initiatives. It includes five use cases focused on the data needs and helpful analytics for (1) fostering individualized learning for students, (2) supporting educators in addressing student-specific needs, (3) guiding CCR programmatic decisions using postsecondary feedback loops, (4) measuring accountability and continuous improvement, and (5) maximizing career opportunities for all students.




**Forum Guide to School Courses for the Exchange of Data (SCED) Classification System (2014)**

http://nces.ed.gov/forum/pub_2014802.asp

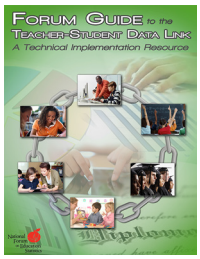
School Courses for the Exchange of Data (SCED) is a voluntary, common classification system for prior-to-secondary and secondary school courses that can be used to compare course information, maintain longitudinal data about student coursework, and efficiently exchange course-taking records. This best practice guide provides an overview of the SCED structure and descriptions of the SCED Framework elements, recommended attributes, and information for new and existing users on best practices for implementing and expanding their use of SCED.




**Forum Guide to Supporting Data Access for Researchers: A Local Education Agency Perspective (2014)**

http://nces.ed.gov/forum/pub_2014801.asp

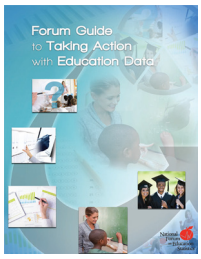
The Forum Guide to Supporting Data Access for Researchers: A Local Education Agency Perspective is intended to help local education agencies (LEAs) field, support, and monitor research requests for access to data on staff and students. At its foundation is a focus on the unique needs of LEAs, including the fact that they receive requests from researchers for both existing data (data already collected by the LEA) and new data (data to be collected by researchers through direct interaction with students, staff, or records systems). The guide presents core practices, operations, and templates that that can be adapted by LEAs as they consider how to respond to these requests for data.




**Forum Guide to the Teacher-Student Data Link: A Technical Implementation Resource (2013)**

http://nces.ed.gov/forum/pub_2013802.asp

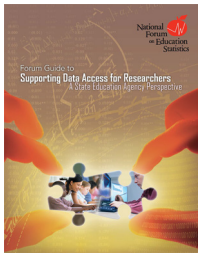
The Forum Guide to the Teacher-Student Data Link: A Technical Implementation Resource provides a practical guide for implementing a teacher-student data link (TSDL) that supports a range of uses at the local, regional, and state levels. The guide addresses the considerations for linking teacher and student data from multiple perspectives, including governance, policies, data components, business rules, system requirements, and practices. It provides references to promising practices for high quality data linkages, including TSDL-specific processes such as roster verification and the establishment of the Teacher of Record.




**Forum Guide to Taking Action with Education Data (2013)**

http://nces.ed.gov/forum/pub_2013801.asp

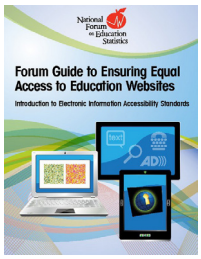
The Forum Guide to Taking Action with Education Data provides stakeholders with practical information about the knowledge, skills, and abilities needed to more effectively access, interpret, and use education data to inform action. The document includes an overview of the evolving nature of data use, basic data use concepts, and a list of skills necessary for effectively using data. The Guide recommends a question-driven approach to data use, in which the following questions can help guide readers who need to use data to take action: What do I want to know? What data might be relevant? How will I access relevant data? What skills and tools do I need to analyze the data? What do the data tell me? What are my conclusions? What will I do? What effects did my actions have? What are my next steps? The Briefs that accompany the Introduction are written for three key education audiences: Educators, School and District Leaders, and State Program Staff.




**Forum Guide to Supporting Data Access for Researchers: A State Education Agency Perspective (SEA) (2012)**

http://nces.ed.gov/forum/pub_2012809.asp

The Forum Guide to Supporting Data Access for Researchers: A State Education Agency Perspective recommends policies, practices, and templates that can be adopted and adapted by SEAs as they consider how to most effectively respond to requests for data about the education enterprise, including data maintained in longitudinal data systems. These recommendations reflect sound principles for managing the flow of data requests, establishing response priorities, monitoring appropriate use, protecting privacy, and ensuring that research efforts are beneficial to the education agency as well as the research community.




**Forum Guide to Ensuring Equal Access to Education Websites (2011)**

http://nces.ed.gov/forum/pub_2011807.asp

The Forum Guide to Ensuring Equal Access to Education Websites is designed for use by information technology administrators, data specialists, and program staff responsible for the "content" in data reports, as well as education leaders (e.g., administrators who prioritize tasks for technical and data staff), and other stakeholders who have an interest in seeing that our schools, school districts, and state education agencies operate in an effective and equitable manner for all constituents, regardless of disability status. It is intended to raise awareness in nontechnical audiences and suggest best practices for complying with Section 508 goals at an operational level in schools, school districts, and state education agencies. It is not intended to recreate technical resources that already exist to facilitate Section 508 compliance.


**Traveling Through Time: The Forum Guide to Longitudinal Data Systems (Series)**

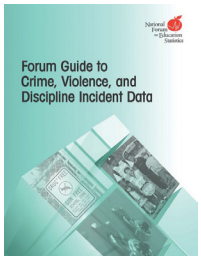
Book I: What is an LDS? (2010)
http://nces.ed.gov/forum/pub_2010805.asp

Book II: Planning and Developing an LDS (2011)
http://nces.ed.gov/forum/pub_2011804.asp

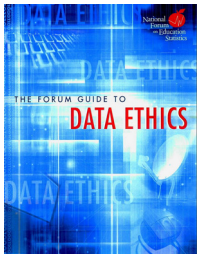
Book III: Effectively Managing LDS Data (2011)
http://nces.ed.gov/forum/pub_2011805.asp

Book IV: Advanced LDS Usage (2011)
http://nces.ed.gov/forum/pub_2011802.asp

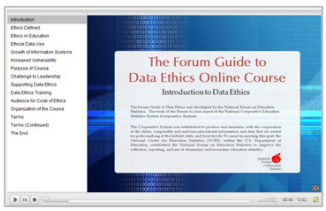
Longitudinal data systems (LDSs) are increasingly becoming the state of the art in education data. An LDS makes it possible not only to monitor the success of individual students, but also to identify trends in those students' education records. These systems provide powerful and timely insights about students and allow educators to tailor instruction to better meet individual needs. They can also reveal with great clarity the effects our policies, programs, and decisions have on schools. The *Traveling Through Time* series is intended to help state and local education agencies meet the many challenges involved in developing robust systems, populating them with quality data, and using this new information to improve the education system. The series introduces important topics, offers best practices, and directs the reader to additional resources related to LDS planning, development, management, and use.



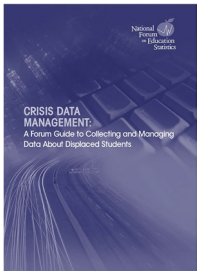

**Forum Guide to Crime, Violence, and Discipline Incident Data (2011)**
http://nces.ed.gov/forum/pub_2011806.asp
This document focuses on the use of crime, violence, and discipline data to improve school safety. It presents strategies for implementing an incident database, including system design, management, and training; recommends a body of data elements, definitions, and code lists useful for collecting accurate and comparable data about crime, violence, and discipline; and offers suggestions for the effective presentation and reporting of data. This guide was created in collaboration with the Discipline Data Working Group of the U.S. Department of Education to ensure that it will be useful to states and districts reporting data to the Office for Civil Rights, the Office of Safe and Drug Free Schools, the Office of Special Education and Rehabilitative Services, and ED*Facts*.



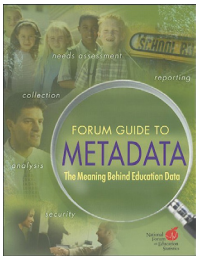

**Forum Guide to Data Ethics (2010)**
http://nces.ed.gov/forum/pub_2010801.asp
While laws set the legal parameters that govern data use, ethics establish fundamental principles of "right and wrong" that are critical to the appropriate management and use of education data in the technology age. This guide reflects the experience and judgment of seasoned data managers; while there is no mandate to follow these principles, the authors hope that the contents will prove a useful reference to others in their work.



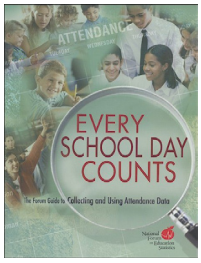

**Forum Guide to Data Ethics Online Course**
http://nces.ed.gov/forum/dataethics_course.asp
The Forum Guide to Data Ethics Online Course is based on the *Forum Guide to Data Ethics* and includes an online test. Individuals who pass receive a certificate.



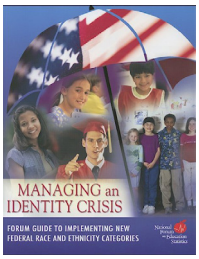

**Crisis Data Management: A Forum Guide to Collecting and Managing Data About Displaced Students (2010)**
http://nces.ed.gov/forum/pub_2010804.asp
This document provides recommendations that can be used by elementary and secondary education agencies to establish policies and procedures for collecting and managing education data before, during, and after a crisis.



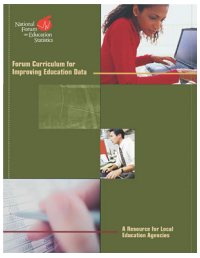

**Forum Guide to Metadata:The Meaning Behind Education Data (2009)**
http://nces.ed.gov/forum/pub_2009805.asp
This document offers best practice concepts, definitions, implementation strategies, and templates/ tools for an audience of data, technology, and program staff in state and local education agencies. It is hoped that this resource will improve this audience's awareness and understanding of metadata and, subsequently, the quality of the data in the systems they maintain.



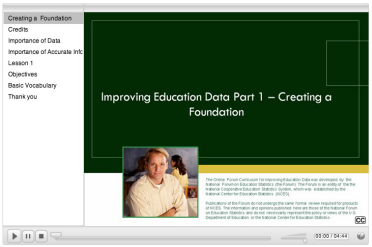

**Every School Day Counts:The Forum Guide to Collecting and Using Attendance Data (2009)**
http://nces.ed.gov/forum/pub_2009804.asp
This document offers best practice suggestions on collecting and using student attendance data to improve performance. It includes a standard set of codes to make attendance data comparable across districts and states. The product also presents real-life examples of how attendance information has been used by school districts.




**Managing an Identity Crisis: Forum Guide to Implementing New Federal Race and Ethnicity Categories (2008)**
http://nces.ed.gov/forum/pub_2008802.asp
This best practice guide is developed to assist state and local education agencies implementing federal race and ethnicity categories—thereby reducing redundant efforts within and across states, improving data comparability, and minimizing reporting burden. It serves as a toolkit from which users may select and adopt strategies that will help them quickly begin the process of implementation in their agencies.



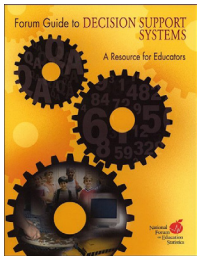

**Forum Curriculum for Improving Education Data: A Resource for Local Education Agencies (2007)**
http://nces.ed.gov/forum/pub_2007808.asp
This curriculum supports efforts to improve the quality of education data by serving as training materials for K12 school and district staff.




**Improving Education Data Online Course**

*http://nces.ed.gov/forum/dataqualitycourse/dataquality.asp*

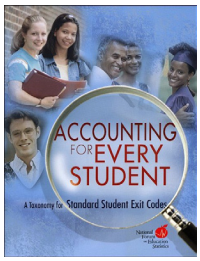
The Improving Education Data Online Course is based on topics addressed in the Forum Curriculum for Improving Education Data: A Resource for Local Education Agencies. The course is offered in in two parts: Part 1 – Creating a Foundation introduces users to the concept of quality data, assists users in assessing school or district data quality issues, introduces the concept of classifying education data, and touches on laws governing data security and confidentiality. Part 2 – Coordinating Quality Data covers the roles and responsibilities of the data steward, discusses data flow and cycles and how they affect high-quality data, examines how data entry errors can affect quality data, introduces the concepts of a data dictionary, a data calendar, and a data audit. Finally, it suggests communications strategies that LEA staff should consider to improve data quality.




**Forum Guide to Decision Support Systems: A Resource for Educators (2006)**

*http://nces.ed.gov/forum/pub_2006807.asp*

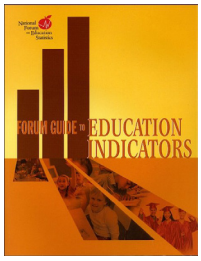
This document was developed to remedy the lack of reliable, objective information available to the education community about decision support systems. It is intended to help readers better understand what decision support systems are, how they are configured, how they operate, and how they might be developed and implemented in an education setting.




**Accounting for Every Student: A Taxonomy for Standard Student Exit Codes (2006)**

http://nces.ed.gov/forum/pub_2006804.asp

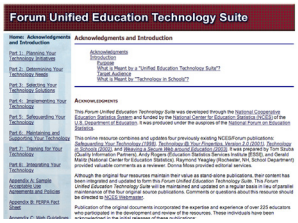
This guide presents an exhaustive and mutually exclusive exit code taxonomy that accounts, at any single point in time, for all students enrolled (or previously enrolled) in a particular school or district. It is based on exit code systems in use in state education agencies across the nation and a thorough review of existing literature on the subject.




**Forum Guide to Education Indicators (2005)**

http://nces.ed.gov/forum/pub_2005802.asp

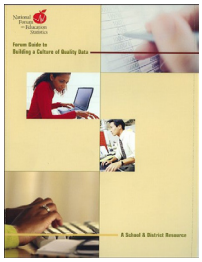
This guide provides encyclopedia-type entries for 44 commonly used education indicators. Each indicator entry contains a definition, recommended uses, usage caveats and cautions, related policy questions, data element components, a formula, commonly reported subgroups, and display suggestions. The document will help readers better understand how to appropriately develop, apply, and interpret commonly used education indicators.




**Forum Unified Education Technology Suite (2005)**

http://nces.ed.gov/forum/pub_tech_suite.asp

The Forum Unified Education Technology Suite presents a practical, comprehensive, and tested approach to assessing, acquiring, instituting, managing, securing, and using technology in education settings. It will also help individuals who lack extensive experience with technology to develop a better understanding of the terminology, concepts, and fundamental issues influencing technology acquisition and implementation decisions.



**Forum Guide to Building a Culture of Quality Data: A School and District Resource (2005)**

http://nces.ed.gov/forum/pub_2005801.asp

This guide was developed by the Forum's Data Quality Task Force to help schools and school districts improve the quality of data they collect and to provide processes for developing a "Culture of Quality Data" by focusing on data entry—getting things right at the source. The quality of data will improve when all staff understand how the data will be used and how data become information. This guide will show how quality data can be achieved in a school or district through the collaborative efforts of all staff.