Answering the Call for Better Data

Achieving the Dream
2016 Data & Analytics Summit
September 8, 2016

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common sense questions
(we still can’t answer)
about higher education

404. That’s an error.

The requested URL /google was not found on this server.
That’s all we know.
STUDENT: What skills and knowledge can I expect to learn from earning this degree?

ME: Can you help me find a nearby college that serves adult students?

I can definitely tell you which colleges enroll more adult students. Does that help?

I guess, but can you tell me which colleges are better for adult students?

Do you mean whether adult students graduate and how long it takes them?

Yes, thank you!

Um, no. I mean, yes we have that information, but no we don’t publish it. Sorry!
STUDENT: What skills and knowledge can I expect to learn from earning this degree?

ME: Can you tell me if I will get a good job in my field with a degree from this college?

(... No. I live in Michigan.

Um, no. I need to go to college near home. Why?

Do you live in AR, CA, CO, FL, NJ, TN, TX or VA?

Do you want to live in AR, CA, CO, FL, NJ, TN, TX or VA?

If you did, I could answer your question. I mean if you plan to go to a public college in one of those states...
STUDENT: What skills and knowledge can I expect to learn from earning this degree?

ME: Can you tell me what I will learn that I can use with this degree?

 (...)

STUDENT: Seriously, what skills will I have that I don’t have now?

ME: (...)

STUDENT: Isn’t that the whole purpose of college? Why won’t you tell me what I will learn?

 (...)

ME: (...)

STUDENT: 😡😡😡
WHY IMPROVE POSTSECONDARY DATA?
In an era of escalating college costs, what do students and the public invest in postsecondary education and what do they get in return?

$$\frac{\text{ACCESS} \times \text{COMPLETION}}{\text{COST}} = \text{VALUE FOR STUDENTS & SOCIETY?}$$

Source: Bill & Melinda Gates Foundation
Due to an incomplete and disconnected postsecondary data infrastructure, we have only partial or no answers to basic questions such as:

- How many non-traditional students attend college and do they successfully complete credentials? (This includes low-income, adult, and first-generation students as well as students who transfer and/or attend college part-time.)
- Do students who do not graduate transfer to other colleges and earn degrees, or do they drop out altogether?
- How much debt are students accumulating in college, and can they repay their loans?
- Are students obtaining employment in their field after college, and what do they earn?
- How much are students learning in college, and how are they contributing to society?

Source: Bill & Melinda Gates Foundation
Do better data *really* lead to better outcomes? **Yes.**

<table>
<thead>
<tr>
<th><strong>DATA</strong></th>
<th><strong>ACTION</strong></th>
<th><strong>RESULTS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>When low-income <strong>STUDENTS</strong> get targeted and timely information about college prices and completion rates...</td>
<td>They choose to attend colleges that offer more academic and financial resources...</td>
<td>And they earn degrees at higher rates.</td>
</tr>
<tr>
<td>When <strong>COLLEGES</strong> use “real-time” data to identify students at risk of not completing their degrees...</td>
<td>They can deploy “just in time” resources to help students get back on track...</td>
<td>And boost retention and graduation rates by double digits.</td>
</tr>
<tr>
<td>When <strong>POLICYMAKERS</strong> use data to set meaningful performance targets for colleges...</td>
<td>They can enact systemwide policies and reforms to remove major barriers to completion...</td>
<td>And measurably increase the number of students earning degrees.</td>
</tr>
</tbody>
</table>

Source: Bill & Melinda Gates Foundation
HOW TO IMPROVE POSTSECONDARY DATA?
There is clear evidence that **better data lead to better outcomes** in higher education.

There are **two major barriers to obtaining better data at scale**: data quality (e.g. metrics) and data infrastructure (e.g. systems).

Our work to date includes developing a **robust metrics framework** synthesizing advances in data quality in the field.

Wide adoption of the framework requires **major improvements in data systems**.

**Source:** Bill & Melinda Gates Foundation
METRICS FRAMEWORK
Dozens of data initiatives yielded new & improved metrics demonstrating demand & use cases

Source: Bill & Melinda Gates Foundation
States recognize the value of postsecondary data, participating in a variety of data initiatives


# represents the number of initiatives each state participates in.
The metrics for the framework were not selected, or created, in a vacuum.

- IHEP and BMGF reviewed many voluntary data collection initiatives as well as national postsecondary data collections, like IPEDS, to determine where the field was converging on access, progression, completion, cost, and post-college outcome metrics.

We took the metrics framework on the road.

- IHEP and BMGF went to conferences and met with field experts to test the recommended metrics, solicit feedback, and incorporate their expertise into the framework.
- The metrics framework is a product not of closed-door meetings, but of the field’s work over the past decade. A major goal is to accurately reflect where the field has converged already and recommend continued progress.
Review of data initiatives, dashboards, funding formulas revealed field convergence around key metrics

Source: Bill & Melinda Gates Foundation
States also vary in their collection of key postsecondary performance metrics

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<thead>
<tr>
<th>State Agency</th>
<th>AL</th>
<th>AK</th>
<th>AZ</th>
<th>AR</th>
<th>CA (CCs)</th>
<th>CA (CSU)</th>
<th>CA (UC)</th>
<th>CO</th>
<th>CT</th>
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Developing & disseminating a key performance metrics framework for wide scale field adoption

<table>
<thead>
<tr>
<th>PERFORMANCE</th>
<th>ACCESS</th>
<th>PROGRESSION</th>
<th>COMPLETION</th>
<th>COST</th>
<th>POST-COLLEGE OUTCOMES</th>
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<td>Net Price</td>
<td>Employment Rate</td>
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<td>Credit Completion Ratio</td>
<td>Graduation Rate</td>
<td>Unmet Need</td>
<td>Median Earnings</td>
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<td>Gateway Course Completion</td>
<td>Success Rate</td>
<td>Cumulative Debt</td>
<td>Loan Repayment and Default Rates</td>
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<td>Cost for Credits Not Completed</td>
<td>Time/Credits to Credential</td>
<td>Student Share of Cost</td>
<td>Earnings Threshold</td>
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<td>Cost for Completing Gateway Courses</td>
<td>Cost of Excess Credits to</td>
<td>Expenditures per</td>
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<td>Change in Revenue from</td>
<td>Credential</td>
<td>Completion</td>
<td></td>
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<tr>
<td>EQUITY</td>
<td>Enrollment by (at least) Preparation, Economic Status, Age, Race/Ethnicity</td>
<td>Progression Performance by (at least) Preparation, Economic Status, Age, Race/Ethnicity</td>
<td>Completion Performance by (at least) Preparation, Economic Status, Age, Race/Ethnicity</td>
<td>Net Price and Unmet Need by (at least) Preparation, Economic Status, Age, Race/Ethnicity</td>
<td>Outcomes Performance and Efficiency by (at least) Preparation, Economic Status, Age, Race/Ethnicity, Completion Status</td>
</tr>
</tbody>
</table>

**Key Student Characteristics**

- Enrollment Status
- Attendance Intensity
- Credential-Seeking Status
- Program of Study
- Academic Preparation
- Economic Status
- Race/Ethnicity
- Age
- Gender
- First-Generation Status

**Key Institutional Characteristics**

- Sector
- Level
- Credential/Program Mix
- Size
- Resources
- Selectivity
- Diversity
- Minority-serving Institution (MSI) Status
- Post-traditional Populations
- Modality

Institute for Higher Education Policy (IHEP)
## Metrics framework design principles

| Counting All Students | Most initiatives began collecting data precisely because they could not track the outcomes of non-traditional students – such as part-time, underprepared, transfer, and low-income students – in existing national datasets like IPEDS. As such, the framework definitions reflect this progress in the field, and pushes the field further forward with recommendations such as using 12-month instead of fall cohorts to capture the more than 1/3 of students who start after the fall term, particularly in the community college and for-profit sectors. |
| Counting All Outcomes | Many initiatives track a more robust set of student outcomes, including transfer and completion at subsequent institutions. The framework reflects this progress in the field, but distinguishes between success rates (graduation or upward transfer from initial institution) and persistence rates (graduation, transfer, or still enrolled at initial or subsequent institution) to encourage colleges and universities to use student persistence rates to set stretch goals for improving their institutional success rates. Research shows that students who complete their programs are much more likely to do so at their initial institution. |
| Costs Count | While most initiatives include many of the access, progression, and completion metrics in the framework, fewer initiatives include cost and efficiency metrics. Although available data remain limited to construct these metrics, it was important to include them in version 1 of the framework to signal the need to consider how resources can be more efficiently allocated to improve student outcomes in this era of scarce public resources. |
| Considering Post-College Outcomes | While most institutions cannot yet fully access data about their students’ post-college outcomes (as these are collected and reported by state and federal agencies), it was important to signal to institutions that they should use currently available data, appropriately contextualized, to understand whether students are earning credentials that improve their economic and life chances. |
### COMPLETION, continued

<table>
<thead>
<tr>
<th>Completers</th>
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</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
<td>The number of students who complete a credential in a given year</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>All completers in a given year by credential level attained</td>
</tr>
<tr>
<td><strong>Disaggregates</strong></td>
<td>Race/ethnicity, gender, age, academic preparation (at any time), economic status (at any time), first-generation status, program of study (at exit), and part-time (at any time) and transfer status</td>
</tr>
</tbody>
</table>
| **Submetrics for further analysis** | • Crosstabulations of credentials awarded by key disaggregates (e.g., race and gender)  
• Distribution of credentials awarded by program of study  
• Distribution of credential awarded to underrepresented populations  
• Credentials awarded to underrepresented populations in STEM  
• Time and credits to credential |

**Use Cases**
Institutions can use counts of completers to demonstrate productivity and their institutional workforce and society. Especially demographic characteristics, top-performing institutions can make the case that they are contributing to informed rhetorical needs and gaps. Use cases can eventually help address gaps in the two (e.g., African American). Results can trigger the college to small numbers or gaps and evaluate the needs. It also can empower institutions to sell and improve institutional outcomes.

**Field Usage and Convergence**
This completers metrics recommends counting the number of students who complete, as opposed to the number of credentials completed. This specification follows convention for the new completers measure added to IPEDS in 2011–12. While IPEDS collects counts of both completers (number of students) the types of students that succeed in college and contribute to informed school selective policies that advance those institutions for example, many states include awarded or students completing—sent student groups—in their
Disaggregates of equity measures

Equity Measures:
Key Student Characteristics/Disaggregates

A core purpose of data collection and use is to shine a light on—and to develop strategies to close—gaps in college access and success that continue to disadvantage underrepresented students. Nontraditional and underserved student populations have largely been left out of or are invisible in federal data collections, making it difficult or impossible to measure how well these students are served by higher education and to develop strategies to better serve them. As such, this framework recommends disaggregating each metric by key student characteristics used by a host of voluntary data initiatives over the past decade. These equity-focused disaggregates are essential to uncovering and remedying inequities in and across our colleges and universities.

Depending on the metric type, the framework recommends determining student characteristics at different points in time; at entry, ever during enrollment, or at exit. The time of identification is shown in the snapshot charts of Chapters 3 and 4. In general, the framework follows Complete College America and Access to Success precedent by basing student characteristics at entry for cohort-based measures, like graduation rates, and defining them if the student met the criteria at any time for retrospective measures, such as completions. For disaggregates, such as major and credential received, which are most relevant at the point of college exit, the framework recommends defining them at exit. For cost metrics, such as net price and unmet need, that are measured annually, the framework recommends defining disaggregates at that time, to reflect the student’s status that year. Recommendations for how to define the student disaggregates—including academic preparation, economic status, first-generation status, program of study, race/ethnicity, gender, and age—are explored below.

Academic Preparation

This framework recommends that institutions minimally identify students as “college ready” or “not college ready” in math and in English according to their own criteria until further research develops more robust measures of academic preparation that are comparable across colleges. Often-used proxies for academic preparation include standardized test scores, high school GPA, placement or enrollment in remedial education, and multiple measures frameworks that incorporate several metrics (See Table 5-1). If college-readiness assessments like the Partnership for Assessment of Readiness for College and Careers (PARCC) or Smarter Balanced gain widespread use, this recommendation should be revisited to determine whether performance on these

Explore the full report at www.ihep.org/postsecdata!
DATA INFRASTRUCTURE
Current state: Incomplete, duplicative, disconnected systems; high burden, limited utility
Ideal state: Identifying the critical path for a national data “system”
Envisioning the National Postsecondary Data Infrastructure in the 21st Century

- Improving IPEDS
- Fostering state-to-state data exchanges
- Linking to wage data
- Leveraging FSA data
- Leveraging other federal data
- Creating a federal SURDS
- Improving SLDS

Privacy/Security
IR Capacity
Toward a coherent national data policy
Thank You!

Follow us on Twitter: @PostsecData or visit us on the Web at www.ihep.org/postsecdata.

It’s time to answer the call for better data.

LEARN MORE AT HigherEdFacts.org

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Source: Bill & Melinda Gates Foundation