

ENVISIONING THE NATIONAL POSTSECONDARY DATA INFRASTRUCTURE IN THE 21ST CENTURY

The National Student Clearinghouse as an Integral Part of the National Postsecondary Data Infrastructure

BY AFET DUNDAR AND DOUG SHAPIRO

NATIONAL STUDENT CLEARINGHOUSE® RESEARCH CENTER™

MAY 2016

NATIONAL STUDENT CLEARINGHOUSE
RESEARCH CENTER

 POSTSEC
DATA

Afet Dundar, Ph.D., is associate director of the National Student Clearinghouse Research Center. **Doug Shapiro**, Ph.D., is executive research director of the National Student Clearinghouse Research Center.

This paper is part of the larger series *Envisioning the National Postsecondary Data Infrastructure in the 21st Century*. In August 2015, the Institute for Higher Education Policy (IHEP) first convened a working group of national postsecondary data experts to discuss ways to move forward a set of emerging options for improving the quality of the data infrastructure in order to inform state and federal policy conversations. The resulting paper series presents targeted recommendations, with explicit attention to related technical, resource, and policy considerations. This paper is based on research funded in part by the Bill & Melinda Gates Foundation. The findings and conclusions contained within are those of the author(s) and do not necessarily reflect positions or policies of the Bill & Melinda Gates Foundation or the Institute for Higher Education Policy.

Executive Summary

In this paper we describe in detail the existing content, value, uses and costs of the National Student Clearinghouse (NSC) system as a component of the national postsecondary data infrastructure. We also describe some limitations to its use related to the data's ownership and the agreements that govern its use. Unlike many other papers in this series, this paper recommends an incremental approach rather than a new data collection system or a change in policy, regulation, or legislation. The data and the infrastructure we recommend already exist. We suggest four paths to making better use of this comprehensive national resource to meet the needs of policy, accountability, research, and consumer information audiences.

Introduction

NSC is a self-sustaining, independent nonprofit organization, built as a voluntary data ecosystem that provides administrative services directly to colleges and universities, as well as data verification, exchange, research, compliance, and analytic services to entities in nearly all reaches of the education community. It has evolved over the past 23 years to serve a large majority of higher education institutions and to perform many of the functions of a national student-level data system, as well as many other functions that likely would not be performed by a public system. It currently covers all types of students, in all types of institutions, in all states. NSC supports not only the efficient exchange of information among entities engaged in education and student services but also the research uses of the data, ranging from tracking and measuring student access and success outcomes to benchmarking institutional performance. The organization is able to do so with industry-leading data security and privacy protections, along with complete FERPA compliance.

NSC's greatest strength as a data collection—institutions provide their data voluntarily and at no cost—is also the source of its weakness as a tool for accountability. The institutions own their NSC data, are free to withhold it, and must consent to any public release of information using the data that identifies them by name. Unlike a governmental agency, NSC cannot enforce levels of participation or unilaterally disclose what is ultimately privately held data. However, we believe that it is possible for policymakers to work with the higher education community to achieve desired levels of transparency that would benefit all stakeholders. They can do so by building on existing successful models such as the Student Achievement Measure (SAM) and by providing direct benefits to institutions in exchange for their participation.

Technical Enhancements Needed to Strengthen NSC's Contribution to the National Postsecondary Data Infrastructure

The NSC data collection, quality, interoperability, and uses are robust and well documented (see www.studentclearinghouse.org for details). What it lacks is more participation from small institutions, a small number of key data elements (such as details of financial aid and subsequent employment), and a certain amount of data coverage within existing elements (such as student race and ethnicity as well as credits earned). These are incremental enhancements that could be added easily (in the case of new data elements) or are already in process (in the case of coverage). A more strategic, transformative need is to improve the accessibility of the data, specifically by developing a public access data facility to provide researchers and policymakers with rapid access to aggregated, anonymized results. There is currently no facility to provide self-service access to aggregate NSC data beyond the established reports that are published and distributed free of charge by the National Student Clearinghouse Research Center (these include annual high school benchmarks for postsecondary access and progression, current term enrollments, annual retention, persistence and completion rates, as well as regular reports on student mobility and degrees awarded). There are also opportunities to further enhance the interoperability of NSC with state longitudinal data systems. These systems are currently able to link their high school graduates with subsequent postsecondary enrollments and progress, but they would realize far more powerful results and benefits by leveraging NSC's ability to integrate more comprehensive data directly from school transcripts.

Resources Needed to Improve NSC's Role in the National Postsecondary Data Infrastructure

The data improvements to NSC can be accomplished through the development and broad acceptance of national standards for how to define, measure and track outcomes that institutions value. This will increase the value of the benchmarking and reporting that NSC provides to institutions, encouraging more colleges and universities to provide more of the data elements that drive the reports. Initiatives are already under way to achieve this goal, namely the metrics framework developed by the Gates Foundation and the Institute for Higher Education Policy. A parallel path to increasing the incentives for institutions to participate would be to strengthen the existing public-private partnership that has created the national postsecondary data ecosystem we have today, in

which NSC serves as a private, non-profit intermediary facilitating the regulatory data exchange between institutions and the Department of Education (ED). By working explicitly with institutional associations, accreditors, states and other stakeholders, the ED could develop additional data reporting requirements to meet national needs, with the reassurance that the NSC reporting option would ensure timely and accurate data while minimizing the burden on institutions. Finally, a public access data facility could be developed, in the model of PowerStats, with modest external funding and a time horizon of one year.

Recommended Options for Strengthening NSC as Part of the National Postsecondary Data Infrastructure

As mentioned above, we discuss four options for further strengthening the National Student Clearinghouse to better support the nation's data infrastructure needs. They consist partly of continuing the growth and development strategies that have guided NSC to this point and partly of the technical and coverage enhancements noted above. We recommend the following options to enhance NSC's capacity, reach, and effectiveness:

- ▶ Encourage and expand existing incentives, mechanisms and opportunities for voluntary transparency on the part of institutions. This means developing metrics and outcomes that offer value by benchmarking institutional improvement and student success.
- ▶ Build stronger public-private partnerships among institutions, ED, and NSC to provide enhancements to public data such as the Integrated Postsecondary Education Data System (IPEDS) with minimal increase in institutional burden.
- ▶ Develop a public access data facility that would bring PowerStats-like functionality to NSC data.
- ▶ Extend existing linkages between NSC data and local and state data systems.

The National Student Clearinghouse as an Integral Part of the National Postsecondary Data Infrastructure

Overview: NSC Data in Contemporary Data Policy Discussions

Current Status of NSC Data

The National Student Clearinghouse's (NSC) student-level data are part of a cooperative exchange model that uniquely captures the evolving pathways of postsecondary student access, progress, and outcomes. These data are collected by NSC to drive services that are aimed at helping institutions enhance the student experience and increase the efficiency and effectiveness of the education sector. Cross-institution data measure outcomes wherever and whenever they occur, allowing researchers to measure the success of students who start at one institution and finish elsewhere, and permitting policymakers to measure the effectiveness of specific transfer pathways. NSC provides value to institutions, security and privacy protections to students that meet established industry standards (http://www.studentclearinghouse.org/about/privacy_commitment.php), sufficient flexibility to researchers, and information to national and state policymakers for important decision-making. The NSC contains many of the data elements necessary to measure student progress, transfer, and completion outcomes longitudinally, with additional capabilities that a government data system would be unlikely to provide, including capturing private credentials and test scores issued by third parties outside of federal and state government jurisdiction. It also provides critical student outcomes measurements to institutions, high schools, districts, states, and other organizations, including outreach programs focused on improving college access for disadvantaged populations. The accuracy of the data is assured by its use for student-level verifications and reporting. Additionally, The Department of Education (ED) audits the data receipt process annually to assure that compliance standards are met.

NSC's system can become even more useful through enhanced partnerships with ED as well as other federal agencies, states, and institutions. These partnerships could help to enhance the types and coverage rates of data collected, define more useful and valuable measures of student outcomes, and develop ways to provide greater access to the data at lower costs for researchers, policymakers, and institutions.

Data collection

NSC was originally established to expedite and ensure accuracy of compliance reporting for postsecondary institutions. For about 23 years, as an agent of institutions, NSC has reported to lenders and servicers the enrollment status

of student borrowers. Since institutions often did not have information on aid that mobile students might have received at a prior institution, the institutions decided from the very beginning to submit to NSC the enrollment information on all students, including non-borrowers. This ensures that NSC is able to conduct enrollment reporting for all aided students on behalf of schools.

Participant institutions include two- and four-year, public, private nonprofit and private for-profit colleges and universities. Currently, the data coverage rate is 97 percent of all enrollments in Title IV, degree-granting institutions. Coverage is higher among public institutions (over 99 percent) than private institutions (96 percent for non-profits, 87 percent for for-profits). These high coverage rates for students are disproportionately comprised of data from larger institutions, however. There are many very small institutions that do not participate, so that the institutional coverage rate (based on the number of institutions only, without weighting by enrollment size) is lower. Currently, 84 percent of all Title IV degree-granting institutions participate with NSC. In other words, 16 percent of institutions do not currently provide data to NSC, but those institutions, together, only enroll a total of 3 percent of all students.

Data coverage rates have also grown over time, as more institutions joined NSC. This means that the current coverage rates only apply to recent enrollments. When an institution first joins NSC, it typically provides only one or two years' worth of historical enrollment data (newly participating institutions, by contrast, generally provide degree data spanning back for decades). This means that for analysis of historical student outcomes, including some current outcomes for students who began college more than a decade ago, the effective data coverage rates can be significantly lower; the earliest year the NSC Research Center was able to use in a national report was 2005, which included 87 percent of all enrollments in Title IV, degree-granting institutions. New schools continue to join NSC every year, however, and the Research Center publishes complete historical tables of data coverage rates, by year, state, and type of institution on its website (see: <https://nscresearchcenter.org/workingwithourdata/>).

Participation by institutions is voluntary and each institution submitting data to NSC retains ownership of their own data. NSC acts as steward of the data and agent of the institutions in their use. NSC's use of the data is allowed only in accordance with existing agreements that it maintains with each

submitting institution. These agreements specify the allowed uses and govern the ownership of the data and the terms of the agency relationship. They are designed to comply with FERPA (Family Educational Rights and Privacy Act) and to conform to data privacy best practices. A key implication of the agreements is that institution-level data, including outcomes or results derived from the data that identify the institution itself, can be made public only with the institution's consent. If NSC were to do so without consent, it is safe to assume that some institutions would simply stop providing data. This is the current reality for policymakers or others wishing to make use of NSC data. Extracting or collecting the data from NSC, although operationally and technologically far easier, is legally no different from extracting or collecting it directly from the institutions. Institutions frequently provide their NSC data for public uses voluntarily, however. Over 575 institutions currently release data through the Association of Public Land-grant University's (APLU) Voluntary System of Accountability (VSA) and Student Achievement Measure (SAM) websites after augmenting the enrollment and degree information for their students with the data from NSC. These provide a uniform and easily comparable index among institutions for a number of common metrics that are only possible with NSC data.

How might NSC be affected by the creation of a federal SURDS? NSC can continue to collect and provide data under its current business model even if a federal Student Unit Record Data System (SURDS) is created. This is because NSC currently saves higher education roughly three-quarters of a billion dollars annually through the services and analytic data it provides.¹ This includes reporting data to meet federal and state requirements, assisting institutions with enrollment management, and offering other verification services directly to schools. NSC's value to institutions nationwide could not easily be replaced by a database owned or operated by the federal government. Due to cost constraints, combined with the requirements to primarily serve regulators and consumers, a federal SURDS would probably not be able to provide the same value in data to the institutions. NSC uses the analytic power of the data to benefit institutions while never failing to meet data security and privacy standards. For this reason, despite the participation being voluntary, it is extremely rare for schools to discontinue their participation with NSC once they join. In addition to maintaining these operations, NSC could also serve as a collection point and intermediary in the data submission process, facilitating an SUR data exchange between institutions and ED, for example, in the same way it has for decades in enrollment reporting. This would preserve a level of control for the institutions, through their trusted agent, and streamline the flow of data to the ED.

Data quality

The data held by NSC include both mandatory and optional data elements. The following data are necessary for basic compliance reporting, which means that all participating institutions must report them for all students:

- ▶ First name
- ▶ Last name
- ▶ Date of birth
- ▶ Enrollment status
- ▶ Dates of attendance
- ▶ Graduation indicator and date

As a result of the latest changes in the ED's compliance reporting requirements related to reporting to the National Student Loan Data System for federally aided students (commonly known as "150 percent program rules") institutions started submitting program-level enrollment data to NSC in fall 2014. As in their basic enrollment data, schools submit this program-level data to NSC for all students, not just federally aided students. These required data elements can be found in **Appendix A**.

As part of an optional NSC service (DegreeVerifySM), institutions can also send to NSC detailed information on degrees awarded, including the degree type, level, and major, for each student (for a complete list see **Appendix B**). These data elements are currently provided for approximately 90 percent of all students in the data.

In addition to the degree data, NSC also requests a number of optional data elements from schools such as gender, race/ethnicity, enrollment major, etc. (see the complete list in **Appendix A**). These data enhance NSC's ability to provide additional services and produce research and trend reporting, but since they are not part of the institutions' mandatory compliance reporting, the coverage rate for them varies.

Definitions for the data elements required for compliance reporting are provided by ED. Optional data elements are developed in consultation with the Clearinghouse Advisory Committee (CAC). CAC members come from Registrars and Enrollment Management offices at all types of colleges and universities.

Since institutions submit data related to all of their enrolled students to NSC, they do not engage in any special cohort creation or data preparation activities for this purpose. While the amount of resources spent on submitting data to NSC may vary depending on the size of the institution and the type of Student Information System (SIS) the institution uses, in general NSC participation and reporting requires very limited staff time and minimal ongoing maintenance costs. This is because the submission files are typically produced as a

direct extraction of administrative data that is already maintained in the SIS. Even the initial cost of setting up the data extraction and submission process—a one-time technical requirement—is typically very low, particularly for users of the most common SIS products. This can be a cost consideration for some institutions, however.

Also NSC serves as an application program interface (API) for ED and can create similar API-like connections with other federal agencies. For example, NSC has been working with a coalition of institutions and veteran-serving organizations on a project to streamline the flow of education data required by the Department of Veterans Affairs (VA) in the administration of tuition benefits. Currently, institutions devote considerable resources to certifying the enrollment and eligibility of veterans, much of which involves submitting data to the VA that they have already submitted to NSC. Registrars, School Certifying Officials, advocates for student veterans, and veterans program administrators recently approached NSC to help them better serve their student veterans by building an API to transmit their existing data directly from NSC to the VA. NSC's relationship with the institutions enables the organization to serve as the reporting agent for the institutions, just as NSC reports data to ED. NSC is working currently with the VA to make this possible, effectively re-engineering the data flow with greater reliability and scale in order to enhance the efficiency of the tuition benefit system, improve services to student veterans, and simultaneously reduce the administrative burden on institutions.

Institutional registrars typically submit their students' data every 30 to 45 days, or more frequently, making the data's currency one of its unprecedented and not easily replicable strengths. Achieving this strength is no easy feat. When there are three to four data submissions per term from each institution, establishing an infrastructure that will ensure integrity of the data while also adhering to privacy and security rules is a complex technological and operational process involving validity tests and, where appropriate, feedback and alerts to facilitate error correction by the data provider. Moreover, since data collection uses standard definitions across the board, metrics can be developed and calculated in the same way for all institutions. This allows student performance to be measured at the institutional level (and soon at the program level) and compared to benchmarks at sector, state, regional, and national levels using standard measures.

Who can access the data? Outside of the relevant offices (e.g., institutional research, financial aid, etc.) located at participating institutions, access to student-level data is permitted only to researchers affiliated with an organization or institution. Their research purpose must comply with the allowable research exceptions listed under FERPA, and they must begin with their own data on a group of students that

they wish to augment with the postsecondary enrollment and degree data NSC holds. This arrangement aligns with FERPA rules, it is within the scope of the contractual rights granted to NSC by the institutions, and it does not require institutions to grant permission to individual researchers.

The StudentTracker® service is the primary mechanism for access to student level data. Through StudentTracker, researchers must submit a list of students, with individual identifiers, to query. NSC does not produce or provide such lists, nor does it verify or correct the individual identifiers submitted. The researcher must certify that the purpose of the request meets one of the allowable exceptions to the release of student-level educational records under FERPA. NSC then matches the submitted list to the appropriate student enrollment and outcomes data and returns the data to the requester.

The specific types of organizations, eligible data, and typical costs for StudentTracker requests to access the data are detailed in **Appendix B**.

Access to NSC data is also provided through special requests by organizations for custom analytic reports, produced outside of StudentTracker. These reports show results at aggregate levels that prevent both students and institutions from being individually identified. These reports can provide identifying information only in cases in which the institutions have specifically authorized NSC to do so. NSC charges fees for these reports in order to cover the analytic resources required to produce them. The following are just a few examples for this type of research:

- ▶ Persistence and completion outcomes for adult learners who returned to college after at least one year of stopout (Joint project of ACE, InsideTrack, NACPA, UPCEA)
- ▶ College outcomes for 10 finalists for Aspen Prize for Community College Excellence Program (the names of the institutions were released to Aspen with the institutions' permission)
- ▶ College Completion Outcomes for Hispanic Serving Institutions (HSI) (Excelencia in Education, aggregate results for HSI)

What other types of access and external linkages to the data are available? NSC data are accessible to local and state education agencies (LEAs and SEAs), federal agencies, and outreach organizations that hold student-level data, which they can match against NSC data. Currently, over 9,000 high schools use NSC to measure the college enrollment and persistence rates of their graduates. And, over 1,300 outreach organizations, which provide college access and support services for millions of low-income, minority and first-generation students, currently use NSC data to measure their program efficacy.

SIDEBAR 1: ACCESS TO NSC DATA

Costs to access the data are important and often a source of confusion because of NSC's diverse sources of revenue. Currently, higher education institutions pay no fee to participate in NSC or to submit data and reap the administrative benefits and cost savings that NSC offers. For example, NSC verifies student enrollment and degree information for loan servicers and guarantors, employers, and background check firms and charges a fee to these users. The services are provided on behalf of institutions that pay nothing. Indeed, in the absence of such a service, institutions would have to devote staff resources to handle these verifications, so the service allows them to serve students better, at lower costs.

NSC receives no funding or fees from the Department of Education (ED) for regular services. This includes the regulatory reporting and compliance services for the institutions, including Student Status Confirmation Reports (SSCRs), Federal Student Aid (FSA) enrollment roster reporting, and Gainful Employment reporting, all submitted directly to ED at zero cost either to the institutions or ED. ED has, on rare occasions, used StudentTracker services for its own research, such as enhancing survey responses for National Postsecondary Student Aid Study (NPSAS) and the Baccalaureate and Beyond Longitudinal Study (B&B), and measuring graduation outcomes for Pell recipients. In these cases ED pays the standard fee per student searched, similar to what other researchers and education-related organizations pay.

The vast majority of institutions that participate in NSC also choose to access the StudentTracker service, which provides detailed, student-level data on the enrollments and credentials earned by eligible students. These specialized research reports, which combine and analyze the data other institutions provide,

are offered free for all institutions, provided that they submit some optional data elements (beyond what they are required to submit for NSC's minimum participation levels) and that they also participate in the free NSC verification services. Two-thirds of the institutions currently do this and receive StudentTracker research for free.

The remaining one-third opt to pay a fee instead. In these cases, the fee is nominal: for most of the institutions, only \$0.05 per enrolled student, assessed annually, for unlimited use of StudentTracker research. A small number of institutions with minimal participation in the NSC are required to pay \$0.10 per enrolled student. Other types of organizations, such as high schools or outreach organizations pay different fees for this service. In order to better understand the StudentTracker fee structure for each type of eligible users, a complete list of services and associated fees can be found in **Appendix B**.

A wealth of data, including tools and comparisons for institutional benchmarking of student persistence, transfer, completion, and mobility at sector, state, and national levels, are currently made publicly available at no cost through NSC Research Center publications (see **Appendix B**). The Research Center annually publishes, through free PDF downloads, its reports on college access, enrollment, persistence, and completions at the national and state levels. The Center also generates institutional-level comparison reports, linked to the published reports, which are delivered directly to the institutions for their internal use. These linked benchmarking reports have been made available to the institutions at no charge for the past two years. Some of the support for these publications has come from private foundations, and the remainder were subsidized by NSC as part of its nonprofit mission.

The data also adapt rapidly to evolving institutional practices in order to serve the needs of the higher education community. For example, the recently introduced application to manage the exchange of reverse transfer data between two-year and four-year institutions was developed and launched in just 26 months. This development process began when a group of concerned institutional registrars approached NSC with an idea for streamlining a growing yet particularly arduous form of data exchange among institutions. NSC then convened and worked with an advisory task force, representing interested institutions, to define roughly a dozen new data elements—along with new file layouts and reports—and then to build validation tests, intake and exchange processes, and rules for managing data privacy and institutional agreements. In addition to this model of developing and building innovation, policymakers and ED also can and do influence what data are included. For example, the new reporting requirements for the “150% program rules” related to subsidized student loan eligibility were added to NSC's collection immediately upon issuance, enabling institutions to come into compliance with minimal effort.

NSC is piloting a new initiative that will enable authorized researchers to work more directly and easily with its data. Once the user successfully completes an NSC training the user will be able to write custom queries for producing aggregated data extracts from student-level data. These extracts will be available for each of the calculated outcomes currently published in NSC Research Center reports. Users will be able to specify desired subsets of the reported student cohorts or institutions as well as customizable levels of aggregation of the results. Under this system the users do not directly access the student-level data. Instead, NSC staff run the queries after verifying that appropriate access restrictions are met. A pilot training session was conducted in summer 2015 for three researchers from two organizations at no fee.

Linking to secondary education, SLDS, and workforce data are proven concepts. One such example is NSC's role in a recent multistate data exchange. NSC served as a contractor to the Western Interstate Commission for Higher Education (WICHE) to create and house a multistate data exchange system that allowed states to address state-specific, policy-relevant research questions. As allowed under FERPA, agencies

for the four participating states designated NSC as their authorized representative for the project. The states defined cohorts and specified which data elements to exchange. As the operator of the exchange, NSC collected the enrollments, degrees, and unemployment insurance (UI) wage records from the participating states and augmented the dataset with the StudentTracker's postsecondary data. NSC provided a state-specific dataset to the states as well as a de-identified data analysis file to WICHE. If such a multi-state system is scaled, NSC has the expertise and the technical capacity to play a major role in it.

Today, many successful student outcomes can take the form of third-party certifications, licensures, and industry credentials not captured by any institutional data. NSC currently is able to accept these types of credentials, as demonstrated in a recent pilot with a manufacturing industry credential provider. Under an agreement with this provider, data from multiple states were submitted to NSC on individuals who received an industry credential. NSC was able to trace the students' enrollment behaviors and degree awards before and after receiving the industry credential. Although these analyses were done for pilot purposes and the results were not released publicly, they demonstrate the capacity and potential for NSC to incorporate data from non-educational providers in order to better inform educational institutions about the outcomes of students and academic programs.

Data governance: Privacy and security

NSC's current systems and processes protect student privacy. All NSC reporting applications are built to facilitate complete FERPA compliance through use of Designated Directory Information (DDI), student opt-out from research, and record tracking of all re-disclosures. In all StudentTracker services NSC honors the research blocks (opt-outs) that FERPA empowers students to place on their records. These blocks are processed and maintained by institutional registrars and transmitted to NSC with each data submission file. Currently, 4 percent of all enrollment records nationally have FERPA blocks. Some states have a higher percentage than others. A complete list along with further documentation is available at <https://nscresearchcenter.org/workingwithourdata/>. It is worth noting that NSC's StudentTracker for High Schools service recently became the first-ever recipient of iKeep-Safe's FERPA badge for student data privacy protection.

Currently a student portal is in development to enable current and former students to view all their postsecondary records in one place. This will enhance both the transparency and validity of the data. Students have the right to view their educational records collected under FERPA. If a student identifies an issue in their record they will be able to contact the school that provided the information to NSC in order to request a

correction. They will also be able to see when, where, and for what purposes their records were accessed. The latter capability is currently already available through the NSC customer service center. This relies on a manual process, however, and is not widely used.

Joanna Lyn Grama's paper, "Understanding Information Security and Privacy in Postsecondary Education Data Systems" highlights three information security concepts:

- ▶ Confidentiality: protecting data from unauthorized access
- ▶ Integrity: entering data accurately and enabling only authorized users to change, move, or delete the data
- ▶ Availability: taking measures that ensure data are available when needed and IT systems are operating reliably

The major part of ensuring data security involves measures that NSC has long taken to protect data from unauthorized external access. Data security measures are also taken internally to make sure that employees access the data only for business reasons. All employees are required to go through mandatory training on Information Security Awareness on an annual basis. In addition, the data system keeps records of every transaction by employees in order to prevent access to records by internal individuals who lack an immediate business-related need.

NSC also has measures in place to protect integrity of the data, conducting checks and validations to prevent errors during data intake. If errors are discovered, NSC requests the sending institution to correct and resubmit their data. This prevents NSC employees from having to take any action that would result in altering the received data.

NSC backs up data on a regular basis to avoid loss of information. There is also a back-up system in case of major unforeseen circumstances such as power outage or other business interruption. NSC has also established measures to ensure IT systems are resistant to cyberattacks.

Action Items

As we have described, NSC is a cooperative data ecosystem built to serve institutions first and the broader education community second. Today's need for a stronger national postsecondary data infrastructure raises the question of whether it is possible to transform such a system into one that also meets the evolving policy goals of enhanced institution-level reporting, both for regulators and for students-as-consumers. This is something NSC can do only with full alignment with its participating institutions. NSC cannot force institutions to participate, and neither can it mandate levels of participation or require public disclosure of what is ultimately privately

held data. NSC does not advocate for or against specific policy positions. However, we believe that it is possible for policymakers to work with the higher education community to achieve transparency independently of an enforcement agenda. It is our view that greater alignment can be obtained by providing sufficient value and services to the institutions in exchange for transparency. We believe that by establishing common standards and metrics to enable the same data to be leveraged for both public and private purposes, regulators, consumers and institutions can move forward in partnerships that meet most, if not all, of the most pressing needs. This principle has been one of the keys to the development of the NSC dataset from its inception.

Institutions have voluntarily submitted and exchanged data through NSC for about 23 years. The system meets their needs and directly benefits them and their students because it reduces the institutional burden of regulatory compliance and enables the reporting that supports it. But it is not driven by a government need to enforce policy goals. As a result, NSC is able to provide high-quality, unbiased data for research and policy and to consistently inform the education community with a nuanced understanding of the complexity of the higher education system without a political agenda. However, this great strength of the NSC as a data collection— that is, institutions provide their data voluntarily and at no cost— is also the source of its weakness as a tool for accountability. The institutions own their NSC data; they are free to withhold it and must consent to any public release of information using the data that identifies them by name.

Nonetheless, there are important policy goals that are addressable with NSC data, even with its current constraints.

- ▶ First, NSC empowers secondary educators and college access organizations to design and validate effective programs and interventions, by providing comprehensive reporting on postsecondary student outcomes, namely identifying which of their students are progressing and succeeding in college, anywhere in the country.
- ▶ Second, NSC data can inform students, counselors, and policymakers about the effectiveness of different pathways to degree completion, like community college transfer, part-time enrollment, stopping out or delaying enrollment, and attending multiple institutions of different types.
- ▶ Third, NSC data enhances stakeholders' understanding of the inter-institutional phenomenon of student mobility. By emphasizing the extent to which a student's choice among specific institutions is typically only the first step in an educational pathway that will likely encompass several institutions, this information provides an important supplement—and counterweight—to the traditional consumer-type information that is already available through Integrated Postsecondary Education Data System (IPEDS)

data. It is one of the most important keys to driving successful outcomes for the almost 2 in 5 students today who enroll in more than one institution in pursuit of a degree.

Currently, NSC meets each of these policy goals through reports and publications that it produces for thousands of institutions, access organizations, scholarship providers, accreditors, and others. But it is important to recognize that advancement of these goals is accomplished not through provision of data to serve government accountability or student-driven market pressures. Rather, it is accomplished through transparency, analytics, and benchmarking that propel program improvement for institutions and organizations that serve students directly, enabling them to consistently and cost-effectively measure progress over time and to drive improvement on relevant outcomes for all students.

Below, we describe four actions, built on this view that we believe will move us closer to reaching the goals for a stronger national data infrastructure.

1) Encourage and Expand Voluntary Transparency

There are currently almost 600 institutions that voluntarily provide many of their NSC-calculated student success and progress outcomes to Student Achievement Measures (SAM), a publicly accessible, searchable consumer-oriented comparison tool. For the last two years, the NSC Research Center also provided over 1,000 institutions with a free annual report showing similar outcomes including their own student completion rates, along with comparative benchmark data for students in their sector nationally. In both cases these outcomes specifically leverage the student-level data that NSC's system collects, enabling institutions to measure their results even when student transfers and other nontraditional enrollment behaviors, such as stopouts and part-time study, would otherwise obscure them.

The system is capable, today, of producing even more detailed metrics, such as the success and progress of Pell recipients, students requiring remedial coursework, older students, student veterans, students enrolled in specific majors, or students from specific racial or ethnic groups, to name just a few. Data elements addressing these constructs already exist in the NSC system, and there is no current limitation, in terms of NSC's data structure or system capacity, to each institution calculating their own metrics from them. Indeed, most institutions today are using the system to calculate measures like these and to produce reports for their own students. Very few institutions publicly report these outcomes, however, generally due to the absence of incentives, processes, and expectations. Moreover, not all institutions provide the additional data elements required for NSC to produce the outcomes, so efforts by NSC to do so independently would not yield comprehensive results.

Institutions have many reasons for participating in SAM, including the desire to provide greater transparency about student outcomes and the desire to promote to their communities and potential students and funders the school's higher student success rates that become apparent when student mobility is properly examined. Institutions may also participate in SAM in order to access a richer set of comparative benchmarks. These benchmarks enable detailed comparisons among peer institutions on more meaningful metrics than are currently available in the IPEDS data that institutions use to help identify best practices, establish appropriate goals for improvement, and measure progress year to year. Outside of SAM and a few established NSC Research Center publications, however, there are no currently accepted national standards for how to measure and track many of the outcomes that institutions value. This limits the potential for benchmarking and improvement. Initiatives are currently

under way, however, such as the IHEP data framework that will provide a starting point for the field to achieve these goals.

NSC's reporting application is currently undergoing a major enhancement that is designed, with support from Lumina Foundation, to improve benchmarking opportunities for institutions. This enhancement will simplify the production of institutional reports that leverage both the available national metrics and the optional NSC data elements, thereby increasing the incentives for institutions to submit additional data and to share outcomes with their peers. As these practices grow, the costs of measurement and comparison will decrease not only for institutions themselves but also for institutional associations, state and federal regulators, and accreditors. Equally importantly, these organizations, alone or in collaboration with NSC, will be able to more readily develop and promote standard definitions of outcomes and consistent calculations for

SIDEBAR 2: METRICS FRAMEWORK

A recently released report presented a metrics framework developed by the Gates Foundation and the Institute for Higher Education Policy. The framework offers a set of metrics, developed in consensus with other organizations, institutions, and states, intended to help inform decision-making in higher education. Below, we present a table adapted from the report to show the level of availability in the NSC data for each of the key metrics.

TABLE 1: AVAILABILITY OF KEY METRICS IN NSC DATA

	Metric	Availability	
Performance	Enrollment	Available, complete coverage among NSC institutions	
	Credit Accumulation	Available, incomplete coverage among NSC institutions	
	Credit Completion	Available, incomplete coverage among NSC institutions	
	Gateway Course Completion	Not available, can be added with moderate modifications	
	Program of Study Selection	Available, complete coverage among NSC institutions	
	Retention Rate	Available, complete coverage among NSC institutions	
	Persistence Rate	Available, complete coverage among NSC institutions	
	Transfer Rate	Available, complete coverage among NSC institutions	
	Graduation Rate	Available, complete coverage among NSC institutions	
	Success Rate	Available, complete coverage among NSC institutions	
	Completers	Available, complete coverage among NSC institutions	
	Net Price	Not available, needs significant additional data capacity to add	
	Unmet Need	Not available, needs significant additional data capacity to add	
	Cumulative Debt	Not available, needs significant additional data capacity to add	
	Employment Rate	Not available, needs significant additional data capacity to add	
	Median Earnings and Earnings Threshold	Not available, needs significant additional data capacity to add	
	Loan Repayment Rate	Not available, needs significant additional data capacity to add	
	Cohort Default Rate	Not available, needs significant additional data capacity to add	
	Graduate Education Rate	Available, complete coverage among NSC institutions	
	Learning Outcomes	Not available, can be added with moderate modifications	
Efficiency	Cost for Credits not Completed	Not available, can be added with moderate modifications	
	Cost for Completing Gateway Courses	Not available, can be added with moderate modifications	
	Time to Credential	Available, complete coverage among NSC institutions	
	Credits to Credential	Available, incomplete coverage among NSC institutions	
	Cost of Excess Credits to Credential	Not available, can be added with moderate modifications	
	Expenditures per Student	Not available, can be added with moderate modifications	
	Change in Revenue from Change in Retention	Not available, can be added with moderate modifications	
	Completions per Student	Available, complete coverage among NSC institutions	
	Student Share of Cost	Not available, needs significant additional data capacity to add	
	Expenditures per Completion	Not available, can be added with moderate modifications	
	Equity	Enrollment Status (first-time, transfer)	Available, complete coverage among NSC institutions
		Attendance Intensity (full-time, part-time)	Available, complete coverage among NSC institutions
		Degree-seeking Status	Available, incomplete coverage among NSC institutions
		Program of Study	Available, complete coverage among NSC institutions
		Academic Preparation	Available, incomplete coverage among NSC institutions
Economic Status		Available, incomplete coverage among NSC institutions	
Race/Ethnicity	Available, incomplete coverage among NSC institutions		
Age	Available, complete coverage among NSC institutions		
Gender	Available, complete coverage among NSC institutions		
First-generation Status	Not available, can be added with moderate modifications		

- Available, complete coverage among NSC institutions
- Available, incomplete coverage among NSC institutions
- Not available, can be added with moderate modifications
- Not available, needs significant additional data capacity to add

new metrics. These organizations, in fact, represent some of the most promising routes for developing new standards. By leveraging the input of their member institutions and building on the ease with which new benchmarks can be put to effective use, they offer additional incentives for institutions to provide data and submit calculated metrics through NSC.

Together, these factors can further reduce the barriers to institutional transparency and reporting as the value of submitting additional data to the system grows. Thus, merely by continuing its current data collection, storage, and maintenance system while enhancing its reporting and benchmarking capabilities, NSC can increase the value of participating and sharing data for institutions. This can pave the way for further growth in voluntary accountability initiatives like SAM. It can also enable the establishment of more robust reporting requirements from accreditors without fear of unduly burdening institutions. As institutions become more comfortable with these initiatives, and more confident that reasonable measures can be calculated fairly and consistently for all institutions, NSC expects that institutional consent for public release of institution-level metrics will grow. At a certain point NSC may be able to offer a service to publish institution-level metrics nationally without threatening the continuing voluntary nature of institutions' data submissions. Although there is no concrete plan or timeline for such a service, we expect that it would start on an opt-in basis and evolve into an opt-out standard as acceptance grows.

It would take some time and effort to build support and buy-in for this solution, but progress is already measurable in the growing numbers of institutions that opt in to SAM reporting as well as the significant number of accreditors and other associations that are currently using or exploring the use of NSC data for their members. It would come at virtually no cost, either for taxpayers or for institutions. The federal government would not have to build and maintain a new SURDS, nor invest in expansion of IPEDS. Institutions would not have to expend resources on preparing and submitting new levels of data or survey responses. Indeed, institutions would receive the benefit of additional services and analytic reporting, which a taxpayer-funded system focused primarily on accountability goals would be unlikely to support. There is no difference between this option and a federal SURDS in terms of the types of data elements that could be included. In fact, it is likely to offer greater flexibility and ease of adding new data elements over time since it would not be subject to legislative or regulatory constraints.

2) Build Stronger Public-Private Partnerships

Part of the development of the NSC data system is linked to the reporting requirements established by ED for the administration of Title IV student aid. ED's regulations for institutional reporting created the set of common data elements and defini-

tions that became the core of NSC's database (i.e., first name, last name, date of birth, enrollment status, dates of attendance, address, graduation indicator and date). While institutions' participation with NSC was always voluntary, the federal requirements that NSC's enrollment reporting service evolved to meet were not. Institutions that wanted to enjoy the benefits and cost savings of having the NSC file reports directly to NSLDS on their behalf had to first provide the required raw data to NSC. And these data requirements, in turn, enabled the NSC to build the offerings of additional services—such as StudentTracker, EnrollmentVerifySM, and SAM—that provide so much additional value to the institutions.

These core data elements have been augmented over time by new reporting requirements for regulations such as Gainful Employment and the 150% program rules. In fact, today the coverage rate for the program-level data is as complete as the set of “mandatory” data that NSC collects from all participating institutions. If ED ceased to require the reporting, some institutions would likely find themselves with little reason to continue sending data to NSC. At the same time, if NSC ceased to exist, most institutions would find themselves saddled with greatly increased costs of compliance. These costs would have to be passed on to students and taxpayers, perhaps straining ED's ability to justify the regulatory burden. This is what is meant by a public-private partnership.

The partnership has been largely tacit to date, but the national postsecondary data ecosystem that we have today would have evolved much differently without NSC's presence as a private, non-profit intermediary facilitating the data exchange between institutions and ED. Strengthening this partnership, by working explicitly with institutional associations, accreditors, states, and other stakeholders, ED could develop additional data reporting requirements to meet national needs, with the reassurance that NSC's reporting option would help to minimize the burden on institutions.

Institutions that opted to participate in NSC's data services would gain additional benchmarking benefits (as in option 1 above), plus a form of insulation from potential or perceived government overreach. New reporting requirements could, for example, cover outcomes for both transfer-in and transfer-out students, providing the benefits of NSC's student-level data (the comprehensive measurement of outcomes for mobile students) to the otherwise institution-level data reported in IPEDS surveys and the College Scorecard. Allowing institutions to use NSC as a reporting option could enable additional requirements without exceeding the boundaries of the prohibition on student-level data collection by ED. In other words, NSC's ability to aggregate student-level data on behalf of the institutions would allow IPEDS to collect more comprehensive metrics. One example might be a measure of the percentage an institution contributed to the completed

degree program of each student who enrolled there, regardless of whether they had started at, finished at, transferred into, or transferred out of the institution. Another example might be simply measuring the total completion rate for students who started at the institution, counting not just students who graduated there, but also those who transferred out and graduated elsewhere.

Policymakers and other stakeholders often ask why NSC does not itself require institutions to submit additional data elements, particularly common and well-defined constructs such as race and ethnicity, credit hours attempted and enrolled, or Pell status. One reason is that it would be unfair to deprive institutions of the benefits of participating in NSC because they did not have the technical ability or resources to provide these data. Another is that, absent a regulatory requirement that spells out exactly what to report, the data actually are often not so well defined in practice. With ED setting the standards, however, these hurdles disappear. New data elements can be created with the benefits of the Department's ability to establish clear definitions and NSC's ability to implement and collect the data. The public would gain access to the outcomes without having to own the data used to calculate them. These are distinct advantages over either option 1 or a purely federal SURDS.

Depending on the types of data required and the systems and processes through which institutions had to report it, this option would entail some development costs. For example, in the case of the proposed VA reporting system cited above, NSC expects that building the API necessary to submit data directly to VA systems on behalf of participating institutions could cost between \$1 million and \$5 million, the difference reflecting the various levels of additional analytic reporting capabilities included for system users (both the VA and the institutions). The initial funding may come from private or public sources, or both, but ultimately, the expected cost savings over time for institutions and the VA more than outweigh any initial investment. If NSC were to build a similar type of API to process institutional submissions to IPEDS student surveys, we would expect the same calculations to apply. Once built, the resulting system could be made available at no cost to institutions and to ED, in the same way that all of NSC's current departmental reporting services are already free (i.e., enrollment reporting and Student Status Confirmation Reports to guaranty agencies and NSLDS, deferment forms and enrollment verifications, Gainful Employment reporting, and Reverse Transfer data exchange, all currently provided at no cost to institutions and to ED).

Short of implementing regulatory or statutory changes to require new data elements, there may also be a path, through a stronger public-private partnership, for NSC to add optional data elements upon request from the federal government.

This path would be something of a hybrid of options 1 and 2, in that NSC and federal policymakers would need to work together to establish standards for new data elements, alongside appropriate institutional incentives for submitting them. The uptake may not be immediate, of course. NSC's experience is that voluntary submission of optional data elements such as race and ethnicity, enrollment major, and class level, grew by roughly 5 percent of institutions per year with the incentive of a 50 percent reduction in StudentTracker fees.

3) Develop a Public-Access Data Facility

This option is not necessarily an alternative to options 1 and 2, but it could be a means of providing for greater usage of the NSC data, either in its existing or expanded forms. There is a clear need for broader access to the information, insights, and analyses that can be derived from NSC data on student progress and educational outcomes. As described above, NSC is currently pursuing a limited expansion of data access by offering, to qualified researchers, specialized training in how to query derived student-level data and aggregate the results. To provide the widest and most effective levels of access, however, without high levels of dedicated resources, NSC could instead develop a more self-service data facility, similar to the National Center for Education Statistics' (NCES) "PowerStats," which would permit secure access to results based on the student-level data without the need for advanced training. Under this model, all NSC data could be made publicly available, with the system enforcing the necessary privacy controls to ensure that appropriate levels of aggregation and de-identification are maintained. This part is essential, of course, because the basic rules for using data held by NSC do not change under this option: student privacy must be protected, and institutions' ability to control their own results, derived from their data, must be preserved.

Users could still select groups of institutions, however, and even select specific types of programs or types of students. They could make selections based, for example, on IPEDS characteristics, Carnegie classifications, student characteristics, or degrees awarded. Different levels of access could even be provided to different types of users. But the system would still have to comply with FERPA and with the institutional agreements that govern use of NSC data, including no institutional identifiers without the institution's consent. In practice, this means that all results produced through this application would have to be aggregated to a level of at least three institutions and at least 10 (or, even safer, 30) students. This would serve most research and policy needs, as well as many consumer needs (such as helping students and their advisors to identify appropriate pathways to attaining goals from among different types and combinations of institutions), but not the needs of regulators for institution-level accountability.

Most likely, such a system would not permit users to link or match the data to specific students using personally identifiable information (PII), the way that StudentTracker does. It is possible that even this could be offered, however, if done securely enough to prohibit any possible release of information at the individual level. It is also possible that parts of such a system, perhaps certain agreed-upon metrics for opted-in institutions, would be allowed to identify results for individual institutions. Rules for this type of access could be developed and maintained by a transparent governance structure that represented all of the relevant data stakeholders, including ED, institutions, academic researchers, and students. Access to PII and even some types of aggregate data could change significantly under various FERPA revisions or other student privacy laws under consideration in Congress.

It is also possible that such a system could be augmented with additional data, such as financial aid elements held by ED or student academic preparation data held by states and independent testing companies. An enhanced tool like this would have the potential to provide far richer measures of the effectiveness of federal student aid programs, for example, at different types of institutions, than anything currently available. If the idea of placing FSA data into a NSC system seems infeasible, it could also be possible for a shared governance entity or an independent third party, representing neither the institutions nor ED, to hold such a dataset and administer the tool for the mutual benefit of all stakeholders.

4) Extend Linkages to Local and State Longitudinal Data Systems

NSC's StudentTracker for High Schools (STHS) service enables schools, districts, and states to accurately measure the college enrollment, persistence, and completion rates of high school graduates. Currently, schools and districts that graduate about one-third of all high school seniors in the U.S. make use of the service. The users submit graduates' data to NSC, which links it to the data provided by postsecondary institutions to create records of student progress into and through college. Schools typically have constrained data and analytical resources, however, which limits the range of data they can supply, as well as their capacity to re-integrate the results into their local and state data systems. This typically means that, even though they receive information from NSC at the identified student level, they often cannot effectively use the results for improving student outcomes. The information is there to better inform and focus curricular, instructional, and advising practices that increase college success, but it requires skilled data analysts to link, analyze and synthesize that information for practice. Moreover, the relatively low rates of data coverage among high school graduates within the NSC data limit the potential to disaggregate its published national benchmarks into useful categories for schools to compare. It also reduces the ability of the broader

education community to develop more robust and standardized outcome measures for secondary education, and to leverage the national dataset to track those outcomes for research and trend analysis. Expanding secondary school coverage by improving links to local and state longitudinal data systems would remove these barriers to allow for more effective use of the NSC data.

Currently, local education agencies (LEAs) and SLDS can connect to NSC only by submitting files of high school graduates for StudentTracker queries. The student outcomes information is then returned to them, where it typically sits in siloed systems, waiting to be applied in a useful context. NSC has the potential to develop a more extensive system that would allow states and LEAs to submit a standard set of more comprehensive student data drawn from school transcripts. The system would facilitate the exchange of transcripts among high schools, and between those schools and colleges, delivering essential value to the schools while also permitting the data to be shared, analyzed, and reported for tracking school progress as well as for policy research and analysis. This follows the NSC model of developing new data capabilities by starting with the direct benefits and services that the data can deliver to its providers first. Once NSC collects the data, the existing infrastructure of data exchange and tracking would create additional benefits for those participating in the network, such as immediate connections for states to exchange the information securely and efficiently when student progression and mobility requires it. Such a system would enable more cross-state comparisons of college readiness and success, greatly increasing the knowledge of what works on the secondary side as well as what inputs are most important to understand and control for in answering questions about access and equity on the postsecondary side. For example, NSC could facilitate mapping pathways from specific high school classes or programs to postsecondary course outcomes, all with the proven protection of student data.

The legal and technical concerns to work out would vary by state and are not dissimilar from those of other interstate data models. The first is protecting the privacy of student data, and the second is building appropriate controls for who can access which types of data and which entities need to consent to the release of identified results. In both of these cases, NSC's experience in providing solutions for the postsecondary data ecosystem is applicable and comprehensive.

Conclusion

Unlike some other papers in this series, we recommend a largely incremental approach to better integrating the National Student Clearinghouse into the national postsecondary data infrastructure. While we consider changes over time in, for example, data elements or reporting requirements

a natural process, we argue for neither a new data collection system nor a change in policy, regulation, or legislation. This is because the data and the infrastructure we need for the most part already exist. NSC is a self-sustaining, independent non-profit organization, built as a voluntary data system to provide administrative services directly to colleges and universities. It supports not only the efficient exchange of information among entities engaged in education and student services, but also research uses of the data, ranging from tracking and measuring student access and success outcomes to benchmarking institutional performance. It does so with industry-leading data security and privacy protections, along with complete FERPA compliance.

As mentioned previously, the fact that institutions provide their data voluntarily and at no cost to NSC contributes to its strength as a data collection and its weakness as a tool for regulation and accountability. Institutions own their NSC data, are free to withhold it, and must consent to any public release of information using the data that identifies them by name. Unlike a government agency, NSC cannot enforce levels of participation or unilaterally disclose what is ultimately privately held data. However, we believe that it is possible for policymakers to work with the higher education community to achieve higher levels of transparency that would benefit all stakeholders. They can do so by building on existing successful models such as the Student Achievement Measure and NSC itself, which works by providing direct benefits to institutions in exchange for their participation.

The four actions that we recommend for improving the NSC will lead to more effective uses of this comprehensive national resource. They consist partly of expanding the existing incentives, mechanisms, and opportunities for voluntary transparency on the part of institutions as well as developing more clearly defined and accepted metrics that provide direct value through simplified benchmarking and reporting of meaningful institutional improvement and student success. These initiatives alone will increase the current data coverage and participation rates without additional cost. We also recommend strengthening the public-private partnerships among institutions, the Department of Education, and NSC to enhance public data such as IPEDS with minimal increase in institutional burden. Finally, we recommend developing a public access data facility, bringing PowerStats functionality to NSC data, and extending the existing linkages between NSC data and local and state data systems. Each of these initiatives will enable the student-level data that institutions already entrust to NSC to meet more of the nation's policy, accountability, research, and consumer information needs.

Endnote

- 1 The amount was estimated internally based on the number of transactions NSC performs on behalf of schools and the resources schools would have needed in the absence of NSC services.

APPENDIX A: NATIONAL STUDENT CLEARINGHOUSE (NSC) DATA ELEMENTS

Enrollment Compliance Reporting

School Code
 Branch Code
 Academic Term
 Standard Report Flag
 Certification Date
 Reporting Level
 Student Social Security Number (SSN)
 First Name
 Middle Initial
 Last Name
 Name Suffix
 Previous SSN
 Previous Last Name
 Enrollment Status
 Status Start Date
 Street Line 1
 Street Line 2
 City
 State
 Zip
 Country
 Anticipated Graduation Date
 Date of Birth
 Term Begin Date
 Term End Date
 Directory Block Indicator

Optional Data Elements Added in 2008

NCES Classification of Institutional Programs (CIP) Code for Major 1
 NCES CIP Code for Major 2
 Major Course of Study 1
 Major Course of Study 2
 Class/Credential Level
 First Time, Full Time Flag
 Degree Seeking Flag
 High School Code
 Gender
 Race/Ethnicity
 College Student ID
 State Student ID
 Email
 Good Student Flag
 Middle Name

150% Program Rules Added in Fall 2014

Program Indicator
 Program 1 CIP Code
 CIP Year
 Program 1 Credential Level
 Published Program 1 Length
 Published Program 1 Length Measurement
 Weeks Program 1 Title IV Academic Year
 Program 1 Begin Date
 Special Program Indicator
 Program 1 Enrollment Status
 Program 1 Enrollment Status Effective Date
 Program 2 CIP Code
 CIP Year
 Program 2 Credential Level
 Published Program 2 Length

Published Program 2 Length Measurement
 Weeks Program 2 Title IV Academic Year
 Program 2 Begin Date
 Special Program Indicator
 Program 2 Enrollment Status
 Program 2 Enrollment Status Effective Date
 Program 3 CIP Code
 CIP Year
 Program 3 Credential Level
 Published Program 3 Length
 Published Program 3 Length Measurement
 Weeks Program 3 Title IV Academic Year
 Program 3 Begin Date
 Special Program Indicator
 Program 3 Enrollment Status
 Program 3 Enrollment Status Effective Date
 Program 4 CIP Code
 CIP Year
 Program 4 Credential Level
 Published Program 4 Length
 Published Program 4 Length Measurement
 Weeks Program 4 Title IV Academic Year
 Program 4 Begin Date
 Special Program Indicator
 Program 4 Enrollment Status
 Program 4 Enrollment Status Effective Date
 Program 5 CIP Code
 CIP Year
 Program 5 Credential Level
 Published Program 5 Length
 Published Program 5 Length Measurement
 Weeks Program 5 Title IV Academic Year
 Program 5 Begin Date
 Special Program Indicator
 Program 5 Enrollment Status
 Program 5 Enrollment Status Effective Date
 Program 6 CIP Code
 CIP Year
 Program 6 Credential Level
 Published Program 6 Length
 Published Program 6 Length Measurement
 Weeks Program 6 Title IV Academic Year
 Program 6 Begin Date
 Special Program Indicator
 Program 6 Enrollment Status
 Program 6 Enrollment Status Effective Date

Optional Data Elements Added in Fall 2014

Veteran's Status Indicator
 CommIT ID
 Pell Grant Recipient Flag
 Remedial Flag
 Citizenship Flag
 Student Phone Type
 Preferred Phone Number Flag
 Student Phone Country Code
 Student Phone Number
 Move To Office of Postsecondary Education Identification (OPEID)

DegreeVerifySM Data Elements

School Code
 Branch Code
 Official School Name
 Standard Report Flag
 Transmission Date
 Degree Period
 Student SSN
 First Name
 Middle Name
 Last Name
 Name Suffix
 Previous Last Name
 Previous First Name
 Date of Birth
 College Student ID
 Degree Level Indicator
 Degree, Certificate, or Credential Title
 School/College/Division Awarding Degree
 Joint Institution/College/School/Division Name
 Date Degree, Credential, or Certificate Awarded
 Major Course of Study 1
 Major Course of Study 2
 Major Course of Study 3
 Major Course of Study 4
 Minor Course of Study 1
 Minor Course of Study 2
 Minor Course of Study 3
 Minor Course of Study 4
 Major Option 1
 Major Option 2
 Major Concentration 1
 Major Concentration 2
 Major Concentration 3
 NCES CIP Code for Major 1
 NCES CIP Code for Major 2
 NCES CIP Code for Major 3
 NCES CIP Code for Major 4
 NCES CIP Code for Minor 1
 NCES CIP Code for Minor 2
 NCES CIP Code for Minor 3
 NCES CIP Code for Minor 4
 Academic Honors
 Honors Program
 Other Honors
 Attendance From Date
 Attendance To Date
 FERPA Block
 School Financial Block
 Name of Institution Granting Degree

StudentTracker for High Schools Data Elements

Account Code
 Account Name
 File Transmission Date
 Diploma Period
 Student SSN
 First Name
 Middle Name
 Last Name
 Name Suffix
 Previous Last Name
 Previous First Name
 Date of Birth
 Student ID
 Diploma Type
 High School Graduation Date
 Family Educational Rights and Privacy Act (FERPA) Block

High School Name
 ACT Code
 Gender
 Ethnicity
 Economically Disadvantaged Indicator
 8th Grade State Assessment Result, Math
 8th Grade State Assessment Result, English Language Arts/Reading
 High School State Assessment Result, Math
 High School State Assessment Result, ELA/Reading
 English Learner or English as a Second Language Indicator
 Number of Semesters of Math Completed
 Dual Enrollment Indicator
 Disability Code
 Program Code

Reverse Transfer Data Elements

OPEID
 OPEID Branch Code
 File Certified Date
 Client File ID
 Student ID
 Student SSN
 Student Individual Taxpayer Identification Number (ITIN)
 First Name
 Middle Name
 Last Name
 Name Suffix
 Date of Birth
 Street Line 1
 Street Line 2
 City
 State
 ZIP
 Country
 Student Phone number
 Student Email
 Course Name
 Course Number
 Course Description
 Course-Semester Session
 Course Begin Date
 Course End Date
 Grade
 Number of Credits
 Credit Description
 Degree-granting Institutions OPEID

APPENDIX B: PRODUCTION (STUDENTTRACKER®) AND NON-PRODUCTION REPORTS: STUDENTTRACKER® PRICING MODELS
(AS OF NOVEMBER 25, 2015)

To accommodate the various audiences served by the StudentTracker Service, the National Student Clearinghouse (NSC) has established different business models for each population over the last decade. With the sole exception of the StudentTracker for High Schools segment, each population receives the same outcome reports.

StudentTracker® for High Schools

Model: Annual Subscription

Pricing: Each individual school costs \$425 per year. If a contracting authority (such as a school district) pays full price for at least two schools, then any schools with fewer than 300 students are included for free.

Data Matching: The StudentTracker for High Schools matching uses the first name, last name, and date of birth of an individual, enhanced by additional data elements such as middle initial, graduation date, etc.

Data Delivered: The member receives two types of reports. The first set of reports is an individual student-level report that details the enrollment history of the student in postsecondary schools. This report includes details such as institutions attended, dates and length of attendance, enrollment status (full time, half time, etc.), completion status, and often times the degree(s) awarded. The second set of reports are unit-level, aggregate reports, concerning the enrollment, retention, and completion behaviors for an entire graduating class from the high school.

StudentTracker for Outreach

Model: Annual Subscription with Usage Caps

Pricing: Programs purchase a set level of access for the year, based on the number of searches they believe they will need to make annually. The current tier pricing is listed in the table below:

Tier Size	Annual Search Limit	Cost
Small	5,000 searches	\$425
Medium	10,000 searches	\$1,000
Large	20,000	\$2,500

Data Matching: StudentTracker for Outreach makes use of two types of matching, depending on the permissions maintained by the program. The majority of programs make use of directory information only, restricting the matching process to the name and the date of birth for each individual. Some programs obtain signed, explicit consent from their members and are thus able to match on name and social security number.

Data Delivered: The program receives an individual student-level report that details the enrollment history of the student in postsecondary schools. This report includes details such as institutions attended, dates and length of attendance, enrollment status (full time, half time, etc.), completion status, and often times the degree(s) awarded.

StudentTracker for Other Educational Organizations

Model: Fee per Use

Pricing: These programs pay for each use of StudentTracker. Submitted files have the total number of individuals tallied, and an invoice is generated based on that number. The service charges along a stepped scale and generally per file, not per annual use. In addition, StudentTracker for Other Educational Organizations accounts carry a minimum fee per file of \$425 to cover human and administrative costs. These accounts also carry a \$500 set-up fee to cover the often extensive set-up work conducted by StudentTracker Services and StudentTracker Operations staff. The pricing model is demonstrated in the table below.

Price Band	Marginal Rate	Sample Query Size	Sample Cost
1- 1,000	1.000	1,000	\$1,000
1,001 - 10,000	0.600	10,000	\$6,400
10,001 - 100,000	0.360	100,000	\$38,800
100,001 - 1,000,000	0.216	1,000,000	\$233,200
1,000,001 & higher	contact us		

Price per query is calculated in the following manner:

- 1) Determine the appropriate Price Band, based on the number of records being submitted for matching.
- 2) Add the Sample Cost of the previous Price Band to the result of the following calculation:

Number of records submitted for matching *minus* Sample Query Size of previous Price Band, then *multiplied* by Marginal Rate of current Price Band.

Example:

For 2,100 records submitted, the fee would be \$1,000 + (2,100 - 1,000) x \$0.60, or \$1,660.

Data Matching: StudentTracker for Other Educational Organizations makes use of two types of matching, depending on the permissions maintained by the project. The majority of projects make use of directory information only, restricting the matching process to name and date of birth for each individual. Some projects maintain signed, explicit consent from their cohort members and are thus able to match on name and social security number.

Data Delivered: The program receives an individual student level-report that details the enrollment history of the student in postsecondary schools. This report includes details such as institutions attended, dates and length of attendance, enrollment status (full time, half time, etc.), completion status, and often times the degree(s) awarded.

StudentTracker for Colleges and Universities (STCU)

Model: Annual Subscription

Pricing: Before a postsecondary institution can even consider participation in StudentTracker they must participate in NSC's Core Reporting services. Once they do, they may apply for StudentTracker. The baseline pricing for a postsecondary institution is \$0.10 per the student population reported by the Integrated Postsecondary Education Data System (IPEDS). If the institution also participates in NSC's verification services (EnrollmentVerify and DegreeVerify), the cost drops to \$0.05 per IPEDS-reported student population. If the institution then provides NSC with additional optional data elements, the cost drops to zero.

Data Matching: StudentTracker for Colleges and Universities makes use of the student's name and date of birth for matching purposes.

Data Delivered: The institution receives an individual student-level report that details the enrollment history of the student in post-secondary schools. This report includes details such as institutions attended, dates and length of attendance, enrollment status (full time, half time, etc.), completion status, and often times the degree(s) awarded.

StudentTracker for States: Secondary Education Authorities – Output 1

Model: Annual Subscription

Pricing: The state authority is allowed to submit up to eight years of graduates to StudentTracker for a single cost. The state receives only the detail report. The cost is \$0.75 per graduate as reported by the 2012 Digest of Education Statistics. A discount for multi-year contracting is available.

Data Matching: StudentTracker for States makes use of the student's name and date of birth for matching purposes.

Data Delivered: The institution receives an individual student-level report that details the enrollment history of the student in post-secondary schools. This report includes details such as institutions attended, dates and length of attendance, enrollment status (full time, half time, etc.), completion status, and often times the degree(s) awarded.

StudentTracker for States: Secondary Education Authorities – Output 2

Model: Annual Subscription

Pricing: This option costs \$300 per school with a grade 9 through grade 12 enrollment of 300 students or more as reported by the National Center for Education Statistics. The reports generated by this account are identical to the StudentTracker for High Schools (STHS) reports at an individual school level.

Data Matching: The StudentTracker for States matching makes use of the first name, last name, and date of birth of an individual, enhanced by additional data elements such as middle initial, graduation date, etc.

Data Delivered: The member receives two types of reports. The first set of reports is an individual student-level report that details the enrollment history of the student in postsecondary schools. This report includes details such as institutions attended, dates and length of attendance, enrollment status (full time, half time, etc.), completion status, and often times the degree(s) awarded. The second set of reports are unit-level, aggregate reports, focusing on the enrollment, retention, and completion behaviors for an entire graduation class from the high school, high school district, or state.

StudentTracker for States: Post-Secondary Education Authorities

Model: Annual Subscription

Pricing: This option is identical to STCU pricing and only available to cover the public schools within the state.

Data Matching: StudentTracker for State Post-Secondary Education Authorities makes use of the student's name and date of birth for matching purposes.

Data Delivered: The state receives an individual student level report that details the enrollment history of the student in postsecondary schools. This report includes details such as institutions attended, dates and length of attendance, enrollment status (full time, half time, etc.), completion status, and often times the degree(s) awarded.

Reports Provided by the Research Center at No Cost

Report Type	Frequency per year	Reach
Signature Report	2	National and state level
Snapshot Reports	4-6	National and state level
Current-Term Enrollment Estimates Report	2	National and state level
High School Benchmarks Report	1	National
Complimentary institutional-level reports from Signature Report data	1	Institutions participating in DegreeVerify

Envisioning the National Postsecondary Data Infrastructure in the 21st Century is a project of the Institute for Higher Education Policy and is supported by the Bill & Melinda Gates Foundation.

