

How to Measure Community College Effectiveness in Serving Transfer Students

By John Fink and Davis Jenkins

While many students who start at a community college intend to

transfer and complete a bachelor's degree, most of them are not successful. One of the impediments to improving outcomes for these students has been the lack of widely available measures of institutional effectiveness in serving transfer students. In the publication *Tracking Transfer* (Jenkins & Fink, 2016), CCRC, in partnership with the Aspen Institute and the National Student Clearinghouse (NSC) Research Center, proposed a common set of metrics for assessing the performance of two- and four-year institutions in enabling degree-seeking students to transfer and complete bachelor's degrees. The NSC Research Center has since incorporated the *Tracking Transfer* metrics into its own new Tracking Transfer Signature Report series (see Shapiro et al., 2017, for the first report), which will provide state and national outcomes data annually to allow colleges to benchmark their performance on transfer.

In this guide, we provide instructions for community colleges that want to use NSC data to measure their effectiveness in serving transfer students. To do so, colleges will need to access both NSC enrollment *and* degree file data on their students. Based on the methods we used in *Tracking Transfer*, Part 1 of this guide explains how community colleges can assess their own overall effectiveness in helping students to transfer and complete bachelor's degrees. Part 2 shows how colleges can go on to evaluate the effectiveness of transfer partnerships with their top receiving four-year institutions.

The metrics we describe in this guide can serve as useful tools to examine what practices facilitate or impede effective transfer.¹ Therefore, calculating these metrics on a periodic basis, comparing them with state and national benchmarks, and sharing them with faculty, advisors, and others can play an important role in efforts to improve bachelor's degree outcomes for community college students.



The metrics we describe in this guide can serve as useful tools to examine what practices facilitate or impede effective transfer.

Part 1: Community College Transfer Outcomes

Identifying the Starting Cohort

To match the methodology used in CCRC's *Tracking Transfer* report and in the NSC Research Center's Tracking Transfer Signature Report series, a community college undertaking a similar analysis should limit the entering cohort to all degree-seeking, first-time-ever-in-college (FTEIC) students who started at the college in a given fall term, including part-time students but excluding current and prior high school dual enrollment students. The tracking period is six calendar years from entry at the starting community college. Students are identified as "degree-seeking" if they meet *either* of the following two conditions:² (1) They enrolled full-time for at least one term within 12 months of starting in the fall cohort, or (2) they enrolled at least half-time for any two terms within 18 months of starting in the fall cohort.

Colleges may consider whether narrowing the identification of the starting cohort based on an attribute more restrictive than this definition of "degree-seeking" is warranted. Indeed, a college may opt to use a more direct measure of students' intention to transfer and earn a bachelor's degree upon entry if such information is routinely gathered (e.g., in student responses to questions as a part of the intake process) and already used in reporting by the college. These measures of student intention at entry may be unreliable, however, as the experience of college can raise students' college aspirations. We generally recommend that colleges err on the side of being inclusive by using the degree-seeking definition noted above.

We recommend excluding dual enrollment students from the initial analyses in order to focus on a group of students with the same postsecondary starting point. However, we strongly recommend that colleges examine transfer and degree completion outcomes for dual enrollment students, following metrics presented in our 2017 report, *What Happens to Students Who Take Community College "Dual Enrollment" Courses in High School?* (Fink, Jenkins, & Yanagiura, 2017).

Identifying Transfers and Completers

Given the focus on the community college transfer pathway to a bachelor's degree, a college undertaking this analysis should define "transfer students" as those students in the entering FTEIC degree-seeking cohort who ever enrolled at a four-year institution for at least one term after their first term during the six-year tracking period. Using this definition will likely include a substantial number of students who exhibit "swirling" patterns of enrollment, moving among sometimes multiple community colleges and four-year institutions. Defining transfer inclusively in this way is critical for colleges to avoid excluding the large group of students who exhibit complex transfer patterns.

A college should use NSC degree records to identify whether students in the cohort had, during the six-year tracking period, ever completed a community college certificate, associate degree, or bachelor's degree, and if so at which institution and in what major field. NSC degree records include a field indicating if a student graduated (yes or no) at a given institution along with the title of the degree. In the analysis for *Tracking Transfer*, we used the degree titles of graduation records to categorize awards into certificates,

associate degrees, and bachelor's degrees, using a lookup table provided on the NSC website (<https://nscresearchcenter.org/workingwithourdata/>) and supplemented through validity checks. Using the degree CIP codes in the NSC data, we further categorized bachelor's degrees into broad fields to describe the disciplines in which transfer students completed.

Preparing the NSC Files for Analysis

To calculate the community college transfer outcomes recommended below, a college should restrict its NSC enrollment and degree records to students in the cohort and to records with enrollment and degree award dates within the six-year tracking period. Next, it should create the following student-level indicators (which can be used to populate a table like Table 1): (1) if the student ever enrolled at a four-year institution (transfer student indicator), (2) if the transfer student earned a certificate or associate degree from the starting community college prior to his or her first enrollment at a four-year institution (pre-transfer award indicator), and (3) if the transfer student ever completed a bachelor's degree from any institution (bachelor's completion indicator). The college should merge into the working database information on students from its student information system in order to be able to disaggregate findings by student characteristics not included in the NSC data, such as race/ethnicity, income/Pell status, and college major/degree intent.

Table 1.

Basic Counts of Students Required to Calculate Community College Transfer Outcomes (Example Results)

Groups of Students	Number of Students
FTEIC degree-seeking students in the cohort	1,460
Transfer students	568
Transfer students with pre-transfer awards	211
Transfer students who completed a bachelor's degree	336

Calculating Community College Transfer Outcomes

We recommend that community colleges calculate these four outcome measures:

- 1. Transfer-out rate:** The percentage of the entering community college cohort who ever enrolled at a four-year institution for at least one term after their first term at the community college, within six years of first enrolling at the community college.
- 2. Transfer-with-award rate:** The percentage of transfer students who started at the community college and completed a certificate or associate degree from the starting community college prior to their earliest enrollment at a four-year institution.
- 3. Transfer-out bachelor's completion rate:** The percentage of transfer students who started at the community college and completed a bachelor's degree from any four-year institution within six years of starting at the community college.
- 4. Cohort bachelor's completion rate:** The percent of the entering community college cohort who ever completed a bachelor's degree from any institution within six years of starting at the community college.³

Table 2 shows how the example numbers from Table 1 are used as numerators and denominators to calculate the community college transfer outcomes. State and national comparisons can be found in Shapiro et al.'s (2017) report. We strongly recommend building on Table 2 by merging NSC and college data to disaggregate transfer performance outcomes (see Table 3) by student race/ethnicity, income/Pell status, age, gender, and broad program areas. Colleges might also find it useful to construct the transfer outcomes for other cohorts of students (e.g., current or former dual enrollment students).

Table 2.
Community College Transfer Outcome Measures (Example Results)

Results	Transfer-Out Rate	Transfer-With-Award Rate	Transfer-Out Bachelor's Completion Rate	Cohort Bachelor's Completion Rate
Community college results	(568/1,460) = 38.9%	(211/568) = 37.1%	(336/568) = 59.2%	(336/1,460) = 23.0%
State average	See Shapiro et al. (2017, Appendix C) for individual state's results.			
National average ^a	31.5%	33.6%	42.2%	13.3%

^aNational averages using these definitions on the entering fall 2010 community college cohort are from Shapiro et al. (2017).

Table 3.
Subgroup Analysis of Community College Transfer Outcomes (Example Categories)

Categories	Transfer-Out Rate	Transfer-With-Award Rate	Transfer-Out Bachelor's Completion Rate	Cohort Bachelor's Completion Rate
All students	38.9%	37.1%	59.2%	23.0%
By race/ethnicity	Merge NSC records with college data to further disaggregate various subgroups.			
By income/Pell				
By age				
By gender				
By program area				

Part 2: Transfer Partnership Performance

In addition to tracking its transfer outcomes overall, a community college may also want to examine the outcomes of its transfer students by specific four-year receiving institutions, which can be useful in assessing the health of particular transfer partnerships. In transfer partnership analyses, the community college transfer outcomes are calculated for students who transferred from the community college to a given four-year institution. Tables 4 and 5 help illustrate how the counts and calculations are carried out. Examining the transfer volume alongside the partnership transfer-with-award and bachelor's degree completion rates is helpful in making decisions about which transfer partnerships to prioritize for improvement.

There are two ways to count transfer students in partnership performance analysis:

- 1. Restricted transfer definition:** One way to assess the health of a transfer partnership is to track only those students who started at the community college, transferred to the four-year institution, and did not enroll at any other institutions (see Xu, Ran, Fink, Jenkins, & Dunder, 2017). We call this transfer definition "restricted" as it excludes transfer students who enrolled at more than two institutions. Previously, we found that using this restricted definition of transfer

excluded 42 percent of transfer students nationally (Xu et al., 2017, p. 8). Thus, while this restricted definition may more precisely measure the performance of a particular transfer partnership, it also excludes a sizable number of transfer students.

- 2. Inclusive transfer definition:** An alternative to the restrictive definition is to count the same transfer student multiple times if he or she transferred to multiple four-year institutions. For example, if a student transferred to university A and then transferred and completed a bachelor's degree at university B, the student would be included in the counts of transfer students who transferred to university A and to university B. In the calculation of partnership completion rates, however, while this student would be counted in the denominator for both universities A and B, he or she would be counted in the numerator only for university B. Using this inclusive transfer definition may be useful as a starting point for conversations around strengthening a college's transfer outcomes more generally.

Table 5 shows an example of how a community college can report on the success of transfer students by its top 10 partner four-year institutions (as well as on the combined outcomes for all of the other partner four-year institutions beyond the top 10). The first two results columns show the transfer-with-award and transfer-out bachelor's completion rates for each partnership, drawing on counts from Table 4. The other columns show three additional measures that can be calculated for each transfer partner using NSC data: (1) the percentage of the community college's transfer students who transferred to the partner four-year institution, (2) the percentage of the community college's bachelor's degree completers who graduated at the partner four-year institution, and (3) the average time to degree (within the six-year tracking period) among transfer students who completed a bachelor's degree at the partner four-year institution. Taken together, these five partnership measures can help inform decisions by the community college about which transfer partnerships to prioritize for improvement efforts.

Table 4.
Student Counts Required to Calculate Transfer Partnership Performance Measures (Example Results)

Four-Year Receiving Institution Name	Number of Transfer Students Who Enrolled at This Institution	Number of Transfer Students Who Enrolled at This Institution Who Earned a Pre-Transfer Community College Award	Number of Transfer Students Who Enrolled and Completed a Bachelor's Degree at This Institution
#1	198	72	95
#2	113	61	103
#3	78	33	51
#4	40	10	26
#5	38	11	19
#6	20	4	15
#7	10	4	4
#8	7	2	4
#9	6	3	4
#10	6	1	2
All other four-year receiving institutions ($n = 29$)	52	10	13
Total	568	211	336

Table 5.**Transfer Partnership Performance Measures (Example Results)**

Four-Year Receiving Institution Name	Transfer-With-Award Rate Among Transfer Students to This Four-Year Institution	Bachelor's Degree Completion Rate Among Transfer Students to This Four-Year Institution	Percentage of Community College's Transfer Students Who Transferred to This Four-Year Institution	Percentage of Community College's Bachelor's Completers Who Completed at This Four-Year Institution	Average Number of Years Until Transfer to This Four-Year Institution
#1	36%	48%	35%	28%	2.7
#2	54%	91%	20%	31%	2.3
#3	42%	65%	14%	15%	1.9
#4	25%	65%	7%	8%	2.1
#5	29%	50%	7%	6%	2.5
#6	20%	75%	4%	4%	2.5
#7	40%	40%	2%	1%	1.9
#8	29%	57%	1%	1%	1.8
#9	50%	67%	1%	1%	2.1
#10	17%	33%	1%	1%	2.1
All other four-year receiving institutions (n = 29)	19%	25%	9%	4%	1.8
Total	37%	59%	100%	100%	2.5

To better inform conversations between community colleges and their major transfer partners, we recommend conducting further analysis of students who transfer to the college's top 3–5 partners (in terms of transfer volume), as outlined in Table 6. A community college can merge its NSC transfer partnership results with its own student data to disaggregate partnership outcomes by student characteristics such as race/ethnicity, income/Pell status, age, and gender. For each of the top transfer partnerships, we also recommend further analysis to identify the broad fields in which transfer students complete bachelor's degrees, using the degree CIP codes from NSC degree records. Table 7 shows an example of this bachelor's degree field breakdown, using a simple taxonomy for categorizing degree CIP codes. Results of this kind may be instrumental in identifying under- and overrepresented fields of study among transfer students in a given transfer partnership, and they may be very useful in engaging faculty, department chairs, and deans in conversations on how to improve transfer outcomes among students majoring in disciplines that those faculty and administrators represent.

Table 6.
Subgroup Analysis of Performance Measures for High-Volume Partnerships: Four-Year Receiving Institution #1
(Replicate for Institution #2, #3, etc.)

Performance Measures	All Students	By Race/ Ethnicity	By Income/ Pell	By Age	By Gender
Number of transfer students who enrolled at this four-year institution	198				
Transfer-with-award rate among transfer students to this four-year institution	36%	<i>Merge NSC records with college data to disaggregate into these groups.</i>			
Bachelor's degree completion rate among transfer students to this four-year institution	48%				
Average number of years until transfer to this four-year institution	2.7				
Average time to bachelor's degree completion (within 6 years)	4.7				

Table 7.

Percentage of Completions in Broad Degree Fields Among Transfer Students Who Earned Bachelor's Degrees at Four-Year Receiving Institution #1 (Replicate for Institution #2, #3, etc.)

Broad Degree Fields	Percentage of All Transfer Completions
Business	10%
Health professions	2%
Arts, humanities, & English	19%
Social & behavioral sciences	20%
Science & mathematics	16%
Agriculture & natural resources	4%
Computer & information sciences	12%
Education	4%
Engineering	13%
Applied technology	0%
Public services & administration	0%
All bachelor's degree completers in this partnership ($n = 95$)	100%

Conclusion

To address barriers to students' transferring and completing bachelor's degrees, community colleges need to regularly track actionable metrics on the outcomes of their students. The NSC Research Center now publishes annual data on transfer student outcomes by state and institutional type that colleges can use to benchmark their performance in serving transfer students. Using NSC data, community colleges can follow the methodology described in this guide to track in greater depth the outcomes of their transfer students generally and with particular transfer destination partners. With this information, community colleges will be better able to assess how well they are serving their students who want a bachelor's degree and, working with their transfer partners, to identify strategies for improving outcomes for those students.

Endnotes

1. For more information on how these metrics can be used to support institutional improvement on transfer outcomes, see *Tackling Transfer: A Guide to Convening Community Colleges and Universities to Improve Transfer Student Outcomes* (Aspen Institute, CCRC, Public Agenda, & Sova, 2017), which is being released in accompaniment with this guide.
2. We used this same definition of "degree-seeking" in *Tracking Transfer*, and this definition is used in the NSC Research Center's Signature Report series on Completing College and its series on Tracking Transfer.
3. Community colleges that award a sizable number of bachelor's degrees can run these analyses with and without including their own bachelor's degree completers. These colleges can also count themselves as a transfer institution, tracking the percentage of their starting cohort who matriculate into their own bachelor's degree programs.

References

Aspen Institute, Community College Research Center, Public Agenda, & Sova. (2017). *Tackling transfer: A guide to convening community colleges and universities to improve transfer student outcomes*. Washington, DC: Authors.

Fink, J., Jenkins, D., & Yanagiura, T. (2017). *What happens to students who take community college “dual enrollment” courses in high school?* New York, NY: Columbia University, Teachers College, Community College Research Center; and the National Student Clearinghouse Research Center.

Jenkins, D., & Fink, J. (2016). *Tracking transfer: New measures of institutional and state effectiveness in helping community college students attain bachelor’s degrees*. New York, NY: Columbia University, Teachers College, Community College Research Center; The Aspen Institute; and the National Student Clearinghouse Research Center.

Shapiro, D., Dundar, A., Huie, F., Wakhungu, P. K., Yuan, X., Nathan, A., & Hwang, Y. (2017). *Tracking transfer: Measures of effectiveness in helping community college students to complete bachelor’s degrees* (Signature Report No. 13). Herndon, VA: National Student Clearinghouse Research Center.

Xu, D., Ran, X., Fink, J., Jenkins, D., & Dundar, A. (2017). *Strengthening transfer paths to a bachelor’s degree: Identifying effective two-year to four-year college partnerships* (CCRC Working Paper No. 93). New York, NY: Columbia University, Teachers College, Community College Research Center.

Funding for this guide was provided by the Bill & Melinda Gates Foundation. We thank our colleagues at the National Student Clearinghouse for providing access to data for our research on transfer, and to our NSC Research Center, Aspen Institute, and Public Agenda partners for advising us on the design and use of the measures presented in this guide. We would also like to thank state agency and college and university partners in the three states — North Carolina, Ohio, and Washington — where we piloted the use of these reports to support colleges’ work to improve their transfer outcomes.