This chapter details the equity metrics that are crucial to promoting and enhancing equity within higher education by disaggregating the performance and efficiency metrics by critical student characteristics. The following characteristics are considered in more detail, given the greater complexity required to define them:

- **Academic preparation** .......................................................... 5.2
- **Economic status** ................................................................. 5.3
- **First-generation status** ......................................................... 5.5
- **Program of study** .............................................................. 5.6
- **Race/ethnicity** ................................................................. 5.6
- **Gender** ........................................................................... 5.6
- **Age** ............................................................................. 5.6
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 (CCA) and Access to Success (A2S) 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. If college-ready 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 exams could serve as an adequate measure of college-readiness. Because the field has not yet converged on a universally accepted indicator for college readiness, the framework defers to institutional practices until further research shows consensus.

Field Usage and Convergence
To determine the most appropriate metric for academic preparation, we reviewed current and emerging research around: high school curriculum rigor, high school GPA, college entrance exam scores, remedial coursework, and multiple measures (See Table 5-1).

Use Cases
Measures of academic preparation are crucial for institutions to understand whether incoming students are ready for a college environment; they highly correlate with students’ college outcomes without intervention. Colleges and universities can use these data to develop and target services to best reach underprepared students and create pathways for their college success. In addition, academic preparation data allow institutions to measure the efficacy of interventions that aim to help students become college-ready after entry. Policymakers can use academic preparation at the state level to develop coherent and consistent policies to signal clearly to students and schools how they should prepare for college in terms of high school curriculum and remedial education in college.
The framework recommends using Pell Grant receipt as the primary indicator of low-income status at this time, despite its known limitations, which are discussed below. Pell receipt is the most frequently used measure of economic status in the field, and each alternate indicator faces even more substantial limitations than Pell receipt. Table 5-2 explores the advantages and disadvantages of six potential measures of economic status: Pell Grant receipt, Pell Grant eligibility, expected family contribution (EFC), income, poverty status, and student’s home location (geocode). Income is a promising indicator for economic status that should be tested further in the field and explored for inclusion in future iterations of the framework.

### Economic Status

Higher education can be an engine of social and economic mobility, but low-income students remain underrepresented among college-goers and college graduates. To promote mobility, equity, and our nation’s economic competitiveness, many federal, state, local, and institutional efforts center on improving access and success for low-income students. For instance, all initiatives reviewed as part of this research—Completion by Design, A2S, Achieving the Dream, Voluntary Framework of Accountability, the new College Scorecard, and more—use Pell Grant receipt as an indicator of low-income status.

While Pell receipt is a frequently used proxy for economic status, it is not perfectly accurate. Its primary limitation is that it undercounts the proportion of low-income students, especially at institutions where many do not apply for federal financial aid, due to either lack of information, low costs, or citizenship status. Also, it is subject to changes in federal financial aid policy, sometimes causing notable shifts that may not actually reflect demographic shifts. However, Pell receipt remains the primary indicator of economic status used by the field, is fairly comprehensive of low-income students, and takes into consideration important factors that influence financial need, such as family size. In 2011–12, 41 percent of undergraduate students were Pell recipients.
As noted in Table 5-2, some indicators could increase coverage beyond only the aided students captured by a Pell receipt proxy, by counting the low-income students who file a FAFSA (and thus have their data recorded) but do not receive a Pell Grant—possibly because of administrative hurdles such as verification. Table 5-3 examines by how much each option undercounts or improves upon other options. Data for the analysis are derived from the National Postsecondary Student Aid Survey (NPSAS) in 2012, which imputes EFC for students who did not file a FAFSA. Analyzing statistics on Pell receipt, EFC (including imputed values), income, and poverty level, alongside the percentage of students who filed a FAFSA, we can calculate the percentage of students that institutions should be able to identify as low-income using that indicator of economic status—assuming they can discern EFC, income, or poverty level only for FAFSA filers.

For example, while 58 percent of students likely would be Pell-eligible based on their (actual or imputed) EFCs in NPSAS, only 41 percent receive Pell Grants. However, if Pell eligibility/EFC were used as a proxy for economic status, it would increase the percentage of students known to the institution as...
low-income by only 7 percentage points over Pell receipt (48 percent vs. 41 percent), because only 83 percent of students with Pell-eligible EFCs actually file a FAFSA, which institutions rely on to obtain this information.

So, as Table 5-3 shows, while using Pell eligibility, EFC, family income, or poverty status could count slightly more low-income students (6–7 percentage points), the added precision does not warrant the added complication of diverging from how the field typically measures economic status. Furthermore, the majority (71 percent) of students with Pell-eligible EFCs do in fact receive the grants, making it a sufficiently accurate—albeit imperfect—proxy. Because of Pell receipt’s widespread use and its coverage relative to the other proxy variables, the framework recommends Pell receipt as the best metric at this time.

Use Cases
Institutions can use economic status to disaggregate other metrics and gain a better understanding of how low-income students are accessing and succeeding in their colleges or universities. Low-income students face different challenges in higher education than do middle- and high-income students, so it is crucial that institutions have access to disaggregated data to identify gaps and to tailor solutions and financial aid strategies for the neediest students. Recent research confirms that some institutions serve low-income populations more effectively than others, so institutions can use these data to continuously improve student access and success. In addition, state and federal policymakers often express interest in understanding how low-income students access, progress through, and succeed in higher education. At the federal level specifically, policymakers are interested in the outcomes of low-income students, and a recent Integrated Postsecondary Education Data System (IPEDS) proposal includes Outcome Measures for Pell Grant recipients.

Table 5-3: Accuracy of Economic Status Proxies

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Threshold</th>
<th>A = Percentage of Students Identified as Low-Income in NPSAS</th>
<th>B = Percentage of Students Identified as Low-Income WhoFiled a FAFSA</th>
<th>C = Percentage of Students Potentially Known as Low-Income by Institutions (C = A x B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pell Grant Receipt</td>
<td>Receipt equals low-income</td>
<td>41%</td>
<td>100%</td>
<td>41%</td>
</tr>
<tr>
<td>Pell Grant Eligibility or EFC</td>
<td>EFC under $5,273 equals low-income15</td>
<td>58%</td>
<td>83%</td>
<td>48%</td>
</tr>
<tr>
<td>Family Income</td>
<td>Income in the bottom two quintiles nationally equals low-income</td>
<td>60%</td>
<td>78%</td>
<td>47%</td>
</tr>
<tr>
<td>Poverty Status</td>
<td>250% of poverty16</td>
<td>59%</td>
<td>79%</td>
<td>47%</td>
</tr>
</tbody>
</table>

Source: IHEP analysis of National Postsecondary Student Aid Study 2012 data.

First-Generation Status
The framework recommends defining first-generation students as students whose parents’ highest education level was some college but no degree, or below (e.g., some college, no degree; vocational/technical training; high school diploma or equivalent; did not complete high school). Defined as such, first-generation students constitute 52 percent of undergraduates.

Field Usage and Convergence
According to Beginning Postsecondary Students (BPS) Longitudinal Study, degree completion rates increase from 35 percent for students whose parents have no education beyond high school, to 56 percent for students whose parents have bachelor’s degrees or higher. While there is a linear increase in students’ completion rates as their parents’ education level increases from high school to some college, to associate’s degree, to bachelor’s degree, to professional degree, there is a sizable difference between students whose parents have less than an associate’s degree (43 percent) and those whose parents have an associate’s degree or higher (59 percent).

While the federal TRIO programs, which provide supports to low-income students, first-generation students, and student with disabilities, identify students as first-generation if their parent(s) do not have bachelor’s degrees, current policy conversations that focus on baccalaureate and sub-baccalaureate credentials suggest that there is value in shifting the definition. Furthermore, the gap in overall degree completion between non-first-generation and first-generation students increases by only one percentage point when students whose parents have associate’s degrees are included in the first-generation group.
The share of first-generation students is also available in the College Scorecard as a disaggregate for the student body and other measures such as median cumulative debt and earnings. These data on first-generation status are based on self-reported information on the FAFSA. When measuring the share of the student body that is first-generation, data are reported separately for students whose parents’ highest education level is middle school, high school, and some post-secondary education.24

Use Cases
Parental education is highly correlated with student outcomes, and considerable efforts in the field are focused on improving outcomes for this population. Measuring these gaps at the institution level can help colleges address them. Many institutions, states, community-based organizations, and the federal government implement programs and student supports geared toward first-generation students to assist them in overcoming obstacles related to access and completion of a college degree. Initiatives like I’m First serve as a resource for first-generation students, providing information and peer support.25 Movements by first-generation students on college campuses, backed and supported by these institutions, also help to create a system of support, especially at institutions where the class divide is more apparent.26 Institutions and policymakers need disaggregated data to continue to support first-generation students through interventions like the TRIO programs and to create an environment where these students can succeed.

Additional Disaggregates
The remaining disaggregates follow the conventions of most reviewed initiatives.

Program of study
Researchers, advocates, and institutions advocate for disaggregation of data by program of study to provide the most refined view of student outcomes possible. Given program-level data, the framework recommends using the Classification of Instructional Program (CIP) codes. Institutions should collect data at the six-digit CIP code level and aggregate to two-digit codes for reporting purposes aligned to CCA seven meta-majors: Education; Arts and Humanities; Social and Behavioral Sciences and Human Services; Science, Technology, Engineering, and Math (STEM); Business and Communication; Health; and Trades.27

Race/ethnicity
The framework recommends using the latest IPEDS race/ethnicity categories: Hispanic or Latino; American Indian or Alaska Native; Asian; Black or African-American; Native Hawaiian or Other Pacific Islander; White, Two or more races; Nonresident alien; and Race/ethnicity unknown.

Gender
The framework recommends using IPEDS gender definitions (Male and Female) and adding an Other category.

Age
The framework recommends using date of birth if such data are available. Otherwise, we recommend disaggregating by age categories aligned with CCA: 19 and under, 20–24, or 25 and over.


4 An analysis of BPS data finds that more than 50 percent of entering postsecondary students with a high school GPA of 3.0 or above earn a credential. However, this cutoff varies by credential type, making it difficult to set one standard. Among associate’s-seeking students, the high school GPA threshold for reaching this 50 percent attainment rate is higher (3.5), while it is lower for bachelor’s-seeking students (2.5). IHEP analysis of: U.S. Department of Education (2009). Beginning Postsecondary Students (BPS) Longitudinal Study, 2004-2009. Retrieved from: http://nces.ed.gov/databook/index.aspx. Some studies, such as Geiser & Santelices (2007) and Roderick, Nagota, & Coca (2009) show that a threshold of 3.0 is more predictive for student outcomes than other thresholds, but variability by credential level steers the framework away from setting a specific standard.


11 For example, between 2008-09 and 2009-10, the number of Pell Grant recipients rose by 1.9 million. This increase was driven by changes in the economy and changes to the maximum Pell award. Changes in Pell enrollments at individual institutions should be contextualized with national changes in Pell recipient trends. Congressional Budget Office. (2013, September). The Federal Pell Grant Program: Recent growth and policy options. p. 9. Retrieved from: http://www.cbo.gov/sites/default/files/cbofiles/attachments/44448_PellGrants_9-13.pdf
