Project Narrative

Contents

The Washington Office of Superintendent of Public Instruction (OSPI), the State Education Agency, in partnership with the Education Research and Data Center (ERDC) in the Office of Financial Management (OFM) submits this proposal for funding in the amount of $7,000,000 under funding opportunity NCES 15-01. Funds received will enhance current capabilities to use data in the statewide P20W longitudinal data system to improve education in two data use priority areas: (1) College and Career, and (2) Evaluation and Research.

(a) Need for Project

Background

The 2007 Washington State Legislature created ERDC. ERDC is based in OFM and the Legislative Evaluation and Accountability Program serves as a statutory partner. As stated in Revised Code of Washington (RCW) 43.41.400 (Appendix C), ERDC is to "[conduct] analyses of early learning, K12, and higher education programs and education issues across the P20 system." The [P20W] system is defined in the statute as all education agencies plus the Employment Security Department (the State Workforce Agency). The P20W agencies and institutions are to make relevant data available to ERDC and, in turn, ERDC is to "make data from collaborative analyses available to the education agencies and institutions that contribute data." From the beginning, Washington's P20W SLDS was designed to be a research-oriented, analytical data system.

Current status

Two Statewide Longitudinal Data Systems (SLDS) are maintained in Washington. Washington's P20W SLDS is based in ERDC. The State Education Agency (SEA) – Office of Superintendent of Public Instruction (OSPI) – maintains a K12 SLDS. OSPI has a close working relationship with ERDC and, according to statute, ERDC is considered "an authorized representative of the state educational agencies … for purposes of accessing and compiling student record data for research purposes." This allows OSPI to share all K12 data with ERDC. ERDC's P20W SLDS contains all K12 SLDS data elements plus contributions from many partner agencies and institutions. The two systems complement each other, and the combination of systems satisfy the 12 required capabilities of statewide longitudinal data systems. Table 1 (12 Required Capabilities of Statewide Longitudinal Data Systems) in Appendix B outlines these requirements and indicates how Washington meets them. The P20W SLDS contains comprehensive data from early learning, K12, public postsecondary, and employment. It also contains apprenticeship, adult corrections, GED®

completions, plus selected enrollment and completions from private and out-of-state postsecondary institutions. Key functionality of the P20W SLDS includes identity matching and linking across sectors, cohort identification and management, protecting and securing personally-identifiable-information (PII), and robust reporting capabilities, including "as of date" reporting. Data management within the system is designed to be sustainable using ERDC research staff and data analysts, with minimal use of dedicated information technology (IT) staff.

An important part of the P20W SLDS is the data governance that surrounds it. Supported by funding from a 2009 ARRA SLDS grant, P20W data governance has progressed to an advanced, sophisticated level. The current data governance structure includes communication among data partners and their respective assistant attorneys general, an all-encompassing Memorandum of Understanding (MOU), and data-sharing agreements between ERDC and all partner organizations providing or receiving P20W data.

Washington has made great headway in the additional requirements areas (Governance and Policy, Technical and Data Use), but there are still areas in which Washington proposes to advance SLDS development and use. Washington's status in these areas is discussed below and summarized in Table 2 (Requirements Beyond the 12 Required Capabilities) in Appendix B.

Governance and Policy Requirements

Needs and Uses

ERDC's work is driven by critical questions developed with input from partner agencies and decision-makers. These questions fall into five basic categories:

1. Student Profile: How can groups of students in a program be described? What are their characteristics?
2. Quality/Achievement: What are groups of students doing? How well? This includes course-taking, assessments, etc.
3. Transition/Advancement Outcomes: Do groups of students continue on an education path? Graduation rates, persistence and completion, and employment outcomes fall into this category.
4. Program Effectiveness and Costs: Evaluation and comparisons of programs, schools, districts, and the opportunity to identify best practices.
5. Teachers: Supply, distribution, retention, training.

ERDC has conducted research and/or provided data to other researchers related to each of these categories. In addition, there are now a number of legislatively-mandated products that are a routine part of ERDC activities. Examples are analytic reports (such as outcomes of students enrolled in special aerospace assembler

programs in high school), online dashboards (public baccalaureate enrollment, progress and completions and postgraduate earnings), and datasets (e.g., linked dual-credit dataset for OSPI's legislatively-mandated annual reports). ERDC has also provided datasets to the state's audit agency for use in program evaluations.

Demand for ERDC products has grown. In 2014, ERDC responded to 95 official data requests by producing eight analytical reports, 39 ad hoc analyses, eight feedback report analyses and 40 datasets for external researchers.

In spite of this, there are still additional research areas to be explored, additional uses of existing data, and additional datasets to incorporate into the P20W SLDS. Receiving the funding requested in this application will assist ERDC in meeting these unmet needs.

Governance

ERDC's data governance activities involve coordination and communication among all data providers and data users. To accomplish this, three committees, made up of partner agency staff and coordinated by the ERDC Data Governance Coordinator, provide recommendations to ERDC:

- **Research and Reporting Coordination Committee** members interact with their agency decision-makers, stakeholders and research agendas. They make recommendations regarding the list of critical questions and coordinate with the other committees to ensure the availability of data needed to answer the questions. Staff on this committee are policy experts qualified to comment on data requests coming into ERDC. This committee also updates policies and procedures related to data sharing. Much of the work of this committee involves providing advice to data requestors. This committee meets quarterly.
- **Data Stewards Committee** members are partner agency staff who have direct knowledge of the data from their agency used in research. These data experts meet to ensure consistent data definitions and make recommendations regarding response to requests for new data to be collected to answer new research questions. This committee creates policies and procedures related to data stewardship in the P20W system and meets periodically as needed.
- **Data Custodians Committee** members are responsible for the technical delivery of data to and from the P20W data warehouse. The technical experts from the agencies coordinate on how the data are transferred between their agency and the data warehouse and how the data are stored. This committee creates policies and procedures related to individual agency data systems

and how they interact with a P20W system and discuss any changes related to data feeds to the warehouse. This committee meets periodically as needed.

Representation on these committees comes from organizations contributing data to ERDC and includes members from Department of Early Learning (DEL), OSPI, State Board for Community and Technical Colleges, Workforce Training and Education Coordinating Board (WTECB), Washington Student Achievement Council (WSAC), the Council of Presidents (public baccalaureate institutions), Employment Security Department, Department of Corrections (adult corrections), Department of Labor & Industries (apprentices), and representatives from an individual school district, an individual community college, and an individual public baccalaureate institution.

These committees do not operate in isolation. For example, new critical questions will likely require new data elements that will need to be collected by an agency, and many of our partners have their own data governance structure and procedures.

Related to the ERDC data governance structure, ERDC and partner agencies have developed and signed a Memorandum of Understanding (MOU) describing responsibilities and principles for sharing and using P20W data. The following principles are defined and described in the document, which is provided in Appendix C:

- Principle 1: ERDC provides cross-sector, linked data to all data consumers in a consistent, transparent way.
- Principle 2: ERDC maintains the P20W data warehouse.
- Principle 3: Protecting the privacy of individuals is a priority.
- Principle 4: Partner agency data contributors (at the state and local levels) are experts at understanding and explaining the data.
- Principle 5: Common understanding and use of data increases its value.

ERDC has also established data-sharing agreements (DSA) with and among all organizations currently providing and/or using P20W SLDS data. Each DSA specifies an agreement administrator and a technical administrator from each participating organization, the purpose, definitions, period of agreement, description of data to be shared, data transmission, data security, data confidentiality, use of data, disposition of data, on-site oversight and records maintenance, indemnification, amendments and alterations, order of precedence of applicable laws, termination, and severability. Along with the DSA is a Certification of Data Disposition form that is returned to ERDC when the data disposition requirements of the DSA have been met.

ERDC has received federal approval to designate the Washington State Institutional Review Board (WSIRB) as its institutional review board (IRB) and has signed an IRB Authorization Agreement (See Appendix C) to commit to adhering to the Federalwide Assurance for the Protection of Human Subjects (See Appendix C). Using WSIRB is ideal because many of our partners on this grant already rely on them to review their research, including Department of Social and Health Services, Department of Early Learning and Washington State University.

Institutional Support

Authorization to develop and implement the P20W SLDS was included in the legislation creating the ERDC (RCW 43.41.400, previously discussed and included in Appendix C). ERDC, which had fewer than three full-time equivalent (FTE) staff when it was created in 2007, has had its permanent staff increased consistently since then as demand for ERDC products has expanded. At the close of the 2009 ARRA SLDS grant, three of the grant-funded analysts moved into newly created state-funded ERDC positions. Agencies and institutions affiliated with ERDC have come to realize the efficiencies, cost savings and increased capabilities that result from the existence of a system of cross-sector linked longitudinal data, and the ERDC MOU (previously discussed and included in Appendix C) is evidence of the shared vision for deliverables and objectives of the P20W SLDS.

Sustainability

ERDC funding comes from the State general fund and is appropriated by the State legislature on a biennial basis. The growth of ERDC staffing was described in the previous section. Another part of sustainability relates to the data systems. Routine information technology (IT) support (system maintenance, quality control, user training, etc.) for the P20W SLDS has been included in OFM's IT decision package. As outlined in a number of letters of agreement in Appendix C, our grant partners have committed to working with ERDC to ask the state legislature for funding to continue the work funded by the grant.

Technical Requirements

Federal Reporting

OSPI's K12 SLDS satisfies many of the Federal requirements for reporting K12 elements. ERDC provides information for Federal reports that require postsecondary enrollment, including the career and technical education outcomes data required for Federal Perkins Act reporting.

Privacy Protection and Data Accessibility

ERDC adheres strictly to both the letter and spirit of privacy laws affecting individual student record data and ERDC is sensitive to other privacy concerns. Since the P20W SLDS is a research-oriented data system, in most cases there is no need for identifiable information to be attached to the datasets ERDC provides to agencies and organizations.

Within the data warehouse each individual represented in the P20W SLDS is associated with a "P20 ID" assigned by ERDC. When individual-level data are incorporated into the P20W data system each record is run through an identity-matching process which either assigns an existing P20 ID or creates a new P20 ID for the person represented. This automated process, which incorporates both deterministic and probabilistic matching algorithms, utilizes as much information as is available, but relies heavily on identification numbers assigned by an agency or institution, name, and date of birth.[1] This process is done in a restricted access area, before the data are loaded into the longitudinal data system. Once the matching takes place, the data files are loaded into the database, using the P20 ID as the identifier and not the student ID or other PII. Crosswalks between the P20 ID and PII are stored in locations that are physically separate from the data warehouse in an area with highly restricted access.

Data Quality

Data quality assurances on incoming data include a data profiling check upon receipt, in addition to working with the data owners to establish field-level, record-level, and data set-level data validations upon initial loading of the data. Any exceptions are reviewed by the data contributor's database administrator and, where necessary, the data owner. Data validation also occurs when populating research data marts. For K12 and postsecondary data, counts and distributions are compared with published reports. For workforce data, emphasis is placed on quarter-to-quarter comparisons, record counts, and data totals to confirm that the complete set was loaded and is consistent with previous data. Data validation is also done against the data owner's original system when appropriate. This is a collaborative process, where the warehouse serves as the storage and access point, but the quality of data within it is validated by the data owner. An internal data quality and monitoring report tracks the data throughout the process, and monitors key elements, such as record counts, data values, and availability of data. The data

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[1] A high percentage of the linkages are accomplished automatically, but there is case management involved when ambiguities exist among identifying elements.

readiness process includes meeting with business and technical stewards to agree on the best method of transporting data and to establish the set of business rules to apply. The business rules are documented, and implemented into automated data loading processes. As part of ERDC's data governance process, data stewards (business knowledge leads) and data custodians (IT systems lead) have been established for all source systems contributing data to the P20W data system.

Interoperability

The P20W SLDS incorporates data elements from partner agencies exactly as they are stored and defined by those agencies. Data dictionaries supplied by the partner agencies serve as the basis for data definitions used in the P20W SLDS. Each education agency has mapped core data elements to Common Education Data Standards (CEDS), and those mappings carry over to the P20W SLDS. ERDC routinely shares linked datasets (with postsecondary education and employment outcomes) with the SEA and, in turn, the SEA provides pertinent datasets to local education agencies

Enterprise-wide Architecture

Both OSPI and ERDC have adopted an enterprise-wide data architecture that links records across information systems and data elements across time. Each system assigns a unique student identifier – the State Student ID (SSID) within the K12 SLDS (allowing for longitudinal analysis of dropout and graduation rates and student achievement growth), and the P20 ID within the P20W SLDS. Both the K12 SLDS and the P20W SLDS have associated data dictionaries, data models, and business rules.

Using funding from the 2009 ARRA SLDS grant, Washington developed the "PRO" (Person-Role-Organization) Model for the implementation of the P20W SLDS data warehouse. Every imported data element is attached to a person who has a defined role within an organization. The model readily incorporates data from new organizations or new roles within an organization, and it allows for a person having more than one role within a single organization (e.g., a former K12 student returns to a school district as a teacher or an individual is both a student and an employee of a postsecondary institution). Data from various organizations are brought into a pre-stage area, subjected to extract-transform-load (ETL) routines, and stored in a staging area. ETL routines (which reflect standardized business rules for each data flow) provide selected data elements to the restricted-access Identity Management area, where a P20 ID is assigned to the record and the PII is stored. The data, with the associated PII, is then subjected to more ETL processes to "part it out" into

related PRO tables. Figure 1 in Appendix A shows a schematic diagram of the PRO model and the related data flows.

The ERDC PRO model and the most recent CEDS model -- the "OPR" (organization-person-role) model -- were developed independently, but have converged.

Data Use Requirements

Secure Access to Useful Data for Key Stakeholder Groups:

Generally, ERDC staff provide two types of data to requestors, public-use data and restricted-use data:

- **Public-Use Data** are data that are aggregated and contains no individual-level data (unit records). The data are in a table format acceptable for publication purposes and does not require a data-sharing agreement.
- **Restricted-Use Data** are data at the individual (unit-record) level. Even when de-identified, individual-level data may contain sufficient information, when matched with other information, to allow a reasonable person to identify an individual. A data-sharing agreement with the ERDC is required before receiving a restricted-use data set.

All researchers who receive a linked P20W dataset are advised to apply the principles outlined in the Privacy Technical Assistance Center's Technical Brief 3[2] to avoid inadvertent disclosure of PII in aggregate reporting. ERDC-produced reports follow the same guidelines.

Data Use Deliverables

ERDC has been delivering data to requestors since its creation in 2007. Data are provided in a variety of forms, depending on the needs of the end-user: including feedback reports, ad hoc analyses, research briefs, recently-asked-questions and data sets. End-users include legislators and legislative staff, Governor's budget and policy staff, data contributing agency staff, other agency staff, university researchers, local education agencies (school districts, community colleges and universities), community-based organizations, private organizations, citizens and the media.

In 2013, ERDC began using IssueTrak to manage and track data requests. This software allows ERDC staff to see where data requests are in the process and hand it off to the next person. In addition, reports from IssueTrak feed a management

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[2] *Statistical Methods for Protecting Personally Identifiable Information in Aggregate* Reporting, SLDS Technical Brief 3, NCES 2011-603, December 2010.

information dashboard on the ERDC website that allows the public to see the types of people requesting data and their research questions, the types of data being shared and the number of requests opened and closed each month.

All deliverables are informed by the requestor or expected end-users and are updated or changed based on user feedback. Getting data out quickly and in a usable form is key for its use in decision-making. This grant will assist staff in learning more about the data so the response time to data requests can decrease. In addition, ERDC's lengthy history of providing data will provide helpful information in building deliverables that are most effective for the intended use.

Training on Use of Data Tools and Products

Currently, ERDC has a researcher responsible for helping users understand the various feedback reports available. In addition, staff make presentations at various statewide educator group conferences, in addition to regional and national conferences, to demonstrate how to use the data available. In addition, two staff are responsible to responding to data requests and helping requestors through the data request process.

Based on these experiences, grant funding can be used to create on-line resources, such as videos and step-by-step guides, to train people to effectively use the data products.

Professional Development on Data Use

Based on past data request work, ERDC and the data contributors produce reports, posted on the website, that assist data requestors in interpreting results and informing decisions. Examples of this are a list of frequently-asked-questions related to the use of statewide assessment data from K12 and an employment data handbook. In addition, researchers from ERDC and data-contributing-agencies work one-on-one with requestors as they interpret the P20W data. Finally, ERDC staff conducted qualitative research on K12 educator use of P20W data to help understand how the data are used and what decisions can be made with the data.

This grant will provide the opportunity to conduct additional research about the data and how it can inform decision-making. This information, along with the research on P20W data use, will inform what resources should be included in a professional development program on data use. Finally, the grant includes funding to use the existing regional data coaching model in K12 to bring K12, postsecondary education and workforce data users together to build a local community of P20W data users.

Evaluation of Data Products, Training, and Professional Development

ERDC currently has opportunities for data users to provide feedback and make suggestions for its feedback reports and dashboards. This grant will fund the expansion of these reports and dashboards based on user feedback and suggestions. In addition, ERDC uses Google Analytics to track web usage of the training and professional development resources posted on the website. The training and professional development resources created under the grant will include a plan to evaluate the usefulness of web-based resources.

Partnership with Research Community

ERDC and its data contributors created a data request process early on in the formation of data governance because the research community is viewed as a key stakeholder. ERDC's data sharing approach reflects the belief that education will improve if data are put in the hands of researchers at all levels of the education and workforce system so they can help inform decision-making. Examples of research partnerships include providing data to the Washington State Institute for Public Policy (the legislative research agency), the National Center for Analysis of Longitudinal Data in Education Research (CALDER) and the Community Center for Education Results (a community-based organization with the goal to double the number of students in its region earning a college degree or certificate by 2020). In addition, ERDC has data-sharing agreements with a number of researchers within the state of Washington and outside the state to answer questions related to topics such as dual-credit programs, applied baccalaureate programs and workforce outcomes for college graduates.

This grant will fund projects that will increase the research community beyond education and workforce into juvenile justice and social services. In addition, researchers at Washington State University's Area Health Education Center and Abt Associates, who are co-leading the National Research Center on Hispanic Children and Families (NRCHCF), will be supported with funding and data.

Sustainability Plan

Any deliverables and training created will be maintained by the current ERDC staff.

(b) Project Outcomes

Priority 1: College and Career

Within the College and Career priority, ERDC proposes a variety of analysis and research activities involving (1) studying outcomes for juvenile justice participants; (2)

incorporating financial aid data; (3) studying P20W transitions; (4) expanding existing data coaching activities to include P20W; and (5) expanding existing P20W feedback reports.

Outcome 1.1: P20W Outcomes for Juvenile Offenders

In Washington, the Administrative Office of the Courts (AOC) is responsible for maintaining comprehensive data related to individuals who touch the juvenile justice system, no matter how briefly. Through ERDC's established data-sharing agreements with the Department of Corrections, AOC, and the Criminal Justice Statistical Analysis Center (SAC), it is possible to examine school-related indicators to understand the risks and needs of children as they come into court, and to understand the outcomes, both short- and long-term, as the juvenile offenders leave the court.

Outcomes for juvenile justice participants involve education and employment outcomes, as well as placement in adult corrections settings.

ERDC will collaborate with AOC to complete a series of studies focused on participants in the state's juvenile justice system.

- **Product 1.1.1: Outcomes by juvenile probation sentencing**

  A study comparing academic performance of youth who are sentenced to juvenile probation with those who are not: grades and attendance before and after; graduation and involvement with postsecondary education and employment after sentencing.

- **Product 1.1.2: Outcomes by juvenile detention sentencing**

  A study examining school performance and involvement with juvenile detention: disruption, continuity, grades, graduation and postsecondary enrollment and employment.

- **Product 1.1.3: Outcomes by type of juvenile justice involvement**

  A study of school performance and employment outcomes of students with different levels of juvenile justice involvement, from diversion (informal handling) to probation to commitment to the Juvenile Justice and Rehabilitation Administration.

- **Product 1.1.4: Outcomes for multi-system-involved children**

  A study of school outcomes for multi-system involved children: from foster care to juvenile offending and the impact on grades, graduation and postsecondary enrollment and employment.

- **Product 1.1.5: Outcomes for adult vs. juvenile sentencing**

  A study of education, workforce and recidivism outcomes for juveniles sentenced as adults compared to similar juveniles sentenced as juveniles.

In collaboration with AOC and SAC, ERDC will develop the following products:

- **Product 1.1.6: Standardized juvenile justice report**

  ERDC will develop a standardized report related to participants in the juvenile justice system, their characteristics, program participation throughout their childhood, and outcomes (education, employment, adult corrections) after high school.

- **Product 1.1.7: Analysis of students involved in truancy petition process**

  ERDC will conduct a study comparing academic performance of students who become involved with the truancy petition process (Washington's "Becca Law") with similar students who do not: Grades and attendance before and after; graduation and involvement with postsecondary education.

Existing P20W data used for this group of studies includes K12, postsecondary education, employment, social service, and adult corrections. The AOC juvenile offender data will be incorporated into the P20W SLDS as external data, with identifiers incorporated into the master data management (MDM) hub.

Completing tasks in Outcome 1.1 will allow the juvenile justice system to answer a basic question, the same one being asked in the education system: Which juvenile justice programs and policies are related to higher rates of high school graduation, post-secondary enrollment or employment? With the juvenile justice, education and workforce data linked, the juvenile justice system can begin to use this data to identify successful programs and policies so they can study the practices implemented and share this information across the state and nation.

Outcome 1.2: Studies Incorporating Financial Aid

Successful studies involving P20W data inevitably raise additional questions. When progress through postsecondary education is analyzed, the most common questions raised relate to the role of financial aid in student progress. The products proposed here each involve or incorporate financial aid data into analysis of postsecondary education progress, persistence and completion.

- **Product 1.2.1: Study on the effectiveness of financial aid**

  Central Washington University researchers have found that students who received financial aid had a reduced probability of graduating. (All levels of

financial aid received in the first quarter decrease the chance of graduation by 2.6 percent for every $1,000 provided.) On the surface this is not surprising. To the extent that the granting of financial aid identifies students as being "financially needy," it is reasonable to assume that financially needy students are less likely to graduate, with the more financially needy even less likely to graduate. But the question is, within the group of financially needy students, what separates those students who do graduate from those who do not? When matched against a student's need, are there types and amounts of financial aid and tuition policies that are more or less successful? What would an ideal tuition and financial aid program, that maximizes the number of students graduating, look like? We can debate whether "high tuition – high financial aid" or "low tuition is the best financial aid" are the more effective policy routes, but what does the data show?

- **Product 1.2.2: Predictive models incorporating financial aid structure**

    ERDC, in collaboration with the Washington Student Achievement Council (WSAC), will create a predictive model of higher education completion using financial aid data that addresses two areas: (1) What student financial aid structure produces the highest number of postsecondary graduates possible? (2) Which structure results in the most postsecondary graduates from disadvantaged populations? Are these two goals compatible?

- **Product 1.2.3: Analysis of postsecondary outcomes of lower-income high school graduates**

    ERDC and WSAC will study the subset of the cohorts of high school graduates who demonstrate need in their Free Application for Federal Student Aid (FAFSA) and/or are free and reduced price lunch (FRPL)-eligible at any point from grades 7 to 12. Both student and school characteristics will be incorporated into the study. Student characteristics will include gender, race/ethnicity, FRPL status, course-taking, and grade point average (GPA) from K12 SLDS; amount of financial aid, College-Bound Scholarship application status; and expected family contribution, first generation college student status, student earnings, and family structure from FAFSA. School characteristics will include locale, proximity to postsecondary education institution, percent FRPL-eligible, and funding for Navigation 101 (a counseling program that begins in middle school). Postsecondary outcomes assessed will include enrollment and persistence, course-taking for students enrolled in public institutions in Washington, and employment.

Existing P20W data required for this group of products includes the full set of postsecondary enrollment and completion data, K12 data, financial aid data from WSAC Student Unit Record files, and College Bound scholarship applicant data. FAFSA data will be incorporated into the P20W SLDS as an external data source, with identities retained in the MDM hub.

Any look at post-secondary enrollment and completion is incomplete without financial aid information. Understanding the role of financial aid in college completion assists policy makers in making decisions about funding financial aid programs and increasing or decreasing tuition and state support. It is anticipated that the financial aid research questions will also inform questions about student support in the form of campus services.

Outcome 1.3: P20W Transitions

- **Product 1.3.1: Community and technical college transfer study**

  ERDC will undertake a study of community and technical college (CTC) leavers with enough credits to transfer to a four-year institution that examines the differences between three groups: (1) those who transfer and get a bachelor's degree; (2) those who transfer and do not get a bachelor's degree; and (3) those who do not transfer. What are the factors (socio-economic, financial aid, course-taking, GPAs, location of CTC, location of baccalaureate institution, etc.) that differentiate these groups. This will involve both predictive analytics and propensity scoring. Learning more about the differences across the different groups will support efforts to increase the state's college completion rates.

- **Product 1.3.2: Science, Technology, Engineering and Math (STEM) analysis**

  A study that explores K12 inputs, such as course-taking, to examine effects on STEM study in postsecondary education.

- **Product 1.3.3: Predictive models for postsecondary completion rates**

  Develop predictive models for postsecondary education that focus on three research areas and offer policy and program guidance based on the results: (1) Predict degree completion rates based on demographics and characteristics of baccalaureate completers; (2) predict degree completion rates based on demographics and characteristics of baccalaureate students who take pre-college (remedial) courses; and (3) study how well high school coursework and grades predict who needs pre-college coursework in math and who completes a college degree.

The model could help isolate the factors involved in differing graduation rates –
between those factors that are student-centered (student preparation, student
characteristics, major, course-taking patterns, etc.) and those factors that are
institutionally-centered (course scheduling, academic requirements, etc.).
Isolating the factors could lead to policy changes that could increase the number
of completions and shorten the average time it takes to complete.

Results of this effort could contribute to the development of a postsecondary
early warning system.

- **Product 1.3.4: Analysis of bias in unadjusted feedback-type reports**

  An analysis to determine whether or not unadjusted feedback-type reports
  provide accurate guidance regarding the outcomes of particular programs,
  schools or degrees. This is about the extent to which selection bias differentially
  affects these assessments.   If a school's naive feedback report shows it leads to
  better outcomes than another school, is that result likely to be "real" or an
  artifact of selection bias?

The following study will be conducted by the Area Health Education Center (AHEC) at
Washington State University.

- **Product 1.3.5: Addressing modifiable community characteristics impacting
  postsecondary educational success**

  Success in post-secondary education is critical for transition into living wage
  employment. ERDC has detailed information available for students in
  Washington's community and technical colleges that allows for aggregating post-
  secondary student experiences and linking student experience back to their
  community of origin. This data source currently provides demographic and
  assessment data on several tens of thousands of students annually, analysis of
  which provides a comprehensive and integrated look at factors influencing
  academic success.

  In addition to academic data, AHEC has access to extensive public data
  describing community variations in capacity and risk. Additional data sources
  include: the Healthy Youth Survey, large scale (>100,000 respondents)
  anonymous youth surveys of risk and protective factors that is school district
  specific; the Centers for Disease Control and Prevention Behavioral Risk Factor
  Surveillance System annual survey; community economic indicators; population
  level risk indicators developed by the state Department of Social and Health
  Services describing a range of health, social well-being, and law enforcement risk
  measures; and census information. All data can be linked to school buildings or

districts using geographic coding, facilitating unified data sets for analysis of the impact of community characteristics on academic outcomes.

The Washington State University (WSU) Child and Family Research Unit has developed analysis strategies using geo-coded data to document the impact of community characteristics on academic outcome and youth risk. Existing educational data for groups of students can be linked with other data sources describing community risk and protective factors. Using this approach a report, *No Schools Alone http://ofm.wa.gov/reports/,* was completed at the request of the Washington State legislature and released in March 2015. This report demonstrated that community factors including population-level poverty, adult risk characteristics, and youth risk factors, were significant predictors of academic success. Risk was established beginning in third grade and continuing through high school graduation. Specifically, the report demonstrated that adult and youth experience of adverse childhood experiences (ACEs) are significant predictors of academic success, even after controlling for poverty and ethnicity. ACEs proved to be an effective unifying mechanism in the population to represent a wide range of social risk factors. The significance of the ACEs framework is that by addressing developmental trauma resulting from ACEs, a range of new and existing intervention practices can be identified to help schools and post-secondary institutions address the effects of ACEs.

This grant would be used to expand on this existing work to address the role of community characteristics for recent high school graduates and dropouts who are transitioning into post-secondary education. The goal of this study addressing postsecondary school readiness is to document the community risk and protective factors that describe local community variations in postsecondary academic success. Addressing the community contextual issues that define risk and potential for success offers new mechanisms to describe community-level interventions and policy actions that can influence overall educational success. The intent is to particularly test the utility of ACEs as a social risk factor in post-secondary educational success. ACEs has emerged as a national policy framework in recent years and demonstrating its utility in educational policies would help position the educational systems more strongly in this rapidly emerging national framework. In addition, the ACEs framework provides a new risk framework that can be associated with well-established intervention practices that could be adopted in high school supports and in student support services in post-secondary institutions.

Existing P20W data required for this group of products includes the full set of postsecondary enrollment and completion data and K12 data. ERDC will provide a linked dataset to AHEC for Product 1.3.5.

Learning more about the differences across the different groups will support efforts to increase the state's college completion rates.

Products in Outcome 1.3: P20W transitions, will answer a variety of research questions.

1. What factors are associated with community college students transferring to a four-year institution?
2. Are there K12 characteristics that affect STEM study in college?
3. What information, student data and community factors, is needed to help college advisors identify students at-risk of dropping out?

Some higher education institutions are doing this work at a campus level and are finding successful practices. Doing this work at a statewide level and involving a variety of stakeholders will increase communication about research being done at the local level. This information will also be helpful in policy and budget discussions at the state level about funding postsecondary education, increasing attainment and supporting workforce needs.

Outcome 1.4: P20W Data Coaching

While P20W questions are not new, the availability of P20W answers is, and many educators and policymakers are unaware of the analytical possibilities this new resource presents. In Washington, nine regional Education Service Districts (ESDs) have formed a network that will serve as the basis for new data coaching activities related to P20W data.

- **Product 1.4.1: Incorporate P20W elements into data coaching**

  ERDC and OSPI will work with the regional education service districts and their existing network of data coaches, along with the regional workforce development councils and postsecondary institutions to bring the different education and workforce sectors together and train people in the uses and applications of P20W data.

- **Product 1.4.2: Cultivating communication with P20W data consumers**

  The proposed work also includes a major effort in cultivating communication with potential P20W data consumers to understand the decisions they are trying to make and what form the data provided to them should take. This information will fuel improvements in existing dashboards and will identify elements of future reports.

The sky is the limit on the research and policy questions that will be answered with Outcome 1.4: P20W data coaching. Empowering educators and workforce development staff at all levels of the system will increase use of P20W with the goal of smoothing transitions between education and workforce sectors. Bringing people from all levels of the system will increase communication about local programs and practices with the goal of focusing on individual student needs.

Outcome 1.5: Expansion of Online Reporting

ERDC has successfully implemented online High School Feedback Reports (HSFR) that examine postsecondary enrollment for high school graduates, and Earnings for Graduates (EFG) reports that report on earnings of postsecondary graduates for up to five years after graduation. Much work remains in the study of transitions from one education sector to another and from education to career, however.

- **Product 1.5.1: High School Feedback Report expansion**

  ERDC currently produces an annual high school feedback report that shows postsecondary enrollment patterns for high school graduation cohorts. The high school feedback report will be expanded to include career and technical education measures, extended postsecondary outcomes (up to six years), and employment characteristics. Also, a "first-look" fall report will be added.

  This additional information will be useful to a variety of school and community data users who have built dashboards to track not only college enrollment, but also completion. In addition, the high school feedback report does not include any employment outcomes, so districts cannot evaluate progress towards their goal of producing college- *and* career-ready citizens.

- **Product 1.5.2: Earnings for Graduates report expansion**

  The Earnings for Graduates report displays earnings of students completing certificates and degrees from Washington's public colleges and universities and for those completing apprenticeship programs in Washington. Earnings information for years one through five years after a postsecondary award are shown by award level, by major field of study, and by institution.

  ERDC will expand the Earnings for Graduates report to include employment characteristics (such as industry, number of employers, size of firm) in addition to earnings.

Expanding these two feedback reports will increase the number of questions that can be answered. Not only how many high school graduates enroll in post-secondary but also how many complete a degree and how many enter the workforce. This helps

schools districts determine if they are meeting their goals of preparing college- and career-ready students. In addition, colleges and universities are interested in the types of industries their graduates are entering. This helps programs make decisions about curriculum and course offerings.

Priority 2: Evaluation and Research

Under the Evaluation and Research priority, ERDC proposes analysis and research of educational and workforce outcomes involving early learning participants and social service clients. In addition, the grant would fund an evaluation of interventions at low-income K12 schools.

Outcome 2.1: Early Learning Studies

Washington's Department of Early Learning (DEL) has focused on data governance and the linking of early learning program data within their agency for the past few years. ERDC has produced several legislatively-mandated reports examining the outcomes of state-funded preschoolers on the kindergarten readiness assessment and other statewide assessments. In addition, ERDC has looked at K12 program participation, such as special education and English-language services, for early learning participants.

Building upon this base, DEL and ERDC will partner to increase the early learning research capacity for Washington. To this end, the following studies are proposed:

- **Product 2.1.1: Early Learning Feedback Report**

  ERDC will produce an early learning feedback report for preschool providers. A prototype was produced under the 2009 ARRA SLDS grant, and DEL and ERDC are working with Northwest Regional Education Laboratory to gather feedback from preschool providers, data coaches, and professional development providers about the report. This grant would fund the design and development work needed for a report that could be generated annually from the data warehouse. This work also includes discussions about aggregation and suppression rules to ensure PII is protected.

- **Product 2.1.2: Analysis of Early Support for Infants and Toddlers (ESIT) to Early Childhood Education and Assistance Program (ECEAP) to K12 Services**

  The goal of this work is to understand the early learning to K12 pathways by studying the student transitions from the birth-to-2-years-old program to state-funded preschool to K12 programs.

  Now that data from ESIT, ECEAP, and K12 are linked, it is possible to analyze patterns of enrollment and special education from birth-to-age-2 into K12. This

research will inform the state's ESIT program on preparing children for kindergarten and on the relationship to ECEAP and Individuals with Disabilities Education Act (IDEA) Part B preschool special education needs and services. Over time as more data become available, additional outcomes on K12 success will be incorporated.

a. What are the outcomes for children served by ESIT if determined eligible for IDEA, Part B special education disaggregated by program type: ECEAP (potentially), preschool special education and as they move into kindergarten? Are they kindergarten-ready?

b. What are the outcomes for children served by ESIT if *the child is not* determined eligible for IDEA, Part B special education disaggregated by program type: ECEAP (potentially), preschool special education and as they move into kindergarten? Are they kindergarten-ready?

c. What are the characteristics of children who do and do not qualify for IDEA, Part B special education at age 3, 5, and 8?

d. How many children served by ESIT enter ECEAP services only? What are their outcomes and are they prepared to be successful in kindergarten?

e. How lasting are the positive effects of ESIT services when the child does not qualify for IDEA, Part B preschool services at age 3 and how can we characterize them? Do these children eventually become eligible for IDEA, Part B special education services by age 8?

f. Are there different outcomes for the following two groups: children served by ESIT who are eligible for IDEA, Part B preschool special education services and continue to receive those services in kindergarten; and children who are not eligible for IDEA Part B preschool special education services and do not continue to receive those supports in kindergarten. Are children not eligible for IDEA, Part B preschool special education services who go on to ECEAP services ready for kindergarten?

g. How does participation in early intervention (IDEA Part C) services enhance children's later performance on the Special Education Child Outcomes Assessment?

h. How does participation in early childhood special education preschool (IDEA Part B) services enhance children's later performance on Washington Kindergarten Inventory of Developing Skills (WaKIDS)?

i. Are gains in performance measured from early childhood preschool assessment data to WaKIDS assessment data sustained at Grade 3?

- **Product 2.1.3: Quality rating linked to WaKIDS and third grade outcomes**

   This study will examine the relationships between the quality rating of early learning providers and outcomes on the kindergarten readiness assessment (WaKIDS) and the third grade statewide assessment.

- **Product 2.1.4: Addressing modifiable community characteristics impacting school readiness**

   Kindergarten readiness sets the stage for longer term academic success. Washington has adopted the Washington Kindergarten Inventory of Developing Skills (WaKIDS) and the progressive introduction of full day kindergarten as the state educational model. WaKIDS is organized at the school district and building levels allowing for linkage to broader community descriptors. Analysis of the WaKIDS data sets provided by ERDC will allow AHEC to produce a comprehensive and integrated look at factors influencing academic success from kindergarten through the early grades for the first time.

   In addition to the education data, AHEC has access to extensive public data describing community variations in capacity and risk, as described in Product 1.3.5 (page 18). All data can be linked to school buildings or district using geographic coding, thus permitting for analysis of the impact of community characteristics on academic outcomes. The goal of this study addressing elementary school readiness is also to document the community risk and protective factors that describe local community variations in academic success. As described above in regard to postsecondary readiness, the adverse childhood experiences (ACEs) framework provides a new risk framework that can be associated with well-established intervention practices that could be adopted in elementary school settings.

These projects will help answer questions about how students progress through the early learning sector. Questions about programs related to higher student success in K12 will also be answered. Similar to other outcome areas, the early learning system can use this information to identify successful programs so their programs and practices can be studied and understood to see if other programs learn from them.

Outcome 2.2: Education and Workforce Outcomes for Social Service Clients

The 2009 ARRA SLDS grant funded a linkage between the social service data from Department of Social and Health Services (DSHS) and education data at ERDC. DSHS completed a number of studies looking at the K12 and postsecondary educational outcomes of social service clients. Based on this work, DSHS and ERDC plan to take

advantage and update the existing linkages between education and social service data to complete additional research studies.

- **Product 2.2.1: Creation of critical questions and research agenda for the use of Temporary Assistance for Needy Families (TANF) data**

  ERDC's success is due in part to the process used to identify questions important to education and workforce stakeholders. This same process will be used to identify critical questions and create a research agenda related to linked education and TANF data. Examples of questions include:

  1. What are the educational outcomes (K12) of children who receive TANF assistance and how do they compare with similar children who are not receiving TANF assistance?
  2. What are the post-secondary and workforce outcomes for TANF/WorkFirst parents and how do they compare to similar non-TANF parents?
  3. What are the post-secondary and workforce outcomes for Basic Food parents and how do they compare to similar non-BF parents?

- **Product 2.2.2: Linking TANF and ERDC data**

  The goal of this product is to pull the appropriate TANF and ERDC data that will allow researchers to answer the critical questions identified in the research agenda from Product 2.2.1.

The DSHS Research and Data Analysis Division (RDA) developed and maintains the DSHS Integrated Client Database (ICDB). The ICDB extends back to July 1998 for all DSHS and Medicaid clients and includes services for over 2 million people per year. The foundation of the ICDB is a sophisticated matching algorithm that maintains a personal identifier crosswalk for service and event records derived from different data systems. The ICDB has been useful in such tasks as estimating the prevalence of behavioral health risk factors from a combination of medical and behavioral health services and arrest charges, and in measuring key outcomes for DSHS clients such as employment, criminal justice involvement, and medical service utilization and costs.

The 2009 ARRA SLDS grant funded the development of a linkage between the ICDB and education and workforce data at ERDC to facilitate the completion of specific research and measurement projects. The research and evaluation projects proposed here will be drawn from the resulting infrastructure. Specifically, these projects will leverage a unique, integrated, longitudinal education and social services database called INVEST, which combines education data maintained by the ERDC, with longitudinal, integrated health and human service data in the ICDB. This database includes individual level information on educational attainment, services and progress, health, mental health,

alcohol and drug issues, child abuse and neglect, developmental delays, poverty levels, birth, death, arrests, convictions, juvenile rehabilitation, homelessness, and employment for all of the one in three Washington State residents served by DSHS and the Health Care Authority, and more than half of the children and youth in the state. As a result of the ARRA funding, RDA completed nine groundbreaking studies looking at the K12 and postsecondary educational outcomes of social service clients. Expanding on this work, RDA plans to work collaboratively with ERDC to leverage existing linkages between education and social service data to complete three additional research projects.

The DSHS projects will be conducted by project teams that include members from both RDA and ERDC. All DSHS projects will involve significant attention to issues around the protection of confidential data, as much of the service information is subject to federal rules such as HIPAA and 42CFR part II, in addition to the FERPA rules that govern education data. The Washington State Institutional Review Board (WSIRB) will be consulted for specific policies and required procedures for each individual project.

RDA will serve as liaison to health and social service program partners to ensure that each project is timely and has both program and policy relevance. Reports and final analyses resulting from each project will be shared with key stakeholders from each affected program area. For example, the results of the project focusing on children with behavioral health needs will be shared with the Division of Behavioral Health and Recovery Children's Behavioral Health Data Quality team and the Behavioral Health Advisory Committee, two key groups with consumer representation that are involved in making programmatic decisions and policy recommendations related to publicly funded behavioral health services. These stakeholder groups and program partners can use the results to inform and improve programs and policies that affect outcomes in pre-school, K12, and postsecondary education systems.

- **Product 2.2.3: Evaluation study of statewide prevention interventions for adolescent substance abuse and education outcomes**

    The goal of this study is to review the characteristics and educational outcomes of youth receiving publicly funded prevention services. The DSHS Division of Behavioral Health and Recovery maintains a statewide database of prevention services provided at the individual level. This project will facilitate new system data integration with the added benefit of providing programmatic feedback about publicly funded prevention services.

    Services recorded in the Performance-Based Prevention System (PBPS) include a mix of evidence-based programs and interventions indicated for high risk youth (e.g., Project Success) and designed for universal prevention (e.g. Project Alert).

The main focus of this project will be: (1) creating a method for linking PBPS data to INVEST; (2) reporting detailed characteristics and DSHS service histories for prevention service participants; and (3) reporting education outcomes for prevention service participants by program.

The majority of the youth receiving prevention services recorded in PBPS occur in school settings and all of the services are aimed towards improving outcomes for school-aged youth. Information on participant demographics, medical eligibility and other DSHS services received will assist the programs in identifying the level of program coverage, points of intervention, additional risk factors for youth who participate in the programs, as well as the overall school performance for participants.

- **Product 2.2.4: Study to identify predictors of educational outcomes for children and youth in foster care**

  The goal of this study is to identify combinations of risk factors that are associated with educational performance for children in foster care placement such as grade progression, graduation, meeting test standards, and college enrollment. Prior studies conducted by RDA in collaboration with ERDC have demonstrated poor education outcomes for high risk populations that are associated with complex individual, family, school and other social and health risk factors. Additionally, children in foster care placement are at particular high risk for developing behavioral health problems and for becoming homeless, and have increased representation in special education programs compared to other children served by DSHS. The development of more sophisticated statistical models and analyses leveraging information from K12, postsecondary education, and social and health services data sources will help policy makers and program administrators identify areas for improvement across systems that will ultimately improve the chances of school success for children in foster care.

- **Product 2.2.5: Risk models**

  Behavioral health needs have consistently emerged as risk factors for poor educational outcomes, as well as for juvenile justice involvement. Additionally, school-related risk factors such as low GPA, unexcused absences, and number of school moves are consistently found to be problematic for these children. Developing risk and outcome measures for children with behavioral health needs has been a focus in Washington State since HB 1088 (2007-08) was passed with the intent of *"Improving delivery of children's mental health services."* This bill required the development of outcome-based performance measures for children with mental illness, and specifically referred to monitoring school

performance for this population. Measures to address this requirement have since been developed and reviewed by program administrators in the behavioral health system, resulting in a desire to focus on improving these outcomes. To further this work, risk models will be developed for educational outcomes for DSHS youth with behavioral health needs, leveraging information from both social service and educational data systems. Analyses will focus on this high risk population and include indicators of interest such as specific behavioral health characteristics (e.g., diagnostic and medication categories, behavioral health service histories), child welfare, juvenile justice system involvement, economic stressors, and homelessness, in addition to educational risk factors such as school moves and poor attendance. The goal of this work is to identify a combination of risk factors associated with poor school performance for children and youth with behavioral health needs that can be addressed through improved services and programming. This project expands on our prior work funded through the 2009 ARRA P20 SLDS grant and adds more sophisticated and detailed analyses and modeling to address the complex relationships between behavioral health and educational experiences.

Completing tasks in Outcome 2.2 will allow the social services agency to identify successful interventions, as defined by education and workforce outcomes, and create risk models for social workers, similar to early warning systems in education. This will help in determining investment of resources and decisions about which interventions work best for particular needs.

Outcome 2.3: K12 Study of Low-Performing Schools

- **Product 2.3.1: Evaluation of Student Outcomes in Low-Performing Schools**

    Washington developed a multi-tiered framework of supports and services aligned with the state's accountability system to help target resources for the lowest performing schools and their districts in the state. The state uses data on state assessments in mathematics and reading and, if applicable, adjusted 5-year cohort graduation rates, to identify the lowest performing schools. The lowest performing schools and their districts include Priority and Focus Schools and their districts, School Improvement Grantees and their districts, and Required Action Districts and their identified schools (Level 1 and Level 2).

    As described in the framework, the former receive lower levels of support and services, more flexibility, and lower levels of oversight, while the latter may receive more oversight and regulated support.

    Using the P20W data to identify schools and districts to study, the evaluation would examine qualitatively, "What are the impacts of the multi-tiered

framework of supports, services, and oversight (e.g., differentiated leadership and instructional coaching) on educator practices and student outcomes in lower performing schools?"

In addition to the academic data, data describing community variations in capacity and risk, such as those described in Product 1.3.5 (page 18) may be incorporated into this study.

Truly understanding why an intervention works or does not work is necessary when making decisions about how to increase achievement at a school. While many current interventions are supported by the research, it is always more helpful to understand the best conditions for certain programs or policies.

Outcome 2.4: Improving Research Data Access

- **Product 2.4.1: Improve access to existing P20W SLDS data**

  Currently, staff focus on responding to information requests for datasets or aggregated tables of data, and often several requestors are seeking similar data. Displaying these commonly-requested datasets in a dashboard setting and making related datasets available for download would improve efficiency for both education agency staff and for educators who are looking for readily-available data. Products developed in this effort will be used as part of the data coaching activities proposed as Product 1.4.1.

- **Product 2.4.2: Dataset supporting "Getting Ready to Succeed"**

  Children from Hispanic/Latino families lag behind their white peers on numerous measures of life success. Evidence suggests that these gaps emerge early, with Hispanic children less likely than white children to take advantage of critical public services, such as quality preschool programs, that have been shown to support positive development. These gaps continue once children begin school, with Hispanic students more likely to be retained in grade, and receive special education services because of learning or behavioral disorders.

  In collaboration with Abt Associates (and their work co-leading the National Research Center on Hispanic Children and Families NRCHCF), University of Washington-Tacoma (UWT), and Washington State Center for Court Research (WSCCR), ERDC will develop a de-identified individual-level cross-agency database that will support studies focusing on the experiences of Hispanic children and their families as they navigate the complex web of social services, publicly-funded early education and the K12 system, with an emphasis on early childhood outcomes.

This dataset will be foundational in enabling a wide variety of studies focused on understanding the reasons behind disparities across race/ethnicities beginning in early childhood and will support an Abt Associates/NRCHCF research effort "Getting Ready to Succeed: Identifying indicators of strength and resilience among low-income Hispanic families with young children."

- **Product 2.4.3: Dataset supporting "Gateways to Juvenile Justice Involvement"**

In collaboration with Abt Associates (and their work co-leading NRCHCF), UWT, and WSCCR, ERDC will develop a de-identified individual-level cross-agency database that will support research dealing with racial and ethnic disparities in late adolescence. This dataset will be foundational in enabling a wide variety of studies focused on understanding the reasons behind disparities across race/ethnicities ranging from performance on state tests and high school graduation to juvenile court involvement and incarceration.

The dataset will include longitudinally-linked data on family background characteristics and social service use, linked in turn to early education, K12 and juvenile court data. The data product will provide policy makers and practitioners with critical, new information regarding how characteristics such as country of origin, immigration status, parent's educational level, and familiarity with English may be associated with families' use of public services as well as the effectiveness of those services in preparing children to begin kindergarten with the skills to succeed in school and to complete school ready to succeed in society. It will support an Abt Associates/NRCHCF research effort "Gateways to Juvenile Justice Involvement: Social service needs and usage, demographics, racial/ethnic disproportionality, and the 'school-to-prison pipeline.'"

- **Product 2.4.4: Data Gap Analysis**

Abt Associates/NRCHCF has identified critical questions related to the study of disparities across race/ethnicities beginning in early childhood and extending into adolescence. These include, but are not limited to, the following:

- Among families whose children used childcare subsidies between the ages of birth and three years, what percentage also received some other social, health, and/or economic service before kindergarten entry? To what extent did patterns of other service use differ for Hispanic families, compared to other racial/ethnic groups with young children in Washington? Among Hispanic families, do these patterns differ according to characteristics such

as immigrant status, country of origin, language spoken at home, poverty rates, and proportion of Hispanic residents in a given community?

- Among families whose children used childcare subsidies between the ages of birth and three years, and in comparison to families that did not, was the use of other social, health, and economic services before kindergarten entry associated with high scores on measures of social-emotional, physical, cognitive, language, literacy, and mathematics skills at kindergarten entry? Did these relationships differ systematically for Hispanic and non-Hispanic children?

- What is the relationship over time between special education eligibility, academic performance, school discipline, and juvenile justice involvement, and how does this pathway differ for Hispanic populations compared to other racial/ethnic subpopulations? In other words, what are the correlates, predictors and results of racial/ethnic disproportionality across the developmental spectrum from school achievement to discipline to court involvement?

The data gap analysis will compile metadata related to all datasets available to address these questions and identify any data gaps or inconsistencies that exist. For example, do data sources collect more detailed race/ethnic data than the seven reporting categories used for federal reporting in the K12 arena? Are Hispanic/Latino ethnicity and race detail collected separately (as in the US Census)?

The data sources that will be used to address these questions include education and employment elements stored in the P20W SLDS; demographic and social service use data; and juvenile court data from AOC. The analysis will also identify additional data elements that might be incorporated into the analysis such as community characteristics and locale (e.g., urban, suburban, rural) and the means to acquire these elements.

The work associated with Outcome 2.4 will make additional datasets available to researchers in the area of P20W education and employment outcomes (Product 2.4.1), and two complex cross-agency databases supporting future studies focusing on the experiences of Hispanic children and their families as they participate in social services, publicly-funded education, and as some touch the juvenile justice system (Products 2.4.2 and 2.4.3). Results of the data gap work (Product 2.4.4) will create a resource that will inform the types of research and policy questions that can be answered using juvenile court data and early learning data linked with education and social service data.

(c) Timeline for Project Outcomes

The tables that follow show the timeline for completion of outcomes proposed in this application. The "Party Responsible" entries indicate the agency or organization performing the work. Organizations other than OSPI or ERDC (primary contractor) are subcontractors under contract with ERDC.

Coordination with existing grants: Funding through a 2012 Workforce Data Quality Initiative (WDQI) grant will end on June 30, 2015. Washington has applied for a 2015 WDQI grant, but awards of these grants have not been announced. In any event, work proposed in this application does not overlap work being completed in the 2012 grant or work being proposed in the 2015 grant application.

Priority 1: College and Career

		Party Responsible	Duration (months)	Start	Finish
Outcome 1.1: P20W Outcomes for Juvenile Offenders					
1.1	Outcome 1.1	ERDC	48	10/01/2015	09/30/2019
1.1.1	Outcomes by juvenile probation sentencing	WSCCR	12	10/01/2015	09/30/2016
1.1.2	Outcomes by juvenile detention sentencing	WSCCR	6	10/01/2016	04/30/2017
1.1.3	Outcomes by type of juvenile justice involvement	WSCCR	12	05/01/2017	04/30/2018
1.1.4	Outcomes for multi-system-involved children	WSCCR	12	05/01/2018	04/30/2019
1.1.5	Outcomes for adult vs. juvenile sentencing	SAC	12	05/01/2018	04/30/2019
1.1.6	Standardized juvenile justice report	SAC	12	10/01/2015	09/30/2016
1.1.7	Analysis of students involved in truancy petition process	SAC	12	10/01/2016	09/30/2017
Outcome 1.2: Studies Incorporating Financial Aid					
1.2	Outcome 1.2	ERDC	48	10/01/2015	09/30/2019
1.2.1	Study on the effectiveness of financial aid	ERDC	12	10/01/2015	09/30/2016

		Party Responsible	Duration (months)	Start	Finish
1.2.2	Predictive models incorporating financial aid structure	ERDC WSAC	12	10/01/2016	09/30/2017
1.2.3	Analysis of postsecondary outcomes of lower-income high school graduates	ERDC WSAC	12	10/01/2017	09/30/2018
Outcome 1.3: P20W Transitions					
1.3	Outcome 1.3	ERDC	48	10/01/2015	09/30/2019
1.3.1	Community and technical college transfer study	ERDC	12	10/01/2015	09/30/2016
1.3.2	STEM analysis	ERDC	12	10/01/2016	09/30/2017
1.3.3	Predictive models for postsecondary education completion rates	ERDC	12	10/01/2017	09/30/2018
1.3.4	Analysis of bias in unadjusted feedback-type reports	ERDC	12	10/01/2018	09/30/2019
1.3.5	Study: Addressing modifiable community characteristics impacting postsecondary educational success	AHEC	18	07/01/2017	12/31/2018
Outcome 1.4: P20W Data Coaching					
1.4	Outcome 1.4	ERDC	48	10/01/2015	09/30/2019
1.4.1	Incorporate P20W elements into data coaching	ERDC	48	10/01/2015	09/30/2019
1.4.2	Cultivating communication with P20W data consumers	ERDC	48	10/01/2015	09/30/2019

		Party Responsible	Duration (months)	Start	Finish
Outcome 1.5: Expansion of Online Reporting					
1.5	Outcome 1.5	ERDC	48	10/01/2015	09/30/2019
1.5.1	High School Feedback Report expansion	ERDC	12	10/01/2015	09/30/2016
1.5.2	Earnings for Graduates report expansion	ERDC	12	10/01/2016	09/30/2017

Priority 2: Evaluation and Research

		Party Responsible	Duration (months)	Start	Finish
Outcome 2.1: Early Learning Studies					
2.1	Outcome 2.1	ERDC	48	10/01/2015	09/30/2019
2.1.1	Early Learning Feedback Report	ERDC	12	10/01/2015	09/30/2016
2.1.2	Analysis of ESIT to ECEAP to K12 services	ERDC	12	10/01/2016	09/30/2017
2.1.3	Quality rating linked to WaKIDS and third grade outcomes	ERDC	12	10/01/2017	09/30/2018
2.1.4	Addressing modifiable community characteristics impacting school readiness	AHEC	18	01/01/2016	06/30/2017
Outcome 2.2: Education and Workforce Outcomes for Social Service Clients					
2.2	Outcome 2.2	ERDC	48	10/01/2015	09/30/2019
2.2.1	Creation of critical questions and research agenda (TANF) data	ERDC DSHS	12	10/01/2015	09/30/2016
2.2.2	TANF and ERDC data needed to answer questions	ERDC DSHS	12	10/01/2016	09/30/2017
2.2.3	Evaluation study of statewide prevention interventions	DSHS ERDC	12	10/01/2015	09/30/2016

		Party Responsible	Duration (months)	Start	Finish
2.2.4	Study to identify predictors of educational outcomes for children and youth in foster care	DSHS ERDC	12	10/01/2016	09/30/2017
2.2.5	Risk models	DSHS ERDC	12	10/01/2017	09/30/2018
Outcome 2.3: K12 Study of Low-Performing Schools					
2.3	Outcome 2.3	ERDC	48	10/01/2015	09/30/2019
2.3.1	Evaluation of student outcomes in low-performing schools	ERDC	24	01/01/2016	12/31/2017
Outcome 2.4: Cross-Cutting Data Gap Analysis					
2.4	Outcome 2.4	ERDC	48	10/01/2015	09/30/2019
2.4.1	Improve access to existing SLDS data	OSPI	48	10/01/2015	09/30/2019
2.4.2	Dataset supporting "Gateways to Juvenile Justice Involvement"	NRCHCF ERDC	12	01/01/2016	12/31/2016
2.4.3	Dataset supporting "Getting Ready to Succeed"	NRCHCF ERDC	12	01/01/2017	12/31/2017
2.4.4	Data gap analysis	ERDC	12	01/01/2018	12/31/2018

(d) Project Management and Governance Plan

Leadership and Project Management

The state education agency, Office of Superintendent of Public Instruction (OSPI), will serve as the fiscal agent for this project. OSPI will contract with Washington's P20W office, ERDC, which will manage the project.

Washington's P20W SLDS is based in ERDC, within OFM. ERDC works in partnership with OSPI as well as all other public education agencies of the state, the six public baccalaureate institutions, and the Employment Security Department (the State Workforce Agency). Figure 2 in Appendix A shows the State of Washington agency organization chart and the relationships among all state agencies and institutions referenced in this document.

Dr. James Schmidt, ERDC Director, has been involved in all aspects of ERDC work since its creation, including the successful management of activities related to the 2009 ARRA SLDS grant and a 2012 WDQI grant. He currently manages the statewide P20W data system and will manage this project, as well. He will provide critical leadership and serve as a communication link between ERDC, OSPI, all partners involved in the proposed work, and all other interests. He will also provide overall project leadership and oversight to ensure that project work is completed successfully. Finally, he will monitor all aspects of the project on a frequent basis, and will be the single point of contact for the proposed work.

Governance Structure

ERDC was created by the Legislature in 2007 (RCW 43.41.400). The law identifies all the state agencies required to enter into data-sharing agreements with ERDC to assist in the building of a P20W data system. These agencies include early learning, K12, postsecondary education and employment. However, while state law can mandate the creation of data-sharing agreements, it cannot mandate trust. Funded by the 2009 ARRA SLDS grant, ERDC created a data governance structure (See Appendix A) that includes all data contributors and a large number of data users and focuses on building trust of all those included. As part of that trust building, the predecessor to the Research and Reporting Coordinating Committee, created a memorandum of understanding (Appendix C) that had signers recognize ERDC as the source of P20W data.

ERDC's governance structure will be used to provide communication of grant activities to current data partners and new partners as a result of the grant funding. In relation to partners identified in this grant, the data governance structure already includes the Washington State Center for Court Research, the Washington Student Achievement Council, Office of Superintendent of Public Instruction, Department of Early Learning and Department of Social and Health Services Research and Data Analysis. The current data governance structure will be expanded to include those partners not already participating in the data governance process.

The products funded in this grant will be managed using performance-based contracts. In terms of obtaining and utilizing input of intended users, a large number of the products identified are based on the request of data users outside of ERDC. ERDC and their partners will work with interested stakeholders to ensure that the products meet the needs of intended users.

(e) Staffing

The outcomes described in this proposal involve research- and product-oriented activities similar to those normally handled by ERDC. Existing data governance and data warehouse practices will be followed in managing the additional work. **Dr. Melissa Beard**, ERDC Data Governance Coordinator, will work with established advisory committees as the work progresses and will develop new or revised data-sharing agreements if necessary. Dr. Beard has developed the ERDC data governance program, since it was originally funded by the 2009 ARRA SLDS grant. **Tim Norris**, Data Warehouse Coordinator, will coordinate data acquisition with data stewards from agencies providing data new to ERDC. Mr. Norris has over 20 years of experience managing data projects in Washington state government agencies.

ERDC researchers hired under this grant will be incorporated into existing ERDC research teams, and experienced ERDC researchers will work with grant-funded researchers in instances where new relationships are developed.

Priority 1: College and Career

Outcome 1.1: P20W outcomes for juvenile offenders

ERDC will hire education research analysts to assist in the completion of the products identified. ERDC staff will also work with Dr. Carl McCurley with the Washington State Center for Court Research (WSCCR) within the Administrative Office of the Court (AOC) and Ms. Thea Mounts with the Statistical Analysis Center (SAC). As manager of WSCCR, Dr. McCurley has already began working with linked juvenile justice and education data from ERDC and his major task has been to engage program managers and policy makers to understand the data and tools needed to improve performance of court-based programs. As the SAC director, Ms. Mounts and her researchers work with criminal justice data and have experience providing analyses for policy makers.

Outcome 1.2: Studies incorporating financial aid

ERDC will hire education research analysts to assist in the completion of the products identified. ERDC staff will also work with Dr. Alan Hardcastle, the director of research at the Washington Student Achievement Council. Dr. Hardcastle will provide his knowledge of the financial aid data.

Outcome 1.3: P20W transitions

ERDC will hire education research analysts to assist in the completion of the products identified. ERDC staff will also work with Dr. Chris Blodgett, director of the Area Health Education Center and Child and Family Research Unit, Washington State University. Dr. Blodgett has already produced a similar product for the Legislature, *Report on Community Factors and Academic Success*, that will serve as a foundation for the work funded in this proposal.

Outcome 1.4: P20W data coaching

Dr. Beard, data governance coordinator with ERDC, will work with the Office of Superintendent of Public Instruction (OSPI) and its network of data coaches to train educators on using P20W data. In addition, she will contract with a marketing firm and a technical writer to assist in the completion of the products identified. This work fits under Dr. Beard's current responsibilities and her recently completed research on K12 educator use of P20 data.

Outcome 1.5: Expansion of on-line reporting

ERDC will hire education research analysts to assist in the completion of the products identified.

Priority 2: Evaluation and Research

Outcome 2.1: Early learning studies

ERDC will hire education research analysts to assist in the completion of the products identified. ERDC staff will also work with Dr. Chris Blodgett, director of the Area Health Education Center and Child and Family Research Unit, Washington State University. Dr. Blodgett has already produced a similar product for the Legislature, *Report on Community Factors and Academic Success*, that will serve as a foundation for the work funded in this proposal.

Outcome 2.2: Education and workforce outcomes for social services clients

ERDC will hire education research analysts to assist in the completion of the products identified. ERDC staff will also work with Dr. Barb Lucenko and Melissa Ford Shah with the Research and Data Analysis division (RDA) at the Department of Social and Health Services. Both Dr. Lucenko and Ms. Ford Shah were involved in completing analyses using linked social services and education data funded by the 2009 ARRA SLDS grant.

Outcome 2.3: K12 study of low-performing schools

ERDC will hire a contractor to perform this qualitative work.

Outcome 2.4: Cross-cutting data gap analysis

ERDC will hire education research analysts to assist in the completion of the products identified.