

## DATA NOTES AND DEFINITIONS

### DATA SOURCES

Cohorts were created using data submitted by Indiana public institutions to the Indiana Commission for Higher Education (CHE) through the CHE Data Submission System (CHEDSS). Cohorts were tracked longitudinally using subsequent data submitted by public institutions through CHEDSS and further augmented by enrollment and completion data obtained from the National Student Clearinghouse (NSC). Financial aid and other disaggregations were developed using CHEDSS and the Commission for Higher Education Grants Reporting and Delivery System (GRADS).

### COLLEGE CAMPUS TYPES

**Four-Year Main Campus:** Ball State University, Indiana State University, Indiana University-Bloomington, Purdue University-West Lafayette, and University of Southern Indiana

**Four-Year Non-Main Campus:** Indiana University-East, Indiana University-Kokomo, Indiana University-Northwest, Indiana University-South Bend, Indiana University-Southeast, Indiana University-Purdue University Indianapolis, Indiana University-Purdue University Fort Wayne, Purdue Calumet, and Purdue-North Central

**Two-Year Campus:** Ivy Tech Community College and Vincennes University

### DATA ELEMENT DEFINITIONS

**Student Cohorts:** Cohorts throughout the report include students enrolling as first-time degree-seeking students in the fall of the year listed who were enrolled full-time (12 or more credit hours) as of institution census date. For purposes of data consistency across multiple years, student enrollment status reported as of end of term instead of census date was used for Vincennes University.

#### On-Time Cohorts:

Four-Year Institutions: available through fall 2012 starters

Two-Year Institutions: available through fall 2014 starters

Statewide: combines 2016 graduating cohorts

#### Extended (Within 6 Year) Cohorts:

Available through fall 2010 starters

#### Degree seeking status:

Four-Year Cohorts: represent students seeking a bachelor's degree

Two-Year Cohorts: represent students seeking a long-term certificate (1-2 years) or associate degree

**Same Campus and Degree Level:** Represents students in cohort who completed a degree at the same level initially sought at the same Indiana public college/university system in which they initially enrolled.

**Different Campus or Degree Level:** Represents students in cohort who completed a degree at a lower level than initially sought at the same college/university system in which they initially enrolled OR completed any degree at any other public institution in Indiana, or at a private or for-profit college/university in Indiana or elsewhere in the United States, provided the college or university participates in the National Student Clearinghouse.

**Any Campus or Degree Level (Total Completion):** Represents students in cohort who completed any degree at any public institution in Indiana, or at a private or for-profit college/university in Indiana or elsewhere in the United States, provided the college or university participates in the

National Student Clearinghouse. This is a combination/sum of the “Same Campus and Degree Level” and “Different Campus or Degree Level” completion categories.

**Still Enrolled Somewhere:** Represents students in cohort who, at a particular point in time after initial enrollment, have not obtained a degree and are still enrolled at any public institution in Indiana, or at a private or for-profit college/university in Indiana or elsewhere in the United States, provided the college or university participates in the National Student Clearinghouse. This snapshot of student status at a discrete point in time differs from cumulative completion categories, which capture all completions occurring *within* a given window (within 100%, 150%, 200%, or 300% of normal/expected time to completion after initial college enrollment).

**Dropped Out, No Degree:** Represents students in cohort who, at a particular point in time after initial enrollment, have not obtained a degree and are not enrolled at any public institution in Indiana, or at a private or for-profit college/university in Indiana or elsewhere in the United States, provided the college or university participates in the National Student Clearinghouse. This snapshot of student status at a discrete point in time differs from cumulative completion categories, which capture all completions occurring *within* a given window (within 100%, 150%, 200%, or 300% of normal/expected time to completion after initial college enrollment).

## **DISAGGREGATIONS**

*Note only cohorts having 10 or more students included are reported.*

**% of Students:** Represents 2014-2016 graduates who initially enrolled as first-time, full-time, degree seeking students at Indiana public institutions in the fall.

**21st Century Scholar:** Represents students who were identified as receiving a 21<sup>st</sup> Century Scholar grant during their first year of college. Source: GRADS

**Frank O’Bannon:** Represents students who were identified as receiving a Frank O’Bannon grant during their first year of college, excluding 21<sup>st</sup> Century scholars. Source: GRADS

**Pell Only:** Represents students who were identified as receiving a Pell grant during their first year of college, excluding 21<sup>st</sup> Century scholars and Frank O’Bannon grant recipients. Source: CHEDSS

**No State Aid or Pell:** Includes any students not falling into the financial aid status groups above.

**Race/Ethnicity Categories:** A student is assigned to a race/ethnicity category based on his/her race/ethnicity as reported in the first year in which the student enrolled. Source: CHEDSS

**Age Categories:** A student is assigned to an age group category based on his/her date of birth as reported in the first year in which the student enrolled. Source: CHEDSS

## **COMPLETION RATES**

\*\*Note that completion rates presented in the current report may not match previously published rates as calculations may have been affected by corrections to institution data reported to CHE.

**On-Time, Same Campus and Degree Level:** Represents students in cohort who completed, within 100% time (4 years for a bachelor’s, 2 years for a long-term certificate or associate) a degree at the same level initially sought at the same college/university system at which they initially enrolled.

**Any Campus or Degree Level within Six Years:** Represents students in cohort who completed, within 6 years, any degree at any public institution in Indiana, or at a private or for-profit

college/university in Indiana or elsewhere in the United States, provided the college or university participates in the National Student Clearinghouse.

## **PERSISTENCE**

Represents percentage of students in a given cohort who started their freshman year at an Indiana public college and who continued enrollment into the fall semester of the second year at any Indiana public college.

## **CREDIT COMPLETION**

Represents the percentage of students in a given cohort who earned at least 30 credit hours during the fall, spring, and summer terms of their freshman year.

## **ACHIEVEMENT GAP MEASURE**

### **OVERVIEW & PURPOSE**

The achievement gap (AG) measure tracks progress toward closing the achievement gap of Indiana's underrepresented populations and the overall student population. The measure ranges from 0 to 1, where 1 means that the achievement gap has been closed. The AG measure identifies progress toward the top of the scale (i.e., progress toward closing the achievement gap). The closer the AG value is to 1, the smaller the achievement gap. In this report, the "underrepresented" populations represent students from minority (Black or Hispanic race/ethnicities) or low-income (Twenty-First Century, Frank O'Bannon, or Pell grant recipient) groups. While these groups do not always represent the non-majority population across all campuses (Ex: low-income students often represent the majority of students at Indiana's two-year public campuses), for purposes of explaining the AG measure in the data notes we reference underrepresented/majority student populations.

### **CALCULATION & INTERPRETATION**

The achievement gap (AG) measure is calculated as a ratio of the completion rates of the "underrepresented" population and the "majority" population:

$$\frac{\text{Completion Rate of Underrepresented Population}}{\text{Completion Rate of Majority Population}}$$

In statistical terms, this ratio measure is often called relative risk. The measure is used to compare the likelihood of a particular event occurring between two groups of interest. An achievement gap measure of less than 1 signifies that the completion rate of the underrepresented population (Ex: minority students) is less than the completion rate of the majority population (Ex: White students). In other words, the event of completing a degree is less likely for a student from the underrepresented population compared to a student from the majority population. Conversely, an achievement gap measure of greater than 1 means that the completion rate of the underrepresented population (Ex: minority students) exceeds the completion rate of the majority population (Ex: White students), meaning that a student from the underrepresented population is more likely to complete a degree than a student from the majority population. The achievement gap is closed when the AG measure = 1 or the outcome of completing a degree is equally likely for both groups of interest.

Traditionally, the completion rates of the "underrepresented" population tend to be much lower than completion rates of the "majority" population. Thus, this report caps the AG ratio measure at 1 to enable clearer comparisons across campuses when the AG measure is displayed graphically.

As stated above, the achievement gap measure is used to compare the likelihood of completing a degree between the underrepresented population and the majority population. If the value of the AG measure is  $x_{AG}$ , the AG measure value has the following interpretation: "*The underrepresented*

student population is  $x_{AG}$  times as likely as the majority student population to graduate.” For example, the interpretation of the data point halfway on the scale, .5, would be the following: the underrepresented student population is .5 times (or half) as likely as the majority student population to graduate.

### **MOTIVATION FOR USING A RATIO AG MEASURE**

There are other metrics that could be used to investigate the achievement gap. Another more common metric is the percentage point difference of the completion rates between the two student groups. Generally, ratio statistics yield more accurate results when comparing rate differences across observational units whose rates differ vastly in scale. Institutions with higher completion rates will also naturally have larger differences in completion rates between two groups of students. The ratio value controls for the scale of completion rates to more accurately compare the status of the achievement gap across sectors and institutions. Below are two examples:

#### **Example 1: 4% vs. 1% and 50% vs. 47%**

Group I: 4% vs. 1%: 3 percentage point difference; 4.0 ratio value

Group 2: 50% vs. 47%: 3 percentage point difference; 1.1 ratio value

These groups of statistics yield the same percentage point difference but very different ratio values.

#### **Example 2: 23% vs. 9% (low scale) and 63% vs. 46% (high scale)**

Group I: 23% vs 9%: 14 percentage point difference; 2.5 ratio value

Group II: 63% vs 46%: 17 percentage point difference; 1.4 ratio value

The second group of statistics yield a larger percentage point difference, but these statistics are actually more similar than the first group of statistics according to the ratio value. Proportions that are on a larger scale also naturally produce larger percentage point differences. The ratio value produces more accurate interpretations of the completion gap across sectors and institutions when the completion rates of the sectors/institutions differ vastly in scale.

### **MEASURING PROGRESS TOWARD 2025 GOAL**

To track progress in meeting the Commission’s goal of eliminating the achievement gap by 2025, another metric was computed. This metric represents the average yearly increase in the AG measure in order to close the achievement gap by 2025. This metric is computed as the following:

$$\frac{1-AG_{2005}}{20},$$

where  $AG_{2005}$  represents the AG measure for the fall 2005 cohort. This metric is computed for each campus, institution type, and sector and is compared to each campus/institution type/sector’s actual average yearly increase in AG measure to track progress. The actual yearly increase represents an average of all one year increases from 2005 to the most recent cohort of data available. In order for a campus to be held accountable to this progress check, the campus cohort size for the underrepresented group needed to average at least 30 over the time window.

### **WEIGHTED AG MEASURES**

Additional weighting was carried out to compute institution (e.g., Ivy Tech community college system), institution type (main campus, non-main campus, and two-year campus) and sector-level (four-year, two-year) AG measure statistics. Each of these aggregate ratio statistics were obtained by weighting campus-specific AG measures by underrepresented population concentrations. This pulls aggregate institution type and sector-level AG statistics closer to the AG statistics for campuses where the achievement gap holds more significance. Below is an example using fictional data:

Campus	NWhite	NMinority	MinorityConc	NWhiteSuccess	NMinoritySuccess	%WhiteSuccess	%MinoritySuccess	AG Measure
Campus #1	4500	500	0.11	1500	125	33.3%	25.0%	0.75
Campus #2	1500	900	0.60	417	90	27.8%	10.0%	0.36

$$\begin{aligned}
 AG_{\text{unweighted}} &= \frac{\text{combined completion rate of Minority Students}}{\text{combined completion rate of White Students}} \\
 &= \frac{(125+90)/(500+900)}{(1500+417)/(4500+1500)} \\
 &= \frac{15.4\%}{32.0\%} \\
 &= 0.48
 \end{aligned}$$

$$\begin{aligned}
 AG_{\text{weighted}} &= \frac{(\text{MinorityConcentration}_{\text{campus1}}) * (AG_{\text{campus1}}) + (\text{MinorityConcentration}_{\text{campus2}}) * (AG_{\text{campus2}})}{\text{MinorityConcentration}_{\text{campus1}} + \text{MinorityConcentration}_{\text{campus2}}} \\
 &= \frac{(.11)(.75) + (.60)(.36)}{.11 + .60} \\
 &= (.15)(.75) + (.85)(.36) \\
 &= 0.42
 \end{aligned}$$

The achievement gap has roughly 5.5 (.60/.11 ffi 5.5) times the significance at campus #2 than campus #1. The combined AG measure for the two campuses should be pulled closer to campus #2.

In general, the formula to calculate an aggregate AG statistic composed of data for j campuses is given by the following:

$$AG_{\text{weighted}} = \frac{\sum_{i=1}^j w_i AG_i}{\sum_{i=1}^j w_i}, \text{ where } w_i = \text{the underrepresented population concentration at campus } i \text{ and } AG_i = \text{the achievement gap measure value for campus } i, \text{ and } i = 1, 2, \dots, j$$