

Profile of State Data Capacity in 2019 and 2020: Statewide Longitudinal Data Systems (SLDS) Survey Descriptive Statistics

STATS IN BRIEF

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Statistics in Brief publications describe key findings from statistical tables to provide useful information to a broad audience, including members of the general public. They address simple and topical issues and questions. They do not investigate more complex hypotheses, account for interrelationships among

variables, or support causal inferences. We encourage readers who are interested in more complex questions and in-depth analysis to explore other NCES resources, including publications, online data tools, and public- and restricted-use datasets. See nces.ed.gov and references noted in the body of this document for more information.

In 2006, the U.S. Department of Education began a new grant program aimed at supporting states and territories as they design, develop, and use statewide longitudinal data systems (SLDSs). SLDSs integrate data from agencies and programs across a state or territory to help facilitate data-driven decisionmaking and answer critical questions about student learning and outcomes, workforce preparation, social programs and policies, and economic development. Since the first SLDS grant round in fiscal year (FY) 2006, the program has awarded six additional rounds of grants to 55 states and territories totaling \$826 million, with an average grant award of \$3.3 million in FY 2019.

The resulting SLDSs can enable researchers, policymakers, and practitioners to identify and understand important relationships and trends across the education-to-workforce continuum. A well-developed SLDS can increase state and territory governments' ability to establish more informed and equitable policies, enable agency

leaders to act more strategically, and help practitioners make more data-informed decisions.

As the country grapples with the immediate and longer term impacts of the COVID-19 pandemic, the potential for increased data and analytical capacity enabled by SLDSs has become more critical. Many states have leveraged their SLDSs to create reports, dashboards, and datasets for a wide variety of uses related to COVID-19. These uses include supporting policymakers and agency decisions, identifying community capacity and needs for responding to COVID-19, and measuring the impact of COVID-19 on education, social service, and workforce participation and outcomes.

The overall capacity of states and territories to store, link, and use data in their SLDSs has increased since the first administration of the SLDS Survey in 2017. However, states' and territories' SLDSs differ in many ways, as do the legislative directives and regulations governing them. Funding levels, agency priorities, and technical

and personnel capacity for SLDSs vary widely across the nation and can change over time. As a result, capacity in some states or territories for storing, linking, or using specific data types can decrease over time.

The SLDS Survey was created to capture information about the data capacity of states' and territories' SLDSs across these varying circumstances. In addition to inventorying information about whether a given data type, link, or use is in place, the SLDS Survey explores the development of SLDSs and their varying degrees of implementation. By providing standard measures for various aspects of data capacity,¹ the SLDS Survey helps stakeholders understand and assess the ability of SLDSs to store, manage, link, and use key data types across the preschool through workforce (P-20W+) spectrum.

This Statistics in Brief provides aggregate data from the 2019 and 2020 administrations of the SLDS

¹ See [Data, Measures, and Methods](#) (below), and the [Methodology and Technical Notes](#) at the end of this brief.

Survey. The primary focus of the report is on the 2020 SLDS Survey with results specific to the 2019 SLDS Survey discussed in appendix A. This brief is structured to address the following four research questions:

1. What types of K-12 data are included in the statewide longitudinal data system (SLDS)?
2. What is the capacity for linking K-12 student data in the SLDS to other data? How are the data linked?
3. Are there data dictionaries published publicly? Are data aligned to the Common Education Data Standards (CEDS)?
4. How do states and territories use data for reporting and decisionmaking?

Data, Measures, and Methods

Data Collection Methods. This data brief presents findings from the 2020 SLDS Survey, the fourth year of the annual survey. The response rate in 2020 was 96 percent (54 of 56 eligible states and territories). All state education agencies (SEAs) eligible to receive SLDS grants received the SLDS Survey, including SEAs from all 50 states, the District of Columbia, the U.S. Virgin Islands, Puerto Rico, American Samoa, Guam, and the Northern Mariana Islands.

The National Center for Education Statistics (NCES) sent letters via email to the SLDS project director in each SEA asking them to participate in the SLDS Survey. Respondents completed an online, six-section survey form that was sent electronically to each SEA. Survey respondents often were the SLDS project directors; in some cases, other SEA staff members responded or assisted in the response. Survey respondents frequently consulted

additional stakeholders, including staff members from partner organizations. In some instances, staff members from partner organizations responded to the SLDS Survey directly because some states and territories host SLDSs outside of the SEA environment. The survey collected information on the respondents, including their titles and additional stakeholders consulted, and on the capacity of the SLDS.

Measures. The SLDS Survey asks respondents whether their SLDSs contain specific types of data, whether these data are linked to other types of data, and how the data are used. In general, K-12 data include data regarding students, educators, and schools. K-12 teacher data include data regarding teachers, teacher experience, and teacher instruction in K-12 schools. Early childhood education data include data about providers of and participation in early childhood education services. Postsecondary data include information related to institutions of higher education, from institutional data like tuition and fees to student data such as admission and completion. Perkins career and technical education (CTE) data focus on the programs offered and student participation, completion, transitions, and outcomes. Workforce data include wages and employment statistics and can come from a variety of sources at the state and local levels.

Respondents are asked to indicate whether a data type or capability is operational, in progress, planned, or not planned in their SLDSs. The SLDS Survey defines “operational” as fully functional and available for its intended users. “In progress” is defined as currently being built or implemented as part of the SLDS but not yet fully operational. “Planned” data types and capabilities are those that the state or territory intends to include in its SLDS and for which it has

a documented plan and funding source but has not yet begun to implement. “Not planned” indicates that the state or territory currently has not planned or included this data type or capability in its SLDS. “Not planned” also indicates items that are not applicable to a state or territory’s SLDS. Respondents received a link to a glossary with additional definitions for key terms at the start of the SLDS Survey.

Data and Limitations. This report presents aggregate summary statistics of states’ and territories’ SLDS capacity based only on the responses received. Skip logic implemented in the SLDS Survey automatically populated the response “not planned” for some questions. For example, where respondents indicated that connections between certain data types were not planned, all questions about those connections were automatically given a response of “not planned.” A response was considered “not answered” if it was missing. Because the questions included a “not answered” category, all percentages are derived from the 54 state and territory respondents for the 2020 survey.

One limitation of the SLDS Survey is that the knowledge, skills, resources, and expertise of respondents could vary across states and territories, affecting responses. In the data use section in particular, responses regarding other stakeholders’ use of SLDS data could vary. Additionally, the respondent(s) for each state or territory may change from year to year, limiting the ability to understand trends over time.

For more information about the data, measures, and methods used in this brief, please see the [Methodology and Technical Notes](#) section at the end of the report.

STUDY QUESTIONS

1

What types of K-12 data are included in the statewide longitudinal data system (SLDS)?

2

What is the capacity for linking K-12 student data in the SLDS to other data? How are the data linked?

3

Are there data dictionaries published publicly? Are data aligned to the Common Education Data Standards (CEDS)?

4

How do states and territories use data for reporting and decisionmaking?

Key Findings

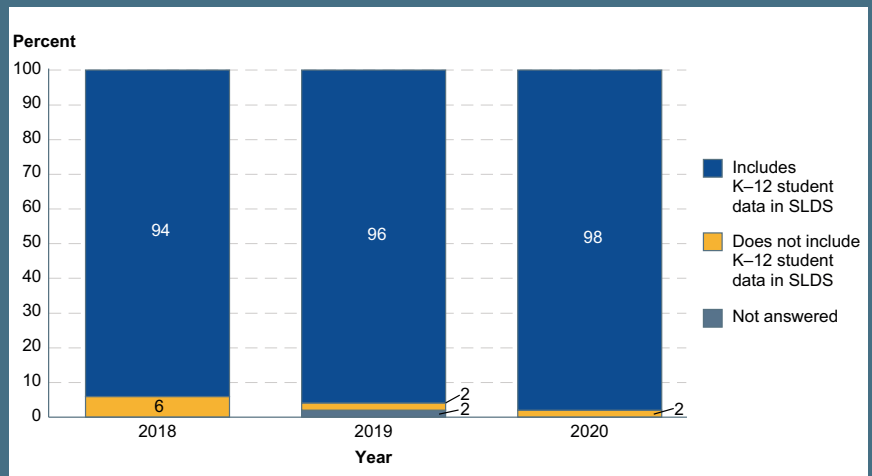
- In 2020, 98 percent of states and territories indicated that K-12 student data were included in their SLDSs (**Figure 1**). This is slightly higher than in past years.
 - In 2019 and 2020, the most commonly included types of K-12 data by states and territories were student demographics, grade level, and school enrollment and completion status, each operational in 85 percent of states and territories (**Figure A-1** and **Figure 2**). These data types are required for federal reporting.
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- Nearly 93 percent of states and territories reported in 2020 that they collect data across multiple agencies in a P-20W+ environment (**Figure 3**). This is up from 84 percent in 2019 (**Figure A-2**).
 - In both 2019 and 2020, the majority of states and territories reported having automated infrastructure to link K-12 student data with data from at least one other sector (**Figure A-3** and **Figure 4**). In 2020, linkages between K-12 student data and postsecondary data were the most common. Linking also was commonly reported between K-12 student data and Perkins CTE data, early childhood data, and K-12 teacher data. Each linkage was up slightly in 2020. Workforce data were the least likely to be linked to K-12 student data.
 - Nearly half of states reported having an interoperability process that moved student data through replicable automated processes in 2019 (**Figure A-5**) and 2020 (**Figure 6**). The processes most commonly reported by SLDS Survey respondents were moving data from local education agencies (LEAs) to the state through Student Records Exchange (SRE or SREx), and from K-12 to in-state postsecondary institutions through e-transcripts. In 2020, moving data to other states' postsecondary entities via e-transcripts was less prevalent, with 24 percent of states and territories reporting that capability, as was cross-state data sharing.
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- In 2020, 56 percent of states and territories reported that they had publicly published a comprehensive dictionary with K-12 student data, and an additional 35 percent indicated that they either planned to publish one or were in the process of doing so (**Figure 7**). In 2019, nearly two-thirds of states and territories publicly published a comprehensive dictionary for K-12 student data (**Figure A-6**).
 - Most states and territories reported that data elements are either aligned or in the process of being aligned to the CEDS (**Figure 8**). In 2020, 39 percent reported operational alignment of K-12 student data elements to CEDS, and an additional 50 percent reported planning or being in the process of aligning those data to CEDS. This was a distinct increase from 2019.
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- Survey respondents reported most commonly using K-12 student, K-12 teacher, postsecondary, and workforce data for resources such as scorecards and dashboards for the public in 2020 (**Figure 9**). Similar results were reported in 2019.
 - In 2020, 41 percent of states and territories reported operational use of data for reports to the governor or legislature and for data quality reports describing issues such as error rates and timeliness of data submissions (**Figure 10**). More than one-third of respondents reported operational use of data for research or policy agendas and strategic plans. A similar proportion reported operational use of data for agency or board goals, initiatives, and policy attainment.

1 What types of K-12 data are included in the statewide longitudinal data system (SLDS)?

Consistent with past years, the 2020 survey showed a small uptick in the percentage of SEAs that included K-12 student data in their SLDSs. However, the raw number of SEAs responding to the SLDS Survey decreased from 55 respondents in 2019 to 54 respondents in 2020. In 2020, 98 percent (53 of 54 states and territories) indicated that K-12 student data were included in their SLDSs (Figure 1).

States and territories were asked to report the operational status of 26 types of K-12 student data in their SLDSs, including two data types new to the SLDS Survey in 2020 (English language learner status and special education status). For each data type, respondents indicated whether its status was “operational,” “in progress,” “planned,” or “not planned.” Figures 2, 4, and subsequent figures show the percentage of respondents giving each of those four responses, along with the percentage of those who did not answer, if applicable. The bars in each figure are centered on 0, with responses of “not planned” and “not answered” on the left, and responses of “operational,” “in progress,” and “planned” on the

Figure 1. Percentage of states and territories with K-12 student data included in the SLDS: 2018-2020



NOTE: N = 51 in 2018. N = 55 in 2019. N = 54 in 2020.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey 2018-20.

right. In this way, comparisons can more easily be made between the percentage of states and territories that have either implemented, begun to implement, or plan to implement a data type or capability, and those that do not have plans to do so. Because an “operational” response indicates that a data type or capability is fully functional and available for its intended users,

most discussion focuses on those responses.

The K-12 student data types that were most commonly reported as operational by states and territories were demographics, grade level, and school enrollment and completion, each operational in 85 percent of states and territories (Figure 2). These data types are all required for federal reporting.

Special education status, other program participation (including free and reduced-price lunch and Title I), and transfer in/out status were nearly as commonly operational, at 83 percent each.

Other data types commonly reported as operational by states and territories were homelessness status (81 percent), English language learner status (81 percent), drop out history (80 percent), attendance (80 percent), diploma or certificate data (80 percent), and statewide summative/end of course assessment data (80 percent).

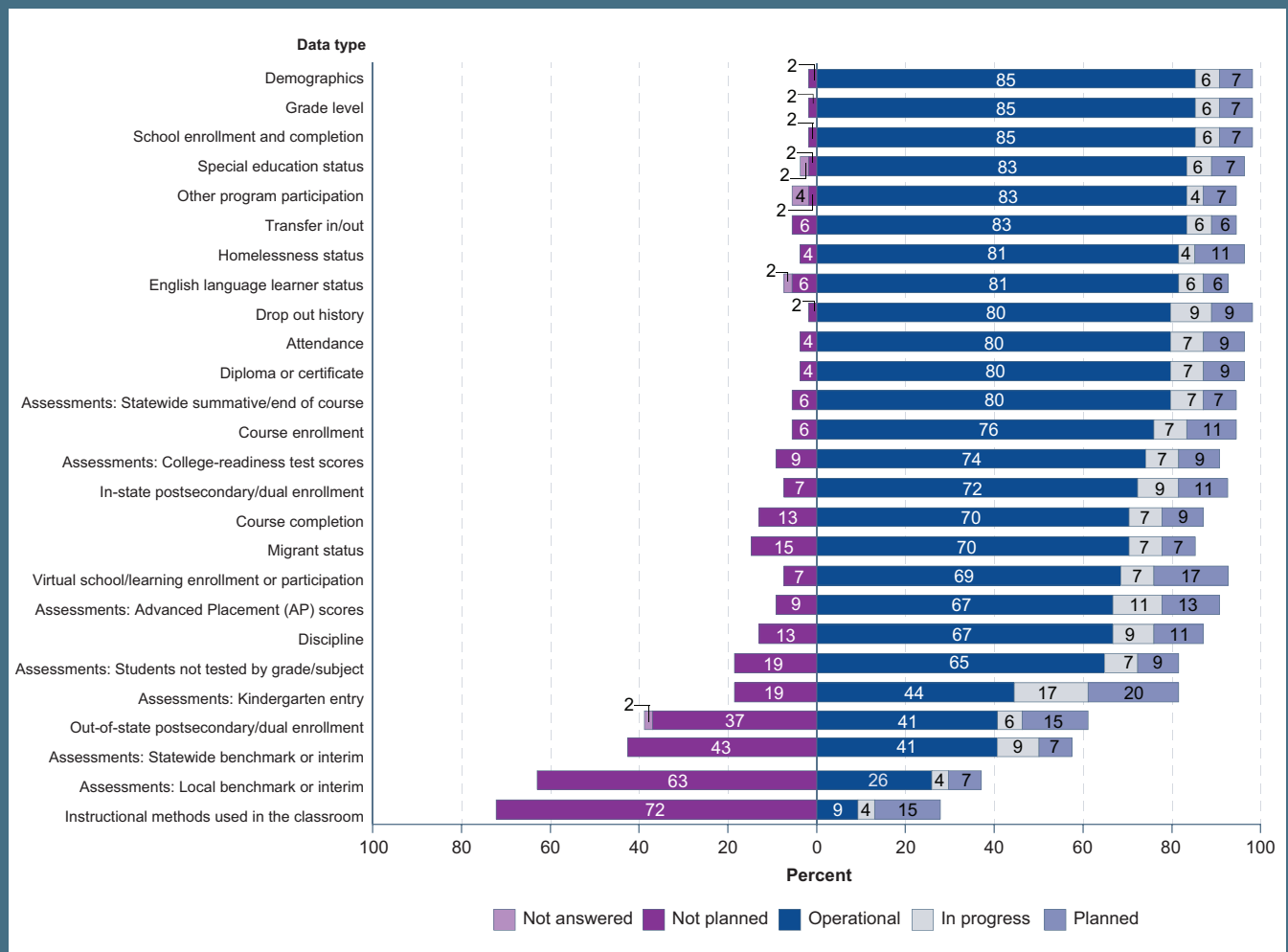
About three quarters of respondents reported course enrollment data (76 percent) and college-readiness test scores (74 percent) as operational.

Less prevalent operational data types included in-state postsecondary dual enrollment data (72 percent), course completion (70 percent), migrant status (70 percent), virtual school/learning enrollment or participation (69 percent), Advanced Placement (AP) scores (67 percent), discipline (67 percent), and assessments of

students not tested by grade/subject (65 percent).

The K-12 student data types least commonly reported as operational in 2020 were kindergarten entry assessments (44 percent), out-of-state postsecondary dual enrollment data (41 percent), statewide benchmark or interim assessments (41 percent), local benchmark or interim assessments (26 percent), and instructional methods used in the classroom (9 percent). The data types least commonly reported as operational were consistent with responses provided in past years.

Figure 2. Percentage of states and territories with selected K 12 student data types included in the SLDS, by operational status: 2020



NOTE: N = 54. Detail may not sum to 100 percent due to rounding. "Other program participation" includes participation in free and reduced price lunch and Title I programs.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2020.

2

What is the capacity for linking K-12 student data in the SLDS to other data? How are the data linked?

Linking data enables states and territories to directly connect information needed to answer important questions about practice and policy. Nearly 93 percent of states and territories (50 of 54) reported in 2020 that they collect data across multiple agencies in a P-20W+ environment (Figure 3). Just over one third of states and territories reported using a centralized model² in 2020 (35 percent), with nearly even proportions of the remaining states and territories for whom the question was applicable reporting using federated data models³ (30 percent) and hybrid models⁴

² In a centralized data model, all participating source data systems periodically copy their data to a single, centrally located data repository that organizes, integrates, and stores them using a common data standard. Users can query the system to access the data that they have been authorized to view and use.

³ In a federated data model, individual source data systems maintain control over their own data but agree to share some or all of their data with other participating systems upon request. Users submit queries via a shared intermediary interface that then searches the independent source systems. Data from source systems are located and matched to fulfill a specific data request. The linked data are not stored but rather are removed once cached and delivered.

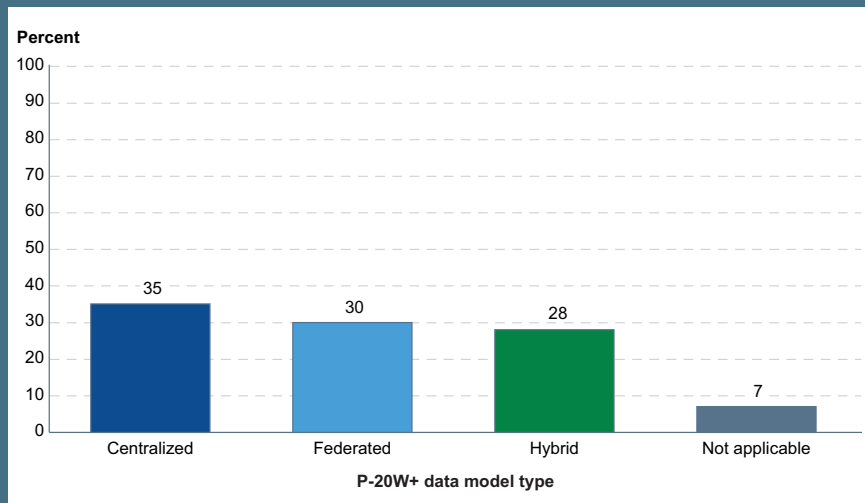
⁴ A hybrid data model combines features of the centralized and federated models. For example, hybrid models may establish and maintain data linkages through common identifiers such as Social Security number, name, date of birth, and student identifier, while data such as enrollment, attainment, and assessment information are kept separate until requested by researchers or other users.

(28 percent). Only four respondents (7 percent) indicated that this question was not applicable, including Alaska, which had its SLDS decommissioned in 2020.

The ability to connect information about student outcomes to

nonstudent entities can significantly increase SEA data capacity in a number of areas. State and territory capacity to directly link K-12 student data to other data has steadily increased across sectors since the SLDS Survey's inception.

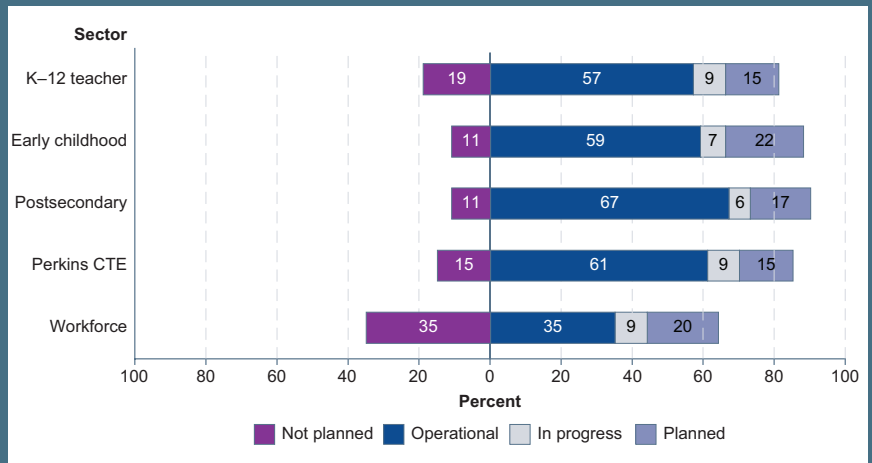
Figure 3. Percentage of states and territories with P 20W+ data collections, by model type: 2020



NOTE: N = 54. P 20W+ refers to data from prekindergarten (early childhood), K 12, and postsecondary through postgraduate education, along with workforce and other outcomes data (e.g., public assistance and corrections data). The specific agencies and other organizations that participate in the P 20W+ initiative vary from state to state. SOURCE: U.S. Department of Education, National Center for Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2020.

A majority of states and territories reported having operational automated infrastructure in place to link K-12 student data with data from at least one other sector (Figure 4). Operational linkages between K-12 student data and postsecondary data were the most common, reported by 67 percent of states and territories. Automated linking also was commonly reported as operational between K-12 student data and Perkins CTE data (61 percent), early childhood data (59 percent), and K-12 teacher data (57 percent). Workforce data were the least likely to be linked to K-12 student data, with only 35 percent of states and territories reporting this linkage as operational.

Figure 4. Percentage of states and territories with other sector data linked to K 12 student data, by operational status: 2020



NOTE: N = 54. Detail may not sum to 100 percent due to rounding. CTE refers to career and technical education. ID refers to unique identifier.

SOURCE: U.S. Department of Education, National Center of Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2020.

How are data directly linked to K-12 student data?

States and territories use a variety of methods to link K-12 student data directly to data from other sectors (Figure 5). When linking K-12 student data to K-12 teacher data, respondents reported course assignments (69 percent) and statewide unique teacher IDs (65 percent) as the most common operational linking methods. Only 33 percent of respondents indicated that they had operational data

linkages using a roster verification process.⁵

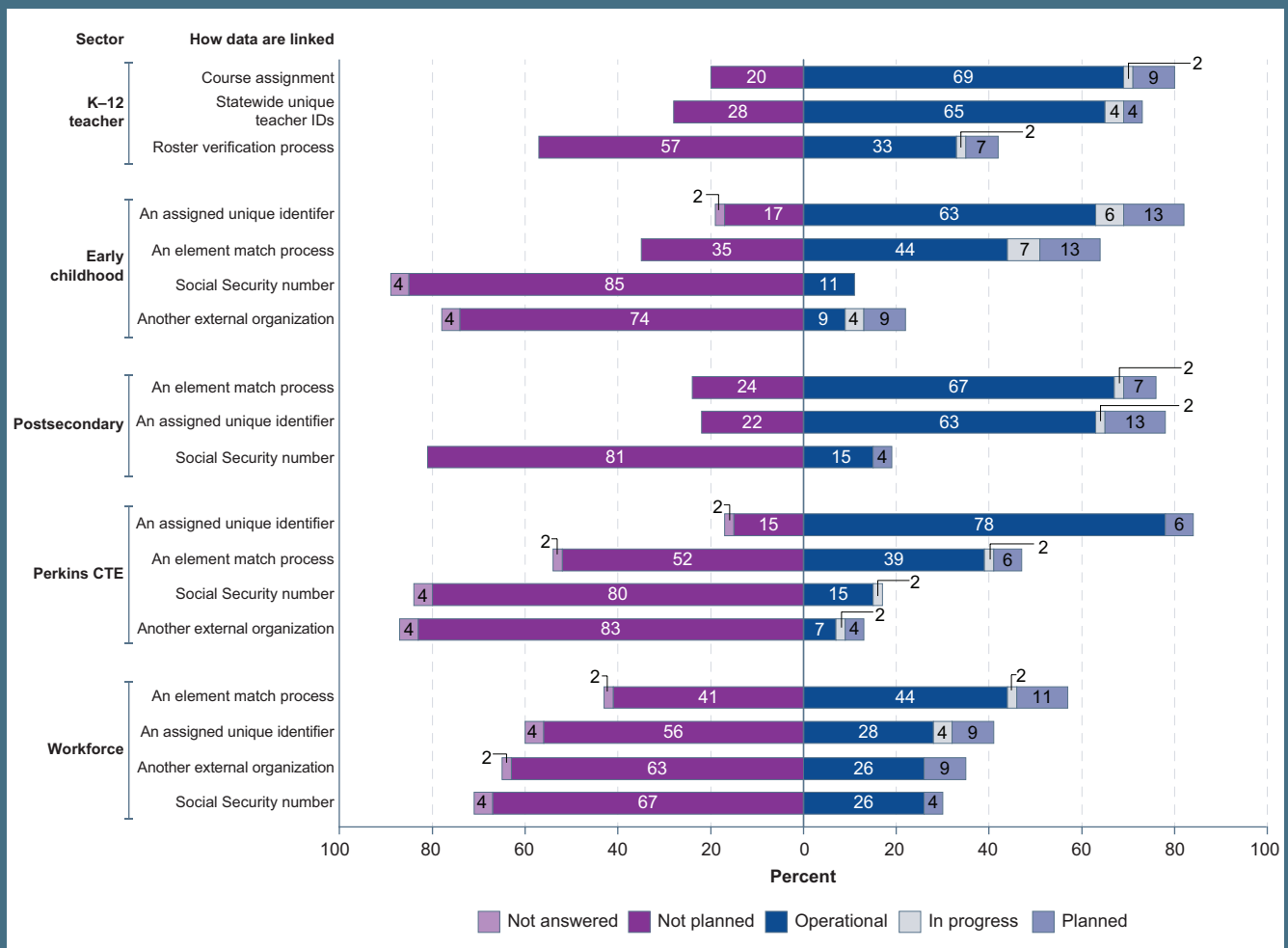
K-12 student data were most commonly linked to early childhood data using an assigned unique identifier (operational in 63 percent of states and territories),

⁵ A roster verification process is a process by which teachers review and refine their class rosters or lists to ensure that their classroom time is linked to the correct students, for the correct subjects and the proper amount of time.

followed by an element match process⁶ (44 percent operational). Social Security numbers and data from another external organization were the least commonly used operational methods to link K-12 student data with early childhood data (11 and 9 percent, respectively).

⁶ An element match process uses one or more data elements to link or connect records or datasets. For example, a state or territory may use student characteristics such as date of birth, last name, and grade level to connect records between postsecondary and K-12 data systems.

Figure 5. Percentage of states and territories with direct K-12 student data links to other data sectors, by linking method and operational status: 2020



NOTE: N = 54. Detail may not sum to 100 percent due to rounding. CTE refers to career and technical education. ID refers to unique identifier.
 SOURCE: U.S. Department of Education, National Center of Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2020.

States and territories most commonly reported linking K-12 student and postsecondary data using an element match process or an assigned unique identifier (operational in 67 percent and 63 percent of states and territories, respectively). Social Security numbers were the least likely to be used to link K-12 student and postsecondary data, at 15 percent operational.

The most prevalent operational methods for linking K-12 student data with Perkins CTE data were also an assigned unique identifier (78 percent) or an element match process (39 percent). Social Security numbers and data from another external organization were the least likely methods reported as operational, at 15 percent and 7 percent, respectively.

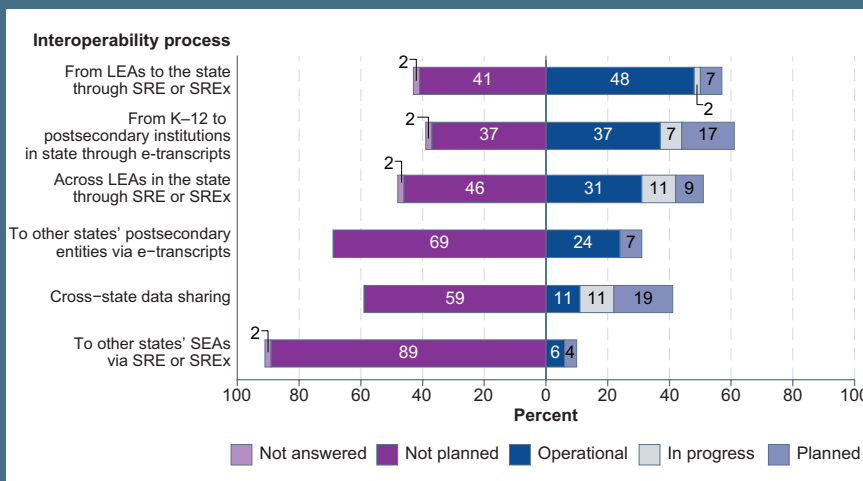
Workforce data, the least likely sector to be linked with K-12 student data, were most commonly reported as being linked to K-12 student data using an element match process (operational in 44 percent of states and territories). Twenty-eight percent of states and territories reported using an assigned unique identifier to link K-12 student data to workforce data, and 26 percent of states and territories reported using data from another external organization or Social Security numbers to link K-12 student data to workforce data.

Direct linkages between different data types help increase data capacity in states and territories by enabling replicable, automated interoperability processes that can be used to move, share, and use data across resources (Figure 6).

The interoperability processes most commonly reported as operational by SLDS Survey respondents include moving data from local education agencies (LEAs) to the state through Student Records Exchange (SRE or SREx)⁷ (48 percent), from K-12 to in-state postsecondary institutions through e-transcripts (37 percent), and across LEAs in the state through SRE or SREx (31 percent). Moving data to other states' postsecondary entities via e-transcripts was less prevalent, with 24 percent of states and territories reporting that capability as operational, as was cross-state data sharing (11 percent). Only 6 percent of states and territories indicated that they had operational processes to move data to other states' SEAs via SRE or SREx.

⁷ A Student Record Exchange application facilitates the secure and efficient electronic exchange of student records as students move between schools.

Figure 6. Percentage of states and territories that move student data through replicable, automated processes, by process and operational status: 2020



NOTE: N=54. Detail may not sum to 100 percent due to rounding. SRE or SREx refers to Student Records Exchange. LEA refers to local education agency. SEA refers to state education agency.
 SOURCE: U.S. Department of Education, National Center for Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2020.

3

Are there data dictionaries published publicly? Are data aligned to the Common Education Data Standards (CEDS)?

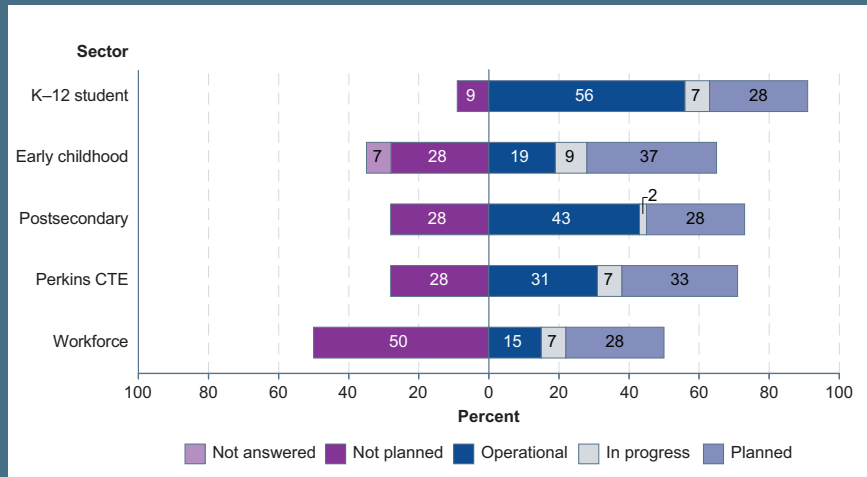
Many states and territories maintain comprehensive data dictionaries that contain metadata such as data element definitions, option sets, types, or field lengths. The SLDS Survey asks respondents to report on the status of these dictionaries and whether they are published publicly. In 2020, a total of 56 percent of states and territories reported that a comprehensive data dictionary for K-12 student data elements was published publicly, and an additional 35 percent of respondents indicated that they either planned to publish a publicly available data dictionary for K-12 student data elements or were in the process of doing so (Figure 7).

Forty-three percent of states reported having an operational, comprehensive data dictionary for postsecondary data elements published to the public. Comprehensive data dictionaries for Perkins CTE data elements were reported as publicly available by 31 percent of states and territories. Comprehensive data dictionaries for early childhood and workforce

data elements were reported as publicly available less frequently; 19 percent of respondents indicated that they had operational, comprehensive data dictionaries for early childhood data elements published to the public, and

15 percent of respondents indicated the same for workforce data elements. Fifty percent of states and territories indicated that they had no plans to publicly publish a comprehensive data dictionary for workforce data elements.

Figure 7. Percentage of states and territories with sector data dictionaries published publicly, by operational status: 2020

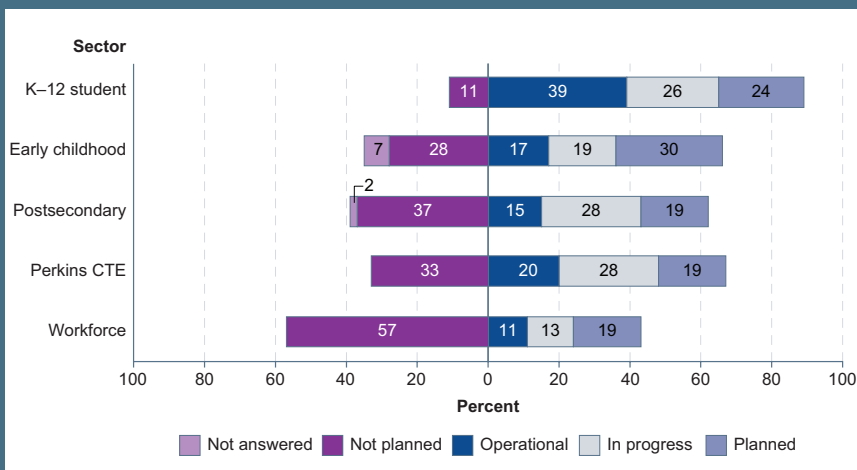


NOTE: N = 54. Detail may not sum to 100 percent due to rounding. CTE refers to career and technical education.

SOURCE: U.S. Department of Education, National Center of Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2020.

Most states and territories report that data elements are either aligned or in the process of being aligned to the Common Education Data Standards (CEDS) (Figure 8). Thirty-nine percent of states and territories reported operational alignment of K-12 student data elements to CEDS in 2020, and an additional 50 percent reported planning or being in the process of aligning those data to CEDS. Twenty percent of respondents reported operational alignment between Perkins CTE data elements and CEDS, and 46 percent planned or were in the process of aligning those data to CEDS. Early childhood and postsecondary data elements were aligned to CEDS in 17 and 15 percent of states and territories, respectively. Workforce data elements were the least likely to be aligned to CEDS (operational in 11 percent of states and territories), and 57 percent of respondents indicated that they had no plans to align workforce data to CEDS.

Figure 8. Percentage of states and territories with sector data that are aligned to the Common Education Data Standards (CEDS) in a comprehensive data dictionary, by operational status: 2020



NOTE: N = 54. Detail may not sum to 100 percent due to rounding. CTE refers to career and technical education.
 SOURCE: U.S. Department of Education, National Center of Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2020.

4

How do states and territories use data for reporting and decisionmaking?

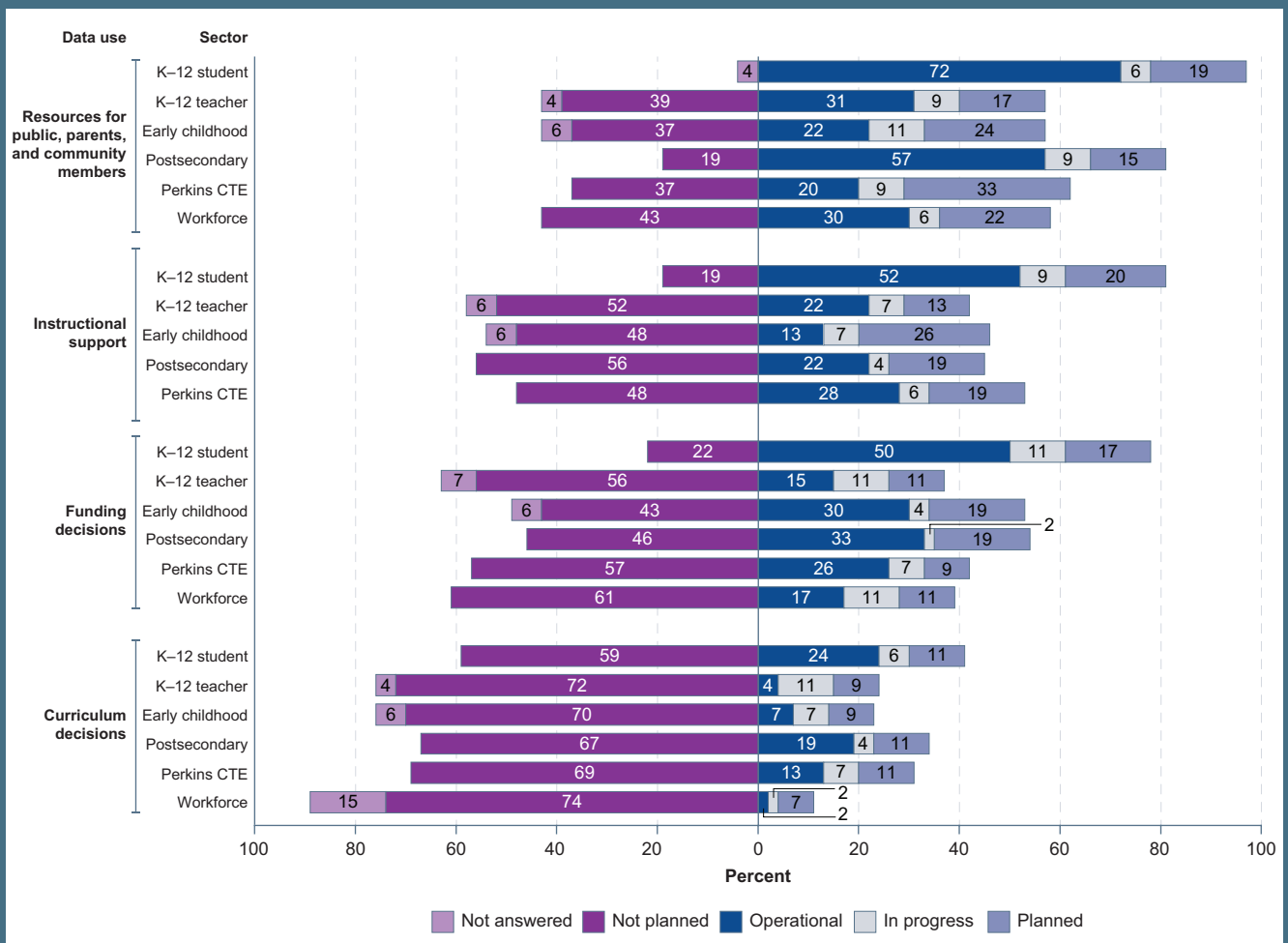
Data used for instructional support, resources for stakeholders, and decisionmaking

Respondents were asked to report how they use P-20W+ data from their SLDSs to inform, support, and enable instructional support, resources for stakeholders, and decisionmaking. Survey respondents reported most

commonly using K-12 student, K-12 teacher, postsecondary, and workforce data for resources like scorecards or dashboards for the public, parents, and community members (Figure 9). Seventy-two percent of respondents reported operational use of K-12 student data for these resources, and 57 percent reported operational use of postsecondary data for these resources. Nearly one-third of states

and territories reported operational use of K-12 teacher or workforce data for resources for the public, parents, and community members, (31 percent and 30 percent, respectively) and 22 percent reported operational use of early childhood data for these resources. Perkins CTE data were the least likely to be used for resources for the public, parents, and community members (20 percent operational).

Figure 9. Percentage of states and territories with sector data used for instructional support, resources, and decisionmaking, by operational status: 2020



NOTE: N = 54. Detail may not sum to 100 percent due to rounding. CTE refers to career and technical education. SOURCE: U.S. Department of Education, National Center of Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2020.

States and territories also reported commonly using K-12 student data for instructional support and funding decisions; about half of respondents said this use was operational. About 30 percent of states and territories reported operational use of early childhood or postsecondary data for funding decisions, and 28 percent reported using Perkins CTE data for instructional support.

States and territories were less likely to report using P-20W+ data for curriculum decisions. Although 24 percent of states and territories reported operationally using K-12 student data for curriculum decisions, roughly 70 percent of respondents indicated that they had no plans to use data from any other sector for curriculum decisions.

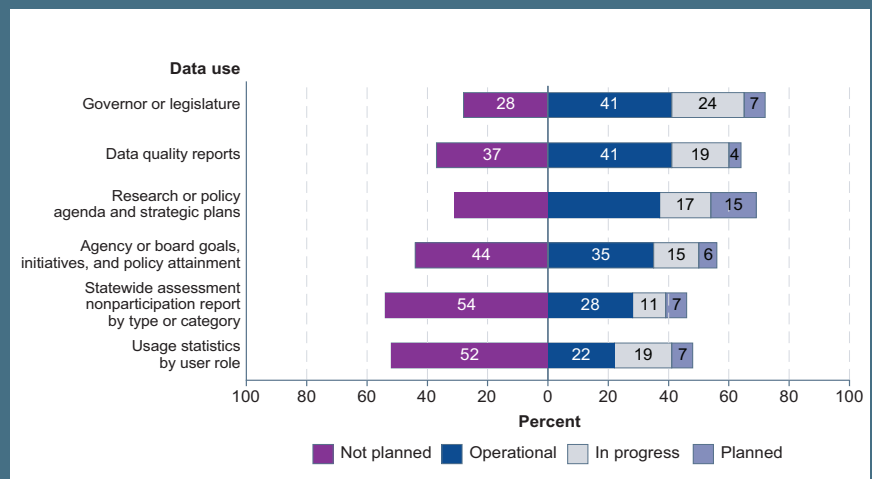
Data used for additional federal and state reports

As previously noted, many of the most commonly collected and used data types in states' and territories' SLDSs are required for federal reporting. The SLDS Survey asks states and territories to report on how they use data for additional types of federal and state reports not specific to a

single sector (Figure 10). Forty-one percent of states and territories reported operational use of data for reports to the governor or legislature, and for data quality reports describing issues like error rates and timeliness of data submissions. More than one-third of states and territories reported operational use of data for research or policy agendas and strategic plans.

A similar proportion reported operational use of data for agency or board goals, initiatives, and policy attainment. Use of data for statewide assessment nonparticipation reports or usage statistics by user role were less commonly reported, with 28 percent and 22 percent of respondents reporting these uses as operational, respectively.

Figure 10. Percentage of states and territories using SLDS data for additional federal and state reports, by operational status: 2020



NOTE: N = 54. Detail may not sum to 100 percent due to rounding.
 SOURCE: U.S. Department of Education, National Center of Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2020.

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Statewide Longitudinal Data Systems (SLDS) Survey Analysis (NCES 2021-126). <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2021126>.

Forum Guide to State Education Agency Support for Local Education Agencies in Civil Rights Data Reporting (NFES 2023-026). <https://ies.ed.gov/pubsearch/pubsinfo.asp?pubid=NFES2023026>.

High School Counseling and College Financial Aid (NCES 2023-040). <https://ies.ed.gov/pubsearch/pubsinfo.asp?pubid=2023040>.

Using Education Indicators: A Forum Guide for State and Local Education Agencies (NFES 2022-132). <https://ies.ed.gov/pubsearch/pubsinfo.asp?pubid=NFES2022132>.

Methodology and Technical Notes

Overview of the SLDS Survey

The Statewide Longitudinal Data Systems (SLDS) Survey was created to assess states' and territories' capacity for automated linking of K-12 student, K-12 teacher, early childhood, postsecondary, Perkins career and technical education (CTE), and workforce data in their SLDSs. Although states and territories that were awarded SLDS grants provide updates on the progress of their data systems, the SLDS Survey formally and systematically collects SLDS capacity information across all states and territories. The information collected by the SLDS Survey helps the National Center for Education Statistics (NCES) evaluate the SLDS Grant Program and improve the technical assistance that the program provides to states and territories in the areas of SLDS development, enhancement, and use.

The SLDS Survey inventories data systems capacity in several ways. First, the SLDS Survey assesses the scope of the data that are included and available for use in states' and territories' SLDSs. Second, it captures what type of infrastructure, if any, is in place to link K-12 student data with data from five other sectors: K-12 teacher, early childhood, postsecondary, Perkins CTE, and workforce. For each of these sectors, states and territories are asked what types of data are directly linked to K-12 student data and how they are linked. Third, the SLDS Survey asks states and territories how they use data from each sector to inform policy, practices, and decisionmaking. The survey collects information about the current status of states' and territories' SLDSs and existing

plans by asking respondents to indicate whether each data element or capability is operational, in progress, planned, or not planned.

The response categories for most survey items were defined in the 2019 and 2020 survey forms as follows:

Operational—This element/capability is fully functional and available for its intended users.

In Progress—The state is currently building or implementing this element/capability as part of its SLDS, but it is not yet fully operational.

Planned—The state intends to include this element/capability in its SLDS and has a documented plan and funding source to implement, but implementation work has not begun.

Not Planned—The state is currently not planning to include this element/capability in its SLDS. “Not Planned” should also be marked for items that do not apply to your state SLDS at this time (legislative prohibitions, unadopted interest, etc.).

Sample Frame/Selection

The respondent universe for this survey included state education agencies (SEAs) from each of the 50 states, the District of Columbia, the U.S. Virgin Islands, Puerto Rico, American Samoa, Guam, and the Northern Mariana Islands. This was a census of the universe of SEAs eligible to receive grants through the SLDS Grant Program, thus sampling was not used.

Data Collection

The SLDS Survey was distributed to SLDS project directors in each SEA via links to an electronic survey sent through email. Three states

experienced technical difficulties accessing the electronic survey and requested an alternate electronic form, which they received. NCES invited SLDS contacts to participate in a pre-survey informational webinar to share further information about the survey's purpose and to answer any questions. Survey distribution took place from October to November 2020, and respondents were asked to complete and return the survey by November 20, 2020. However, completed surveys and revised responses were accepted through March 2021.

One state, Alaska, indicated that its SLDS had been decommissioned in 2020 and responded to all survey questions with “No” or “Not Planned.”

In 2020, surveys sent to SEA contacts were prepopulated with responses provided by the state or territory in 2019. Based on feedback received from SEAs in prior years, prepopulated responses allowed respondents to easily see how questions were answered the previous year and facilitated more consistent responses over time. If an SEA did not submit a survey in 2019, no responses were prepopulated.

Data Processing and Imputation

Survey responses were downloaded from the electronic survey platform in Microsoft Excel files for analysis. No weighting or imputations were used to address missing data in this survey. Data cleaning was conducted to ensure that state and territory responses were recorded correctly, taking skip logic into account.

The electronic survey platform employed automated skip logic. If survey respondents indicated that a particular data type or capability was not planned in their

states or territories, subsequent items pertaining to that data type or capability were automatically skipped and populated as “not planned” rather than “not answered.” This approach ensured that the “not answered” category represented true missing responses and that those responses were not comingled with “not planned” responses missing due to skip logic.

Response Rates

Fifty-four of 56 SEAs completed the SLDS Survey in 2020, for a response rate of 96 percent.

Data Validation

One limitation of this survey is that responses may vary based on who

provided the survey response. To address this limitation, the survey administrators and the SLDS State Support Team (SST) conducted data validation on survey responses. The SST is a group of data systems experts who provide direct support to states and territories related to the development, management, and use of SLDSs. SST support is available regardless of whether the requesting state or territory has received an SLDS grant.

Data validation was conducted in two ways during data processing and analysis. First, systematic data quality checks were conducted to monitor responses for potential inconsistencies. Second, SST members received aggregate analyses and responses to key

guiding items in the survey to further validate state and territory responses. Following each step, potential errors were communicated to state and territory respondents so that they could review the data and make any necessary corrections.

Statistical Procedures

The survey data were analyzed to produce aggregate summary data showing the proportion of states and territories reporting that aspects of their SLDSs were operational, in progress, planned, or not planned, or that neglected to answer. Because no sampling or weighting was performed, simple percentages were calculated and are presented in this brief.

Appendix A. Discussion of and Figures From the 2019 Statewide Longitudinal Data Systems Survey Results

Data, Measures, and Methods

2019 Data Collection Methods.

This appendix contains findings from the 2019 statewide longitudinal data systems (SLDS) Survey, the third year of the annual survey. The response rate in 2019 was 98 percent (55 of 56 eligible states and territories).

National Center for Education Statistics (NCES) sent letters to the SLDS project director in each state education agency (SEA)

asking them to participate in the survey. Respondents completed the 48-question survey via a fillable PDF sent electronically to each SEA. Survey respondents were not necessarily SLDS project directors; in some cases, other SEA staff members responded or assisted in the response. In some instances, staff members from partner organizations responded because some states and territories host SLDSs outside of the SEA.

2019 Measures. The measures used in the 2019 Survey

administration are identical to those used in 2020. See the [Measures](#) section on page 2 of this report for further information.

Data and Limitations. The description of the data and limitations used for this section are identical to those used in 2020, with the exception that all percentages are derived from the 55 state and territory respondents for the 2019 survey. See the [Data and Limitations](#) section on page 2 of this report for further information.

2019 Study Questions and Key Findings

A1. What types of K-12 data are included in the statewide longitudinal data system (SLDS)?

States and territories were asked to report the operational status of 24 types of K-12 student data in their SLDSs in 2019. The K-12 student data types most commonly reported as operational in 2019 were demographics, grade level, and school enrollment and completion, each operational in

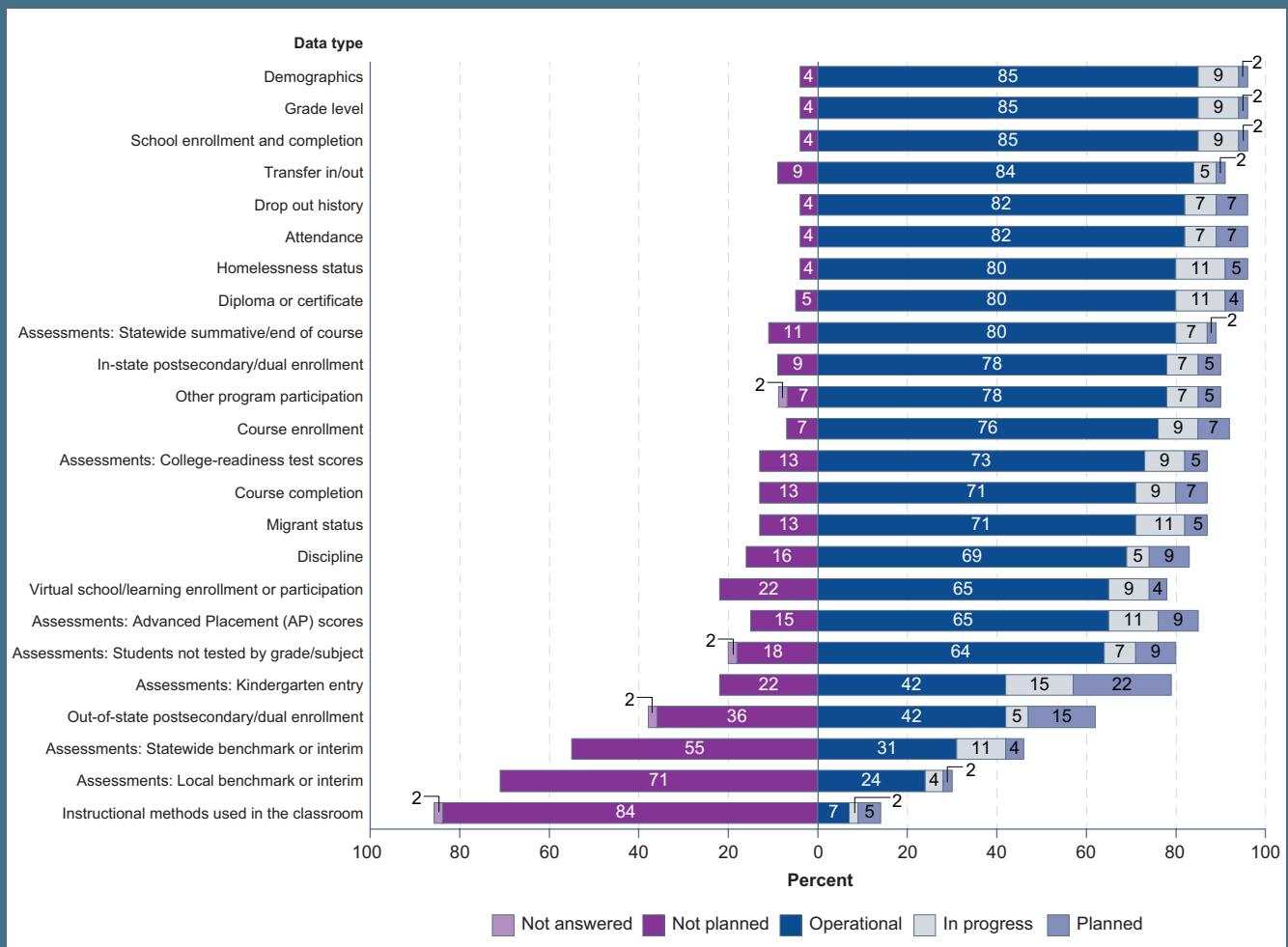
85 percent of states and territories (Figure A-1). These data types are all required for federal reporting. Transfer in/out status, drop out history, and attendance data were also commonly reported, with over 80 percent of respondents indicating operational status.

Homelessness status, diploma or certificate, and statewide summative/end of course assessments were all reported as operational in 80 percent of states and territories in 2019.

Over three-quarters of states and territories also reported in-state postsecondary/dual enrollment, other program participation, and course enrollment data as operational in their SLDSs in 2019.

College-readiness test scores, course completion, migrant status, and discipline data were each reported as operational by over two-thirds of states and territories. Virtual school/learning enrollment or participation (65 percent), Advanced Placement (AP) scores

Figure A-1. Percentage of states and territories with selected K-12 student data types included in the SLDS, by operational status: 2019



NOTE: N = 55. Detail may not sum to 100 percent due to rounding. "Other program participation" includes participation in free and reduced price lunch and Title I programs.

SOURCE: U.S. Department of Education, National Center of Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2020.

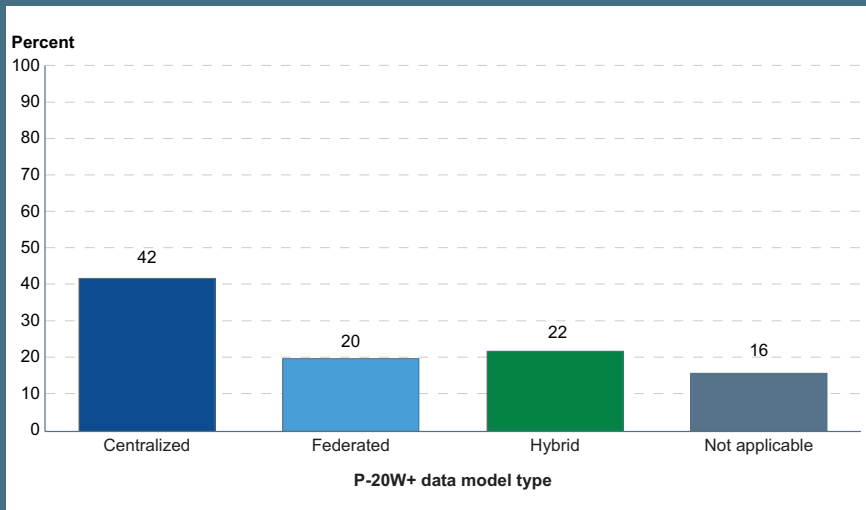
(65 percent), and assessments of students not tested by grade/subject (64 percent) data were somewhat less commonly reported as operational.

Least commonly reported as operational in 2019 were kindergarten entry assessments (42 percent), out-of-state postsecondary/dual enrollment (42 percent), statewide benchmark or interim assessments (31 percent), local benchmark or interim assessments (24 percent), and instructional methods used in the classroom (7 percent).

A2. What is the capacity for linking K-12 student data in the SLDS to other data? How are the data linked?

Eighty-four percent of states and territories reported that they collected data across multiple agencies in a P-20W+ environment in 2019 (**Figure A-2**). The most prevalent data system model in 2019 was a centralized model (42 percent); fewer than one-quarter of respondents reported using a hybrid model (22 percent) or a federated model (20 percent). Sixteen percent of states and territories reported that the question was not applicable.

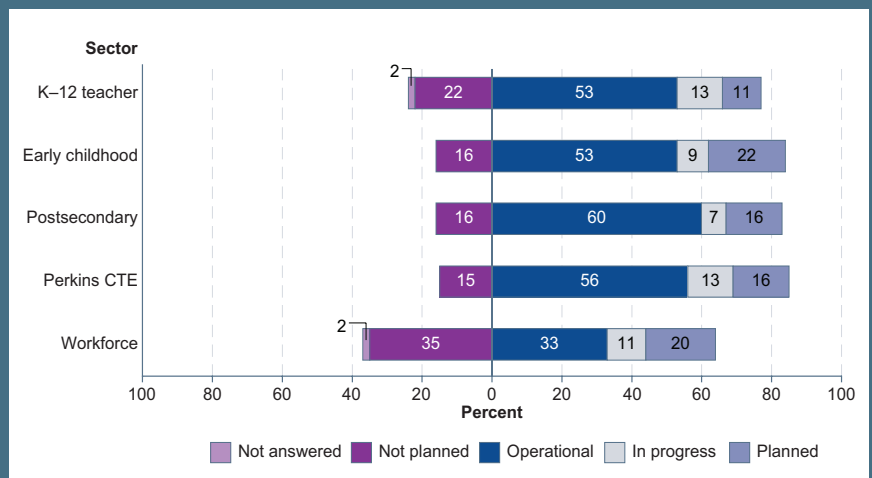
Figure A-2. Percentage of states and territories with P 20W+ data collections, by model type: 2019



NOTE: N = 54. P 20W+ refers to data from prekindergarten (early childhood), K 12, and postsecondary through postgraduate education, along with workforce and other outcomes data (e.g., public assistance and corrections data). The specific agencies and other organizations that participate in the P 20W+ initiative vary from state to state.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2019.

A majority of states and territories for whom the question was applicable reported having operational automated infrastructure in place to link K-12 student data with data from at least one other sector in 2019 (Figure A-3). Operational linkages between K-12 student data and postsecondary data were the most commonly reported by respondents (60 percent), followed by linkages between K-12 student and Perkins CTE data (56 percent). K-12 student data were linked to K-12 teacher data in about half of states and territories (53 percent); K-12 student data linkages to early childhood data were also operational in about half of states and territories (53 percent). Workforce data were the least likely to be linked to K-12 student data, with only 33 percent of states and territories reporting this linkage as operational.

Figure A-3. Percentage of states and territories with other sector data linked to K 12 student data, by operational status: 2019



NOTE: N = 55. Detail may not sum to 100 percent due to rounding. CTE refers to career and technical education.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2019.

How are data directly linked to K-12 student data?

When linking K-12 student data to K-12 teacher data, respondents most commonly reported using course assignments (67 percent operational) and statewide unique teacher IDs (62 percent operational) (Figure A-4). Additionally, 35 percent of respondents indicated that they operationally used a roster verification process to link K-12 student and K-12 teacher data.

K-12 student data were most commonly linked to early childhood

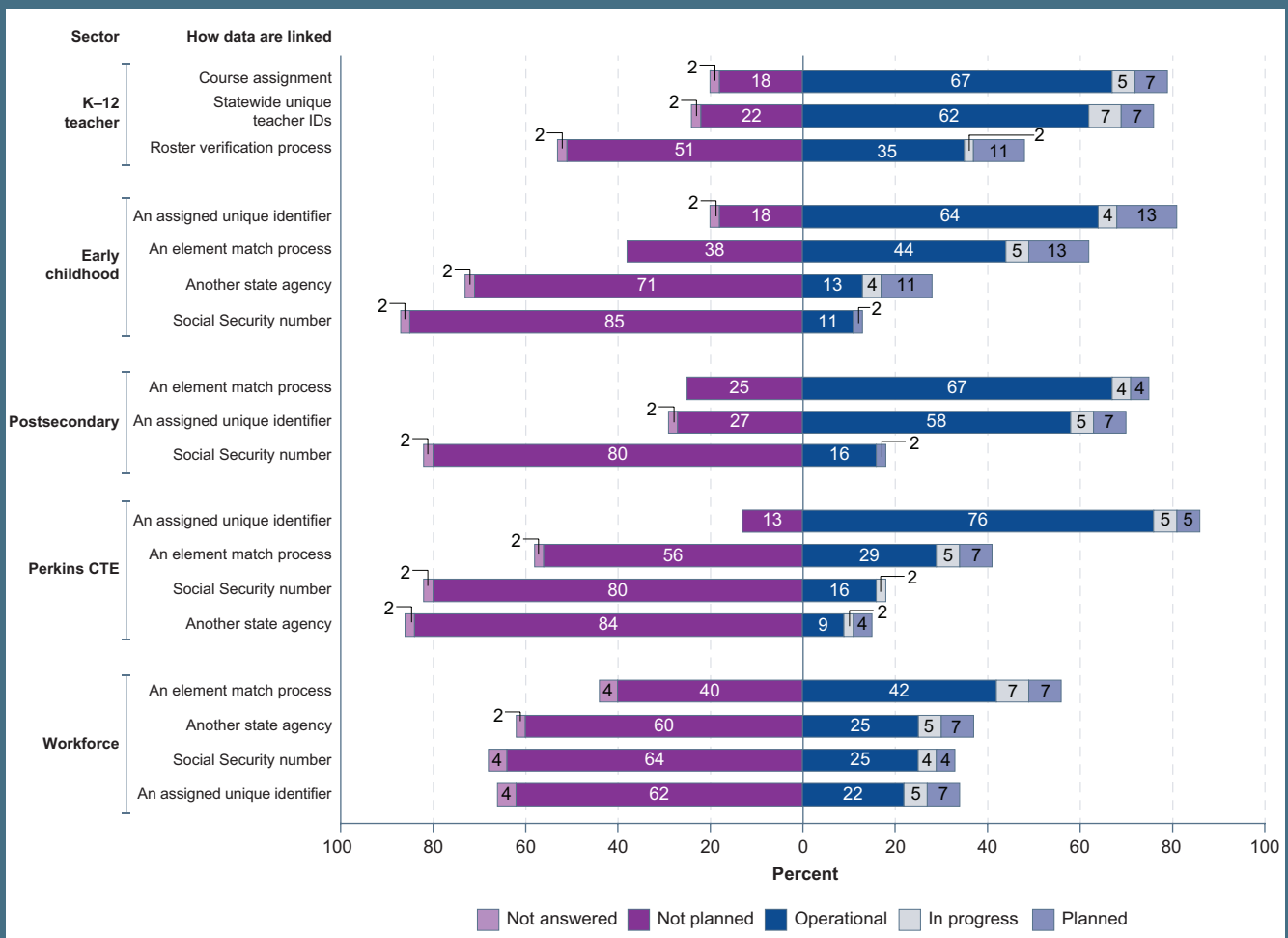
data using an assigned unique identifier (operational in 64 percent of states and territories), followed by an element match process (44 percent operational). Another state agency and Social Security numbers were less commonly used to link K-12 student data with early childhood data (13 percent and 11 percent operational, respectively).

Respondents most commonly reported using an element match process to link K-12 student and postsecondary data (67 percent operational), followed by an assigned unique identifier (58 percent

operational). Only 16 percent of states and territories reported operational use of Social Security numbers to link K-12 student and postsecondary data.

The most prevalent operational method for linking K-12 student data with Perkins CTE data was an assigned unique identifier (76 percent). An element match process was less likely to be used to link K-12 student and Perkins CTE data (29 percent operational). Social Security numbers were reported as operationally used to link K-12 student and Perkins

Figure A-4. Percentage of states and territories with direct K 12 student data links to other data sectors, by linking method and operational status: 2019



NOTE: N = 55. Detail may not sum to 100 percent due to rounding. CTE refers to career and technical education. ID refers to unique identifier.

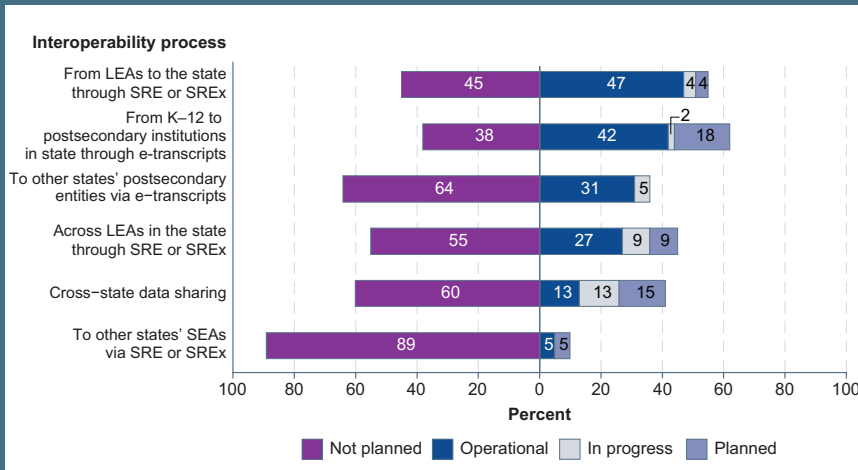
SOURCE: U.S. Department of Education, National Center for Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2019.

CTE data by 16 percent of states and territories, and another state agency was operationally used to link K-12 student and Perkins CTE data in only 9 percent of states and territories.

Workforce data, the least likely sector to be linked to K-12 student data, were most commonly reported as linked to K-12 student data using an element match process (42 percent operational).

One quarter of states and territories reported using another state agency or Social Security numbers to link workforce data to K-12 student data. An assigned unique identifier was operationally used to link workforce and K-12 student data by 22 percent of states and territories.

Figure A-5. Percentage of states and territories that move student data through replicable, automated processes, by process and operational status: 2019



NOTE: N=55. Detail may not sum to 100 percent due to rounding. SRE or SREx refers to Student Records Exchange. LEA refers to local education agency. SEA refers to state education agency.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2019.

States also reported on interoperability processes that move student data through replicable, automated processes in 2019 (Figure A-5). Moving data from LEAs to the state through Student Records Exchange (SRE or SREx) was most commonly reported as operational (47 percent), followed by moving data from K-12 to postsecondary institutions in state through e-transcripts (42 percent operational). Moving data to other states' postsecondary entities via e-transcripts or across LEAs in the state through SRE or SREx were less commonly reported as operational (31 percent and 27 percent, respectively). Few respondents reported operational cross-state data sharing (13 percent), and moving data to other states' SEAs via SRE or SREx was the least commonly reported as operational (5 percent).

A3. Are there data dictionaries published publicly? Are data aligned to the Common Education Data Standards (CEDs)?

Nearly two thirds of states and territories reported that a comprehensive data dictionary for K-12 student data elements was published publicly, and an additional 23 percent indicated that they either planned to publish a public data dictionary for K-12 student data elements or were in the process of doing so (Figure A-6).

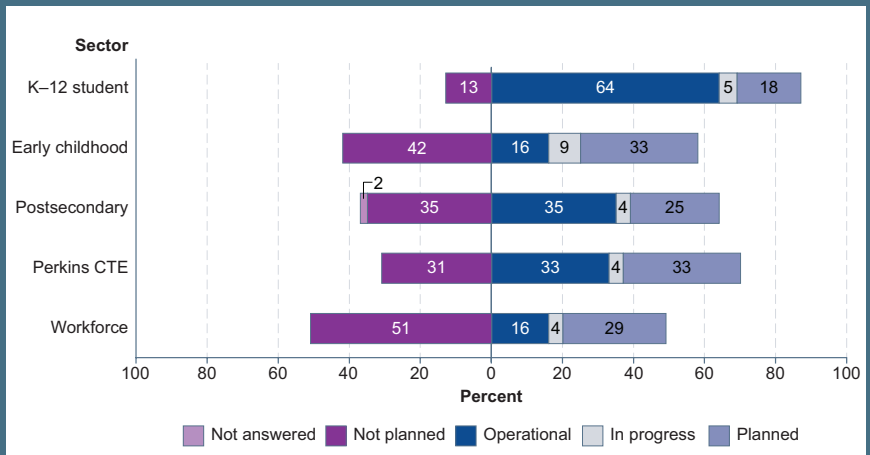
Thirty-five percent of states and territories reported having operational, comprehensive data dictionaries for postsecondary data elements published publicly. Comprehensive data dictionaries for Perkins CTE data were reported as publicly published by 33 percent of states and territories. Early childhood and workforce data dictionaries were reported as operationally published publicly by only 16 percent of states and territories.

A majority of respondents reported that some data elements were aligned, or in the process of being aligned, to the Common Education Data Standards (CEDs) in 2019 (Figure A-7). Thirty-eight percent of states and territories reported operational alignment of K-12 student data elements to CEDs, and an additional 36 percent reported planning or being in the process of aligning those data elements to CEDs. Twenty percent of respondents reported operational alignment between Perkins CTE data elements and CEDs, and 45 percent planned or were in the process of aligning those data to CEDs. Early childhood and postsecondary data elements were

each reported as operationally aligned to CEDs by 15 percent of states and territories. Workforce data elements were the least likely to be aligned to CEDs

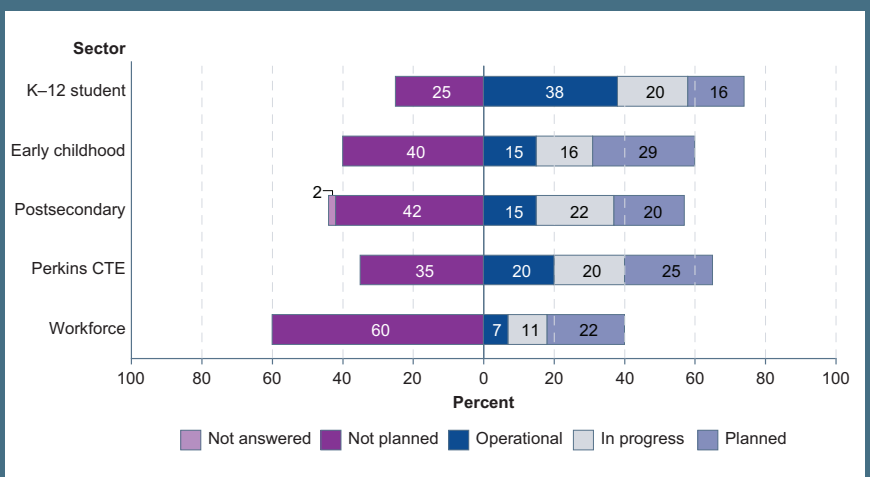
(operational in 7 percent of states and territories), and 60 percent of respondents indicated that they had no plans to align workforce data to CEDs in 2019.

Figure A-6. Percentage of states and territories with sector data dictionaries published publicly, by operational status: 2019



NOTE: N = 55. Detail may not sum to 100 percent due to rounding. CTE refers to career and technical education.
SOURCE: U.S. Department of Education, National Center of Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2019.

Figure A-7. Percentage of states and territories with sector data that are aligned to the Common Education Data Standards (CEDs) in a comprehensive data dictionary, by operational status: 2019



NOTE: N = 55. Detail may not sum to 100 percent due to rounding. CTE refers to career and technical education.
SOURCE: U.S. Department of Education, National Center of Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2019.

A4. How do states and territories use data for reporting and decisionmaking?

Data used for instructional support, resources for stakeholders, and decisionmaking

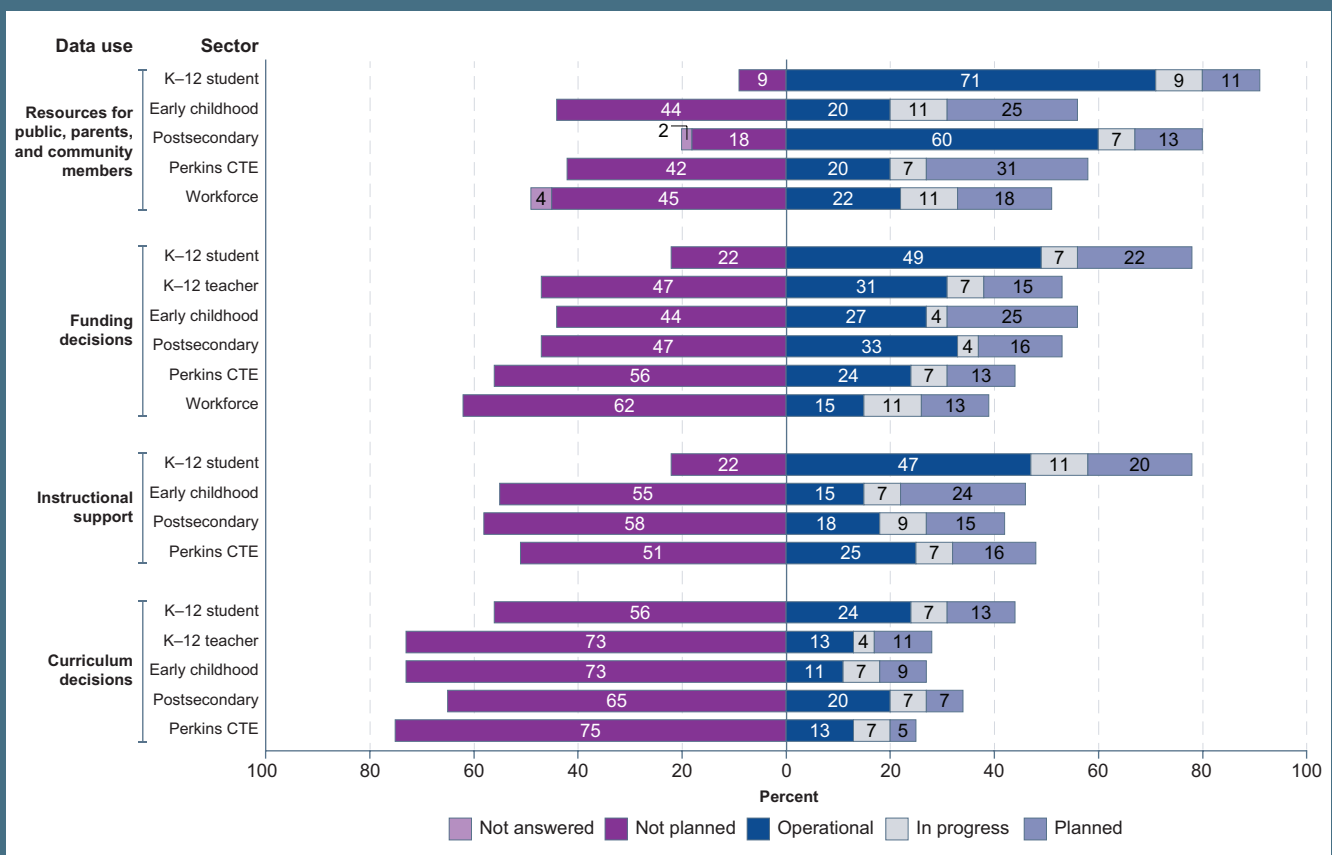
For most sectors in 2019, respondents reported that the most common use of data for instructional support, resources for stakeholders, and decisionmaking was in resources like scorecards or dashboards for the public, parents, and community members (Figure A-8). Seventy-one percent of respondents reported

operational use of K-12 student data for these resources, and 60 percent reported operational use of postsecondary data for these resources. Twenty-two percent of states and territories reported operational use of workforce data for resources for the public, parents, and community members. Both early childhood and Perkins CTE data were reported as operationally used for resources for the public by 20 percent of respondents.

States and territories also reported on the use of sector data for funding decisions. Nearly half of states and territories reported operational use of K-12 student data for funding

decisions. Other sector data were less commonly used for funding decisions; 33 percent of states and territories reported operational use of postsecondary data for funding decisions, and 31 percent of states and territories reported operational use of K-12 teacher data for funding decisions. Early childhood data were reported as operationally used for funding decisions by 27 percent of states and territories, and Perkins CTE data were operational for this use in 24 percent of states and territories. Workforce data were the least likely to be used for funding decisions; 15 percent of respondents reported this use as operational in 2019.

Figure A-8. Percentage of states and territories with sector data used for instructional support, resources, and decisionmaking, by operational status: 2019



NOTE: N = 55. Detail may not sum to 100 percent due to rounding. CTE refers to career and technical education. SOURCE: U.S. Department of Education, National Center of Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2019.

Use of sector data for instructional support was somewhat less common for most sectors in 2019. While 47 percent of states and territories reported operational use of K-12 student data for instructional support, the next most common sector used for instructional support was Perkins CTE, at 25 percent. Eighteen percent of respondents reported operational use of postsecondary data for instructional support, and 15 percent reported the same for early childhood data. Respondents were not asked to report on the use of K-12 teacher data for instructional support in 2019.

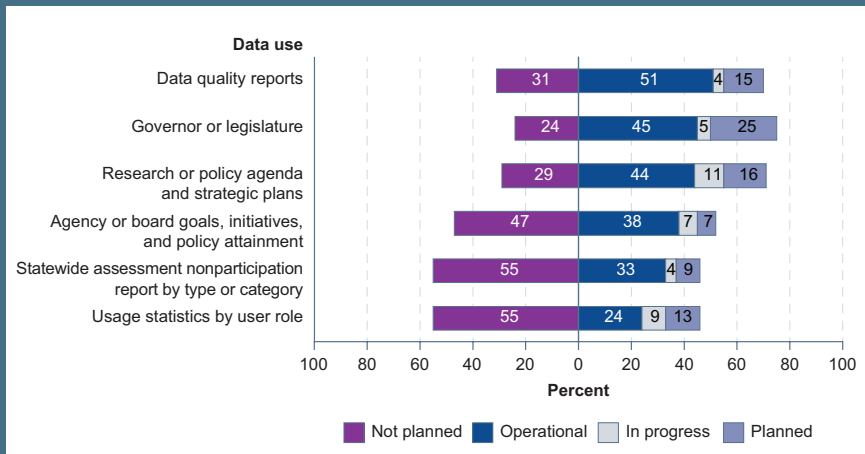
Curriculum decisions was the least commonly reported use for sector data in 2019. Fewer than one quarter of states and territories reported operational use of K-12 student data for curriculum decisions, and one fifth reported operational use of postsecondary data for curriculum decisions. K-12 teacher data and Perkins CTE data were reported as operationally used for curriculum decisions by 13 percent of states and territories. Early childhood data was reported as operationally used for curriculum decisions by 11 percent of states and territories.

Data used for additional federal and state reports

States and territories reported on the use of data for federal and state reports not specific to a single sector in 2019 (Figure A-9). Fifty-one percent of states and territories reported operational use of data for data quality reports. Use of data for reports to the governor or legislature was nearly as common (45 percent operational), as was the use of data for research or policy agendas and strategic plans

(44 percent operational). Use of data for agency or board goals, initiatives, and policy attainment was less commonly reported by states and territories (38 percent operational). One third of states and territories reported operational use of data for statewide assessment nonparticipation reports by type or category. Use of data for usage statistics by user role was the least common, with 24 percent of respondents indicating that this data use was operational in 2019.

Figure A-9. Percentage of states and territories using SLDS data for additional federal and state reports, by operational status: 2019



NOTE: N = 55. Detail may not sum to 100 percent due to rounding.
 SOURCE: U.S. Department of Education, National Center of Education Statistics, Statewide Longitudinal Data Systems (SLDS) Survey, 2019.