Appendix A: Data Validity and Verification

The *Government Performance and Results Act Modernization Act of 2010* requires agencies to describe the accuracy and reliability of data presented. During 2014, the Department continued to strengthen its approach to data verification and validation. Specifically, the Department improved its documentation of the processes used to collect, verify, and validate data. The Department also reassessed the quality and limitations of the data. Details of how the Department assesses the completeness and reliability of the data reported are presented as part of this Appendix. Known limitations of the data are also included.

To my knowledge, the data verification and validation process and the data sources used provide, to the extent possible, complete and reliable performance data pertaining to goals and objectives in our *FY 2014–18 Strategic Plan.*

Through a process of continuous improvement, the Department continues to assess its validation process and welcomes input from stakeholders.

/s/

Arne Duncan
February 2, 2015

The *GPRA Modernization Act of 2010* requires agencies to prepare information on the reliability of data presented. OMB guidance indicates:

> Agencies may develop a single data verification and validation appendix used to communicate the agency's approaches, and/or may also choose to provide information about data quality wherever the performance information is communicated (e.g., websites). Agencies should discuss their verification and validation techniques with their respective OMB Resource Management Office, if necessary. The transmittal letter included in Annual Performance Reports must contain an assessment by the agency head of the completeness and reliability of the performance data presented and a description of agency plans to improve completeness, reliability, and quality, where needed.[29]

The data presented in the Department's *FY 2013 Annual Performance Report and FY 2015 Annual Performance Plan* were described as being obtained from five basic sources (i.e., statistical data, program and enforcement data collections, monitoring and grant applications, management information systems or business operations, and external (nonstatistical) data sources). Although these types of data may still apply to the performance metrics, in this year's report the metrics are presented by goal instead of being categorized by data source.

Below is a list of metrics with information on data quality, limitations, and improvements.

[29] OMB Circular A-11, *Preparation, Submission, and Execution of the Budget,* Part 6, Section 260.9, 2014.

FY 2014–18 Strategic Plan Public-Facing Metrics

GOAL 1: POSTSECONDARY EDUCATION, CAREER AND TECHNICAL EDUCATION, AND ADULT EDUCATION. Increase college access, affordability, quality, and completion by improving postsecondary education and lifelong learning opportunities for youths and adults.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
1.1.A	Rate of increase in net price of public four-year institutions	Integrated Postsecondary Education Data System (IPEDS) Data Center	Average net price is calculated only on the universe of students who receive financial aid. It does not include students who are attending college without financial aid. Thus, the metric represents the average net price for a subset of students and is not representative of the cost of college for all students. Data quality and limitations are identified in IPEDS First Look Publications, "Data Collection Procedures," and IPEDS methodology available at http://nces.ed.gov/pubs2014/2014067.pdf. Graduation Rates for Selected Cohorts, 2005–10; and Student Financial Aid in Postsecondary Institutions, Academic Year 2012–13: First Look (Provisional Data) NCES 2014—NCES Number: 2014105 Release Date: November 20, 2014 available at: http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2014105. Postsecondary Institutions and Price of Attendance in 2013–14; Degrees and Other Awards Conferred: 2012–13; and 12-Month Enrollment: 2012–13: First Look (Provisional Data), available at: http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2014066rev.
1.1.B	Rate of increase in net price of public two-year institutions	IPEDS Data Center	
1.1.C	Percentage of high school seniors filing a FAFSA	The denominator is the number of graduating seniors according to the most recent projection by NCES. The numerator is from Federal Student Aid's (FSA's) Central Processing System and is based on the number of applications during the first nine months of	Since the FAFSA does not ask the year of high school graduation, several assumptions and criteria are made (such as age of applicant) to identify those likely to be high school seniors. These assumptions and criteria are applied consistently across all baseline year and future calculations. These calculations also restrict the application period to the first nine months of the application cycle (the close of the fiscal year), rather than the entire 18 months. Because most applicants, including high school seniors, file their FAFSA prior to the start of the upcoming academic year (usually before fiscal year end), this decision better aligns the performance metric with the fiscal year where most of the

#	Metric	Data Source	Data Quality, Limitations, and Improvements
		the application cycle that are—as of September 30 of the first year of the application cycle—complete (not rejected); first-time filers; incoming freshmen, with or without previous college attendance; age 18 or less as of June 30 of the first year of the application cycle; reporting high school diploma attainment; and attended a high school in the fifty states and Washington, DC.	performance occurred. The alternative is waiting for the close of the 18-month cycle, where a performance metric would mostly reflect performance from an earlier fiscal year.
1.1.D	Index of national annual aggregate earnings of VR consumers (based on the number of competitive employment outcomes, hours worked, and hourly wages of VR consumers)	Rehabilitation Services Administration (RSA)-911	Instructions for submitting the RSA-911 data are provided to agencies. Agency questions for coding particular data elements are provided by Data Unit staff on a case-by-case basis. RSA provides the agencies with the edit program that we use and are encouraged to run their data using the program often, at least quarterly, during the year. In addition, agencies have edits in their own systems which run additional checks.
1.1.E	Index of national annual aggregate earnings of Transition-Age Youth (based on the number of competitive employment outcomes, hours worked, and hourly wages of VR Transition-Age Youth)	RSA-911	
1.1.F	Number of peer-reviewed publications resulting from NIDRR-supported grantee projects	NIDRR—Annual Performance Report (APR) Accomplishments Database	The data are self-reported by grantees in the Department's APR system. Included in the baseline are all manuscripts generated by NIDRR grantees that are accepted for or published in a peer reviewed journal by the end of the evaluation period. The verification occurs at the grantee level, the project officer level, and the contractor level. The validation occurs as part of the strategic planning with NIDRR's data group in consultation with the contractor. The *Workforce Improvement and Opportunity Act* (WIOA) transfers the

#	Metric	Data Source	Data Quality, Limitations, and Improvements
			NIDRR from the Department to Health and Human Services. For that reason, the Department is considering removing this metric.
1.1.G	Number of VR state directors and other state VR personnel who express knowledge of NIDRR grantee research	New VR state director survey	This data collection effort is planned to be an annual survey item. However, the baseline data are not yet collected as the contract and process for collecting the data are not finalized and may not be. The *Workforce Improvement and Opportunity Act* (WIOA) transfers the NIDRR from the Department to Health and Human Services (HHS). The Department does not know if HHS will choose to collect these data. For that reason, the Department is considering removing this metric.
1.2.A	Number of low-performing institutions with high loan default rates and low graduation rates	FSA Cohort Default Rate (CDR) Report, September 2014 IPEDS Data Center	The number of low-performing Institutions of Higher Education (IHEs) is calculated by first identifying institutions with a cohort default rate of 30% or higher (the threshold that jeopardizes an institution's access to federal financial aid if that level is sustained for three consecutive years). The graduation rate within 150% of normal time for each of those IHEs is then extracted from IPEDS, along with the transfer-out rate, if applicable, and the two rates are combined to create a "completion rate." If the completion rate is below the average completion rate for similar types of U.S. Title-IV eligible IHEs—separately categorized as four-year, two-year, and less-than-two-year—then the IHE is included in the number of low-performing institutions. Community colleges that offer a limited number of bachelor's degrees, which are categorized as four-year (primarily associate's degree-granting) institutions in IPEDS, are treated as two-year IHEs in terms of calculating graduation rates and the comparable average completion rate. For four-year IHEs, the graduation rate is based on the degree- or certificate-seeking cohort, not the bachelor's-seeking cohort, since many four-year IHEs offer certificates and associate's degrees in addition to bachelor's degrees, and thus the broader cohort is more indicative of their performance. Institutions which do not have a graduation rate cohort (degree-seeking, first-time, full-time students) and thus no comparable graduation/completion rate are not included in the count. The calculation includes an assumption that the cohort default rates for all institutions for the baseline year will not change. In actuality, institutions can appeal their rates after publication and, if justified, those rates may be changed, thus changing the record from one year to the next. This means the baseline number, or the number in any given year, may not be replicable using revised

#	Metric	Data Source	Data Quality, Limitations, and Improvements
			data in subsequent reports. Graduation rate data quality and limitations are identified in IPEDS First Look Publications, "Data Collection Procedures," and IPEDS methodology available at http://nces.ed.gov/pubs2014/2014067.pdf. Data are checked by NCES for consistency. CDR data quality and limitations are available at http://ifap.ed.gov/DefaultManagement/finalcdrg.html. The cohort default rate data, which serves as the basis of the spreadsheet, is verified by FSA prior to publication. Because the process for manually entering the completion rate data is so labor-intensive, there is not a process for Independent Verification and Validation (IV&V) verifying the accuracy of the process for extracting the data from IPEDS or the accuracy of the data that has been entered into the spreadsheet.
1.3.A	Degree attainment among 25–34-year-old age cohort	NCES Digest of Education Statistics, Table 104.30 (http://nces.ed.gov/programs/digest/d13/tables/dt13_104.30.asp), Number of persons age 18 and over, by highest level of educational attainment, sex, race/ethnicity, and age: 2013. Tabulated from Current Population Survey data, U.S. Census	Data quality and limitations are documented in http://www.census.gov/cps/files/Source%20and%20Accuracy.pdf. NCES tabulates the data, which is verified prior to publication according to NCES guidelines.
1.3.B	Retention rate of first-time degree-seeking undergraduates; Full-time	IPEDS Data Center	The retention rate is calculated based on degree-seeking, first-time undergraduates at degree-granting U.S. institutions that participate in Title IV. Institutions employ a variety of methods for determining degree-seeking status to determine which students to include in the cohort, but none of these methods is foolproof. Furthermore, a student who transfers to another institution in the second year will be considered as not retained, suppressing the aggregate rate. *(Retention in this context*
1.3.C	Retention rate of first-time degree-seeking undergraduates; Part-time	IPEDS Data Center	

#	Metric	Data Source	Data Quality, Limitations, and Improvements
			is at the reporting institution so transfer-outs are not retained at the institution.) Consequently, the retention rate is only an approximation of true retention. Data quality and limitations are identified in IPEDS First Look Publications, “Data Collection Procedures,” and IPEDS methodology available at http://nces.ed.gov/pubs2014/2014067.pdf. Data are checked by NCES for consistency.
1.4.A	Number of STEM postsecondary credentials awarded	IPEDS Data Center	IPEDS collects completions by Classification of Instructional Programs (CIP) Code which may be aggregated into STEM and non-STEM counts. The Department of Education does not currently have a single definition for which CIP codes are STEM. Data quality and limitations are identified in IPEDS First Look Publications, “Data Collection Procedures,” and IPEDS methodology available at http://nces.ed.gov/pubs2014/2014067.pdf. Data are checked by NCES for consistency.

GOAL 2: ELEMENTARY AND SECONDARY EDUCATION. Improve the elementary and secondary education system's ability to consistently deliver excellent instruction aligned with rigorous academic standards while providing effective support services to close achievement and opportunity gaps, and ensure all students graduate high school college- and career-ready.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
2.1.A	Number of states that have adopted college- and career-ready standards	*Elementary and Secondary Education Act* (ESEA) Flexibility Monitoring	The Office of Elementary and Secondary Education's (OESE) new (and aforementioned) Office of State Support, which replaces and enhances services previously provided by the Office of Student Achievement and School Accountability (SASA), the Office of School Turnaround, and the Implementation and Support Unit (ISU), will count the number of states that either (a) have a memorandum of understanding in place to implement the Common Core or (b) have a letter from an Institute for Higher Education in their state certifying that their state has college- and career-ready standards. There are no known data limitations.
2.1.B	Number of states that are implementing next-generation reading and mathematics assessments, aligned with college- and career-ready standards	ESEA Flexibility Monitoring	The Office of Elementary and Secondary Education's (OESE) OSS, which replaces and enhances services previously provided by the SASA, the Office of School Turnaround, and the ISU, monitors states that receive ESEA Flexibility waivers in three phases over the three-year waiver. Monitoring includes desk monitoring and on-site monitoring. OSS state leads use a monitoring protocol and rubric to ensure that monitoring is consistent across all states. OSS state leads work with their Group Leader to finalize monitoring reports. All reports are reviewed by both the Group Leader for Monitoring and Technical Assistance and the OSS Director for consistencies across states. States have an opportunity to review the draft report before the final report is issued. There are no known data limitations.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
2.2.A	Number of states that have fully implemented teacher and principal evaluation and support systems that consider multiple measures of effectiveness, with student growth as a significant factor	ESEA Flexibility Applications and Monitoring	The Office of Elementary and Secondary Education's (OESE) OSS, which replaces and enhances services previously provided by the SASA, the Office of School Turnaround, and the ISU, monitors states that receive ESEA Flexibility waivers. Monitoring includes desk monitoring and on-site monitoring. OSS state leads use a monitoring protocol and rubric to ensure that monitoring is consistent across all states. OSS state leads work with their Group Leader to finalize monitoring reports. All reports are reviewed by both the Group Leader for Monitoring and Technical Assistance and the OSS Director for consistencies across states. States have an opportunity to review the draft report before the final report is issued. Additionally, Chief State School Officers must sign each state's ESEA Flexibility request before it is approved. There are no known data limitations.
2.3.A	Disparity in the rates of out-of-school suspensions for students with disabilities and youth of color (youth of color metric)	Civil Rights Data Collection (CRDC)	The Office for Civil Rights (OCR) strives to ensure CRDC data are an accurate and comprehensive depiction of student access to educational opportunities in school districts. The submission system includes a series of embedded edit checks to ensure significant data errors are corrected before the district submits its data. Additionally, each district is required to certify the accuracy of its submission. Only a district superintendent, or the superintendent's designee, may certify the CRDC submission. Ultimately, the quality of the CRDC data depends on accurate collection and reporting by the participating districts.
2.3.B	Disparity in the rates of out-of-school suspensions for students with disabilities and youth of color (SWD, IDEA only metric)	CRDC	

#	Metric	Data Source	Data Quality, Limitations, and Improvements
2.4.A	Number of persistently low graduation rate high schools	ED*Facts*	ED*Facts* works with the data stewards (in this case OESE) to determine the appropriate business rule checks for these data. The checks that were done on these data include: • File validation and format checks: Identifies file submissions that don't conform with the file format (unable to be processed), the data universe (school/LEA/state directory), or the reporting requirements (mandatory reporting fields). • SAS Data Quality Reviews: Post submission checks to determine completeness, consistency, and comparability. • DataFlux Data Quality Rules: Post submission checks to determine completeness, consistency, and comparability. • Submission Edit Business Rules: While not utilized for the 2012–13 data collection, several of the post-submission business rule checks performed in SAS and DataFlux for 2012–13 have been implemented against the 2013–14 submission (and beyond). At the end of a collection period these rules are run against the submitted data and presented to the program office. It is the responsibility of the program office (OESE in this case), in consultation with the ED*Facts* staff, to determine which errors should be escalated to the state for further review. Many of these errors were sent along to the state for remediation (data explanation/update/correction). OESE should be considered the point-of-contact for identifying which rules were escalated and the result of those escalations. Data concerns from 2011–12 were documented in the NCES data release report (http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2014391). The data limitations for the 2012–13 are not yet complete and neither NCES nor OESE are prepared, at this time, to identify the data quality concerns with the 2012–13 submission. If these data are once again released by NCES, then work will be done to impute any missing data for states and to produce a national estimate. The imputation methodology and data limitations will be documented at that time as was done for the 2011–12 data release. This work is still pending and any discussion of the data limitations and/or concerns at this time would be premature.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
			Path to public release and national rates: For each collection cycle states report their calculated cohort counts and ACGR graduation rates. These counts and rates are tested against a number of business rules for format, consistency, completeness, and comparability. Those business rule checks are delivered to the Office of Elementary and Secondary Education (OESE) for follow-up correspondence with the state(s). The program office, in consultation with NCES ED*Facts* staff and other stakeholders, meet to determine which issues identified by the business rules should be raised with the state for explanation, update, or correction. Following that review, data are then aggregated to the national level for the purpose of calculating and publishing a national rate. NCES processes these data to force conformity of reporting categories (mapping reported “Major Racial/Ethnic Groups” to the traditional 5 racial/ethnic groups) and imputes any missing data (3 states were imputed for 2011–12, 1 will be for 2012–13, no imputations are expected to be necessary for 2013–14 forward). After imputations are made, NCES produces a weighted national average rate for the country as a whole; a rate which is representative of every state. Once produced, NCES documents any remaining issues with these data, and the aggregation and imputation methodology in a release report. That report, documentation, and the associated data tables are put through several stages of review including independent reviews at the division (Administrative Data), center (NCES), and agency (IES) levels prior to public dissemination.
2.4.B	Percent of Cohort 1 priority schools that have met the state exit criteria and exited priority school status	ED*Facts*	ESEA Flexibility plans do not allow for one standard methodology to determine whether or not a school “met the state exit criteria.” This will need to be looked at manually, state-by-state, once the list of schools

#	Metric	Data Source	Data Quality, Limitations, and Improvements
2.4.C	Percent of Cohort 1 focus schools that have met the state exit criteria and exited focus school status	ED*Facts*	exiting priority status has been identified. ED*Facts* works with the data stewards (in this case OESE) to determine the appropriate business rule checks for these data. The checks that were done on these data include: • File validation and format checks: Identifies file submissions that don't conform with the file format (unable to be processed), the data universe (school/LEA/state directory), or the reporting requirements (mandatory reporting fields). • SAS Data Quality Reviews: Post submission checks to determine completeness, consistency, and comparability. • DataFlux Data Quality Rules: Post submission checks to determine completeness, consistency, and comparability. • Submission Edit Business Rules: While not utilized for the 2012–13 data collection, several of the post-submission business rule checks performed in SAS and DataFlux for 2012–13 have been implemented against the 2013–14 submission (and beyond). At the end of a collection period these rules are run against the submitted data and presented to the program office. It is the responsibility of the program office (OESE in this case), in consultation with the ED*Facts* staff, to determine which errors should be escalated to the state for further review. Many of these errors were sent along to the state for remediation (data explanation/update/correction). OESE should be considered the point-of-contact for identifying which rules were escalated and the result of those escalations. Data concerns from 2011–12 were documented in the NCES data release report (http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2014391). The data limitations for the 2012–13 are not yet complete and neither NCES nor OESE are prepared, at this time, to identify the data quality concerns with the 2012–13 submission. If these data are once again released by NCES, then work will be done to impute any missing data for states and to produce a national estimate. The imputation methodology and data limitations will be documented at that time as

#	Metric	Data Source	Data Quality, Limitations, and Improvements
			was done for the 2011–12 data release. This work is still pending and any discussion of the data limitations and/or concerns at this time would be premature. Path to public release and national rates: For each collection cycle states report their calculated cohort counts and ACGR graduation rates. These counts and rates are tested against a number of business rules for format, consistency, completeness, and comparability. Those business rule checks are delivered to the Office of Elementary and Secondary Education (OESE) for follow-up correspondence with the state(s). The program office, in consultation with NCES ED*Facts* staff and other stakeholders, meet to determine which issues identified by the business rules should be raised with the state for explanation, update, or correction. Following that review, data are then aggregated to the national level for the purpose of calculating and publishing a national rate. NCES processes these data to force conformity of reporting categories (mapping reported “Major Racial/Ethnic Groups” to the traditional 5 racial/ethnic groups) and imputes any missing data (3 states were imputed for 2011–12, 1 will be for 2012–13, no imputations are expected to be necessary for 2013–14 forward). After imputations are made, NCES produces a weighted national average rate for the country as a whole; a rate which is representative of every state. Once produced, NCES documents any remaining issues with these data, and the aggregation and imputation methodology in a release report. That report, documentation, and the associated data tables are put through several stages of review including independent reviews at the division (Administrative Data), center (NCES), and agency (IES) levels prior to public dissemination.
2.5.A	Percentage of high school and middle school teachers who teach STEM as their main assignment who hold a corresponding undergraduate degree	Schools and Staffing Survey (SASS), NCES	The methods report for the 2011–12 SASS is not yet released. Study documentation from the 2007–08 survey is available at http://nces.ed.gov/surveys/sass/methods0708.asp.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
2.5.B	Number of public high school graduates who have taken at least one STEM AP exam	College Board/AP administrative records	The College Board does not collect or report race/ethnicity based on the federal guidelines. Examinees are asked to select one of the options noted in the data. The College Board Public School List is updated annually by state educational agencies; thus small changes to the list over time are to be expected as schools open, close, and/or merge. Students are assigned to graduating cohorts based on self-reported information (i.e., grade level and/or graduation year) provided at the time of registration (in the case of SAT) or test administration (in the case of AP and PSAT). The College Board matches students' data across programs to identify the most recent valid value when assigning students to cohorts.

GOAL 3: EARLY LEARNING. Improve the health, social-emotional, and cognitive outcomes for all children from birth through 3rd grade, so that all children, particularly those with high needs, are on track for graduating from high school college- and career-ready.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
3.1.A	Number of states with Quality Rating and Improvement Systems (QRIS) that meet high quality benchmarks for child care and other early childhood programs	Child Care Development Fund (CCDF) Report of States Plans with annual updates from states and territories (HHS/Office of Childcare)	The data are self-reported by the states in their CCDF state plans. In addition, the data do not take into account the participation or coverage of the QRIS systems.
3.2.A	Number of states and territories with professional development systems that include core knowledge and competencies, career pathways, professional development capacity assessments, accessible professional development opportunities, and financial support for childcare providers	Child Care Development Fund (CCDF) Report of State Plans (HHS/Office of Childcare)	The data are self-reported by the states in their CCDF state plans. In addition, the data do not take into account the participation or coverage of the professional development systems.
3.3.A	Number of states collecting and reporting disaggregated data on the status of children at kindergarten entry using a common measure	Race to the Top (RTT)-Early Learning Challenge Technical Assistance Center (ELC TA)	The data are limited to the 20 RTT-ELC states. Department staff has requested KEA data be collected in the 2015–16 academic year as part of the National Center for Education Statistics (NCES) State of Preschool data collection and has requested to add KEA data reporting in ED*Facts*. In addition, the new Preschool Development Grants will provide data on additional states.

GOAL 4: EQUITY. Increase educational opportunities for underserved students and reduce discrimination so that all students are well-positioned to succeed.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
4.1.A	National high school graduation rate	ED*Facts*	ED*Facts* works with the data stewards (in this case OESE) to determine the appropriate business rule checks for these data. The checks that were done on these data include: • File validation and format checks: Identifies file submissions that don't conform with the file format (unable to be processed), the data universe (school/LEA/state directory), or the reporting requirements (mandatory reporting fields). • SAS Data Quality Reviews: Post submission checks to determine completeness, consistency, and comparability. • DataFlux Data Quality Rules: Post submission checks to determine completeness, consistency, and comparability. • Submission Edit Business Rules: While not utilized for the 2012–13 data collection, several of the post-submission business rule checks performed in SAS and DataFlux for 2012–13 have been implemented against the 2013–14 submission (and beyond). At the end of a collection period these rules are run against the submitted data and presented to the program office. It is the responsibility of the program office (OESE in this case), in consultation with the ED*Facts* staff, to determine which errors should be escalated to the state for further review. Many of these errors were sent along to the state for remediation (data explanation/update/correction). OESE should be considered the point-of-contact for identifying which rules were escalated and the result of those escalations. Data concerns from 2011–12 were documented in the NCES data release report (http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2014391). The data limitations for the 2012–13 are not yet complete and neither NCES nor OESE are prepared, at this time, to identify the data quality concerns with the 2012–13 submission. If these data are once again released by NCES, then work will be done to impute any missing data

#	Metric	Data Source	Data Quality, Limitations, and Improvements
			for states and to produce a national estimate. The imputation methodology and data limitations will be documented at that time as was done for the 2011–12 data release. This work is still pending and any discussion of the data limitations and/or concerns at this time would be premature. Path to public release and national rates: For each collection cycle states report their calculated cohort counts and ACGR graduation rates. These counts and rates are tested against a number of business rules for format, consistency, completeness, and comparability. Those business rule checks are delivered to OESE for follow-up correspondence with the state(s). The program office, in consultation with NCES ED*Facts* staff and other stakeholders, meet to determine which issues identified by the business rules should be raised with the state for explanation, update, or correction. Following that review, data are then aggregated to the national level for the purpose of calculating and publishing a national rate. NCES processes these data to force conformity of reporting categories (mapping reported “Major Racial/Ethnic Groups” to the traditional 5 racial/ethnic groups) and imputes any missing data (3 states were imputed for 2011–12, 1 will be for 2012–13, no imputations are expected to be necessary for 2013–14 forward). After imputations are made, NCES produces a weighted national average rate for the country as a whole; a rate which is representative of every state. Once produced, NCES documents any remaining issues with these data, and the aggregation and imputation methodology in a release report. That report, documentation, and the associated data tables are put through several stages of review including independent reviews at the division (Administrative Data), center (NCES), and agency (IES) levels prior to public dissemination.
4.2.A	Percentage of proactive civil rights investigations launched annually that address areas of concentration in civil rights enforcement	Office for Civil Rights’ (OCR) Case Management System (CMS) and Document Management (DM) systems	The Contracts and Acquisition Management/Case Management database utilized to collect data for this metric has built-in validation checks (such as requiring certain data elements and valid date entries), as well as automated entries based on other information entered into the system by staff, to reduce errors in data entry. OCR also employs additional safeguards to ensure data accuracy such as

#	Metric	Data Source	Data Quality, Limitations, and Improvements
4.2.B	Percentage of proactive civil rights investigations resolved annually that address areas of concentration in civil rights enforcement	Office for Civil Rights' (OCR) Case Management System (CMS) and Document Management (DM) systems	(1) periodic monthly checks to address missing or inconsistent entries, (2) publication of guidance materials including data entry requirements, codes, definitions, checklist and protocol for staff responsible for entering data; and (3) additional training and support for primary users inputting the data.

GOAL 5: CONTINUOUS IMPROVEMENT OF THE U.S. EDUCATION SYSTEM. Enhance the education system's ability to continuously improve through better and more widespread use of data, research and evaluation, evidence, transparency, innovation, and technology.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
5.1.A	Number of public data sets included in ED Data Inventory and thus linked to Data.gov or ED.gov websites	Data Strategy Team Data Inventory and the public ED Data Inventory at http://datainventory.ed.gov	The data are validated with a crosswalk between Inventory entries and the listing of public Department datasets, ensuring that the data described in the ED Data Inventory is publicly available at the identified web address.
5.1.B	Number of states linking K-12 and postsecondary data with workforce data	State Longitudinal Data Systems (SLDS) grant monitoring (monthly updates from states, annual performance reports, final performance reports, and site visits)	Data are collected through monitoring of states with active SLDS grants. The data are limited to this population. While 47 states and territories have received these grants over time, by June 2015, there will be fewer than 25 states with active grants, which leads to incomplete and not up-to-date data from states that either have not receive grants or that do not have active grants.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
5.1.C	Number of states linking K-12 with early childhood data	SLDS grant monitoring (monthly updates from states, annual performance reports, final performance reports, and site visits)	States project teams report data based on current grants. If the state is focusing on an early childhood data system, the state's reporting might reflect only those development efforts, and not statewide P20W (preschool to college workforce) development efforts. There are additional sources for information about state data linkages in the field. For example the Data Quality Campaign (DQC) conducts surveys of state capacity to collect, store, link, and use data. Because the Department does not use the same definitions as DQC, our figures tend to be lower than theirs. For example, we require that a state possess the capacity to follow its own students in order for us to report that the state has the linkage in place. Similarly, we enable states to report on whether particular linkages are planned, in progress, or complete, and report that a state has a linkage when the state reports that the project is complete; DQC might give a state credit for an "in progress" or pilot-stage linkage. A survey administered to the universe of states and territories would enable more systematically collect data about all states' capacity for data linkages and data use. There is a concern, however, that if those data were to be used for public reporting, states might begin to overstate their capacities, particularly on data that are also publicly reported by organizations such as DQC. Currently, data from monitoring is used in an iterative, formative approach to program improvement; our technical assistance program is designed to support states' efforts to improve their systems. This relies on states being honest about their own internal capacities.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
5.2.A	Average time to close “cases” (PTAC + FPCO)	Case Tracking System (CTS)	The term “case” refers to requests for quick, informal responses to routine questions related to student privacy. These requests are received via email, the Family Policy Compliance Office (FPCO)/Privacy Technical Assistance Center (PTAC) resource website, or by telephone and subsequently entered into the Case Tracking System (CTS). The preliminary data for this metric are reviewed at least weekly for verification. If anomalous data are identified in the periodic reviews or when anomalies are suspected, individual cases are examined individually to identify if they were properly closed or if their status was entered incorrectly. When appropriate, corrections are made. Staff responsible for entering data into the CTS will continue to be trained on policies and procedures. Quarterly monitoring of data entered will be conducted to assure completeness and reliability of data and to recommend any improvements to the CTS or modifications to the standard operating procedures.
5.3.A	Percentage of select new (non-continuation) discretionary grant dollars that reward evidence	Department calculations based upon multiple Department-controlled data sources, including G5	In determining which discretionary grants are considered “evidence-based” (i.e., the numerator when calculating the percentage), the Department includes all programs that rewarded applicants with supporting evidence of promise or better (per the EDGAR evidence framework). This could be done through a competitive preference or absolute priority, an eligibility requirement, or a selection factor. Only the amounts of the grants awarded for those projects were counted. In determining what counts as discretionary funding (i.e., the denominator when calculating the percentage), the Department includes all programs for which the EDGAR evidence framework could conceivably work. Specifically, we determined that NIDRR and RSA are unlikely to find the evidence framework useful, and did not count funding for those programs in the denominator.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
5.3.B	Number of peer-reviewed, full-text resources in the Education Resources Information Center (ERIC)	Education Resources Information Center (ERIC)	To be counted as a full-text, peer-reviewed article in ERIC, the document had to be indexed in ERIC and designated with a “peer-reviewed” and “full-text” flag, both of which are available on the public ERIC website. The ERIC contractor uses specified quality assurance procedures. In addition, the IES program officer pays close attention to the metric in their review of deliverables.
5.3.C	Number of reviewed studies in the What Works Clearinghouse (WWC) database	What Works Clearinghouse (WWC)	To be counted as a reviewed study, the study had to be listed in the What Works Clearinghouse’s publicly available Database of Reviewed Studies. The What Works Clearinghouse contractors use specified quality assurance procedures. In addition, the IES program officers pay close attention to the metric in their review of deliverables.
5.4.A	Percentage of schools in the country that have actual internet bandwidth speeds of at least 100 Mbps	Education Superhighway, CoSN/AASA E-rate Infrastructure Survey	The Department uses an external data source for this metric and relies on the external, third party’s verification and validation methodology. Based on the information provided (http://cosn.org/cosns-second-annual-e-rate-and-infrastructure-survey), the response rate for this survey may not be sufficient to ensure that the data are representative of all districts in the country. The Department is exploring the feasibility of collecting data on access to and use of education technology from a representative sample of schools and districts across the country. In the meantime, we believe these data are the best currently available and provide useful information to gauge progress on this metric.

GOAL 6: U.S. DEPARTMENT OF EDUCATION CAPACITY. Improve the organizational capacities of the Department to implement this strategic plan.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
6.1.A	Staffing gaps percentage	Mission Critical Occupation (MCO) Staffing Gap Report	The Department's Budget Service obtains the staffing gap data from the Department's Federal Personnel and Payroll System (FPPS) Datamart roster and separations reports. As FPPS is a user-driven system, the data used for the Mission Critical Occupation (MCO) Staffing Gap Report are only as reliable as the data that are entered into FPPS. Human Capital and Client Services (HCCS) intends to improve data in FPPS by updating standard operating procedures, implementing process maps, and training customers and HCCS staff to follow these new processes when entering data into the system.
6.1.B	EVS Engagement Index	Office of Personnel Management (OPM) Federal Employee Viewpoint Survey (FEVS) results	Any questionable FEVS data points are brought to the attention of OPM. In turn, the OPM point of contact responds to the inquiry. Further, if there are questions regarding the FEVS data, the Department works with the OPM point of contact to obtain clarity. The 2013 appendix A indicated that the Department would work to increase the participation rate to reduce non-response bias in the FEVS data. However, in 2014 the participation rate decreased from 68.9% in 2013 to 63.3% in 2014.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
6.1.C	Time to hire	Workforce Transformation Tracking System (WTTS) and Entrance on Duty System (EOS)	Data are pulled biweekly and tested. Results are tracked and analyzed for consistency and monitored for patterns or trends; anomalies are identified and explored to determine root cause and then corrected (or work-around developed and noted pending further analysis/correction). The data are entered into the systems by Department customers and Human Capital and Client Services (HCCS) staff, so quality of data, and in-turn the quality of the final calculations, are only as reliable as the information entered into the system. As HCCS continues to reduce the shortage of trained human capital practitioners and staff become more proficient leveraging systems' capabilities and streamlining processes, we expect data quantity and quality will increase which will negate the need to have an order of precedence for substitute/back up data when measured data points are missing. Even though the 90 Day Model's time to hire methodology was successfully advanced from initial concept to a stable, sustainable agency-wide process in less than a year, it has not undergone peer review or independent verification and validation to validate its rigor. Facilitated peer review is the recommended next step to ensure continued Department-wide application of this metric as a meaningful measure.
6.1.D	Effective Communication Index	Office of Personnel Management (OPM) Federal Employee Viewpoint Survey (FEVS) results	Any questionable FEVS data points are brought to the attention of OPM. In turn, the OPM point of contact responds to the inquiry. Further, if there are questions regarding the FEVS data, the Department works with the OPM point of contact to obtain clarity. The 2013 appendix A indicated that the Department would work to increase the participation rate to reduce non-response bias in the FEVS data. However, in 2014 the participation rate decreased from 68.9% in 2013 to 63.3% in 2014.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
6.2.A	Percentage of A-133 Single Audits Overdue for resolution	Office of the Chief Financial Officer's (OCFO) Audit Accountability & Resolution Tracking System (AARTS)	Calculations for this metric are determined by dividing the total number of audits that are overdue at the end of the Department's fiscal year by the total number of audits in the Department's inventory. Access rights to the AARTS database are managed by Office of the Chief Financial Officer (OCFO) and all users receive annual IT security training to help ensure data integrity. A Quality Control reviewer initiates a weekly upload of A-133 audit data to AARTS through a file submission directly from the Federal Audit Clearinghouse (FAC). An AARTS administrator (separate from the Quality Control reviewer) must verify the uploaded data with the actual audits. Data for individual programs are verified by Principal Offices (POs) through periodic review by Responsible Managers and Audit Liaison Officials. In addition, the specific data for this metric are verified by POs each month as part of monthly Dashboard reports. Data are validated by OCFO monthly. Staff work to reconcile data reported on the Dashboards with any discrepancies reported by the POs.
6.2.B	Compliance rate of contractor evaluation performance reports	Past Performance Information Retrieval System, www.ppirs.gov, "PPIRS Compliance Report"	Compliance rates of contractor performance evaluations are set by OMB and are calculated by use of a Government wide reporting tool available in the PPIRS (www.ppirs.gov). Office of the Chief Financial Officer (OCFO) staff analyzes the PPIRS report weekly to ensure that each contractor performance evaluation reflected on that report should appear on that report, and to rectify any errors on the report.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
6.3.A	Percentage of states who annually rate the Department's technical assistance as helping build state capacity to implement education reforms.	The Reform Support Network Annual State and CoP Leads Survey (administered Q3 2014)	The source for the data is the Race to the Top (RTT) Annual Leads Survey, which was sent to all 19 Race to the Top Phase 1, 2 and 3 states. Because RTT is a discretionary program, we only surveyed grantee states who received direct technical assistance. The data collection process includes online survey software with questions in which respondents click on the appropriate response choice and data is then downloaded directly to analysis software. By configuring the online software and downloading the data directly, we reduce the opportunities for human error in data entry. Additionally, we utilize data quality assurance procedures which include having analysts review the data by hand upon download and run basic descriptive statistics to illustrate downloading issues, sample size concerns, variable integrity, data types, and other potential data concerns. We then merge with existing data files using established syntax which provides a further check to identify potential data errors. Merged data is examined again for potential data concerns. These procedures are used across a number of federal projects and are well-established and effective for verifying data integrity.
6.4.A	Number of ED IT security incidents	Operational Vulnerability Management Solution (OVMS) System	Office of the Chief Information Officer (OCIO) has standard operating procedures (SOP) to verify and validate the data: 1) OVMS SOP, 2) Incident Response Tracking SOP, and 3) OVMS Checklist. This process is executed on a weekly basis.
6.4.B	EVS Results-Based Performance Culture Index	Office of Personnel Management (OPM) Federal Employee Viewpoint Survey (FEVS) results	Any questionable FEVS data points are brought to the attention of OPM. In turn, the OPM point of contact responds to the inquiry. Further, if there are questions regarding the FEVS data, the Department works with the OPM point of contact to obtain clarity. The 2013 appendix A indicated that the Department would work to increase the participation rate to reduce non-response bias in the FEVS data. However, in 2014 the participation rate decreased from 68.9% in 2013 to 63.3% in 2014.
6.4.C	EVS Leadership and Knowledge Management Index	Office of Personnel Management (OPM) Federal Employee Viewpoint Survey (FEVS) results	

#	Metric	Data Source	Data Quality, Limitations, and Improvements
6.4.D	Total usable square footage	Department's Master Space Management Plan	Because usable square footage relates directly to rent costs, the Department uses the same data verification and validation procedures. Specifically, the data are collected directly from Occupancy Agreements and rent bills per building. The data are derived from historic examples and relevant experience. Department leadership has agreed to a set of assumptions by which the data are based. Leadership has reached out to subject matter experts to broaden the scope of the data set, and lower risks of missing contingencies that may affect the data. At each step, the data are reviewed independently to double check the work of each team member and provide quality control. These processes help ensure the data's completeness and reliability. For the baseline data, the Department made the following assumptions: 1) All leased buildings: 2% is applied for anticipation of CPI (Consumer Price Index) annual increases on the anniversary date of the active lease/occupancy agreement (OA); and 2.5% is applied for anticipation of annual tax increases. 2) All federal buildings: 2.5% is applied for operating cost escalations on the anniversary date of the active OA. 3) 20% is applied to all federal buildings after an OA has expired and a new OA is unavailable. (Projected increase on the appraisal.) 4) 40% is applied to all leased buildings after an OA has expired and a new OA is unavailable. (Projected increase on the market rent.) 5) If a new OA is unavailable, 3-months early rent is applied to all buildings that are relocating due to possible Department delays. Example: Changes made to the designs after Scope of Work (SOW) is completed.

#	Metric	Data Source	Data Quality, Limitations, and Improvements
			6) 3-months late rent is applied to all buildings that are relocating due to possible Department delays. For example, delays in returning space back to a rentable condition. The Department reconciles its rent bills per building on a monthly basis.
6.4.E	Rent cost	Department's Master Space Management Plan	The rent is based on the above assumptions. Data are collected directly from Occupancy Agreements and rent bills per building. The actual rent may vary significantly if the Department relocates to a new leased building and/or signs short lease extensions. The Department is leveraging the examples and experience of the mobility labs and building consolidations programs. The Department reconciles its rent bills per building on a monthly basis. Every six months, leadership will re-evaluate the data, the assumptions on which it is based, and incorporate actual costs and project schedules. These steps will become part of our quality assurance program and procedures. Leadership looks to improve completeness, reliability, and quality of the data at these milestones.