

# POSTSECONDARY PERSISTENCE REPORT: 2009-2016 North Carolina Public High School Graduates

## EXECUTIVE SUMMARY

Individual educational attainment and barriers to attainment are not readily captured by a single indicator. Educational attainment is a process with multiple key steps. After completing high school, individuals must enroll in college and persist in their enrollment until degree completion. In a series of four data briefs, we use National Student Clearinghouse data to better understand key transition points and the college-going behaviors of North Carolina public high school graduates from 2009-2016. Specifically, we will examine:

CURRENT

1. **Access:** How many students are going to college?
2. **Persistence:** How many students are still enrolled in postsecondary after their first year?
3. **Success:** How many students persist in their postsecondary enrollments to successfully complete a degree or credential?
4. **Postsecondary Pathways and Barriers to Opportunity:** What are the most common pathways through postsecondary? What are the potential barriers to success suggested by pathways that end in stopout or dropout?

In this report, we focus on the details related to persistence among North Carolina high school graduates, examining both college persistence and retention, and how these vary by the students' demographic and enrollment characteristics, including timing of enrollment, intensity of enrollment, and institution of first enrollment.

### Key definitions:

- **Persistence:** a student was still enrolled in postsecondary education — at any institution — in the year after their first enrollment. Persistence can also be conceptualized as the combination of retention and change.
- **Retention:** a student was still enrolled in postsecondary education at the institution of initial enrollment in the year after their first enrollment.
- **Change:** a student was still enrolled in postsecondary education in the year after their first enrollment but had moved to a different institution than where they initially enrolled.
- **On-time enrollment:** enrollment in a postsecondary institution in the fall semester immediately following high school graduation.
- **Delayed enrollment:** enrollment that was not on time but was within two years of high school graduation.

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## DATA BRIEF

### Key findings

Of the 757,160 students who graduated from North Carolina public high schools between 2009 and 2016, 431,823 immediately enrolled in a postsecondary program at a two- or four-year institution in the fall semester after graduation.<sup>1</sup> Another 58,618 did not enroll on time but enrolled within two years of high school graduation.<sup>2</sup>

Most students who enroll persist: 81 percent of on-time enrollers and 50 percent of delayed enrollers were still enrolled in a postsecondary institution one year later.

- Most on-time (70 percent) and delayed (43 percent) enrollers were still enrolled at the same institution of initial enrollment.
  - Eleven percent of on-time enrollers and seven percent of delayed enrollers changed institutions between their first and second year.
- Persistence rates were higher among those who enrolled on time compared to those who delayed enrollment within two years of high school graduation. This was consistent across analyses by institution, enrollment, and demographic characteristics.
- Certain institutional and student characteristics were consistently associated with high rates of persistence and retention. Overall persistence and retention rates were higher among:
  - Students who first enrolled at a four-year institution;
  - Students with full-time enrollment in their first semester;
  - More academically prepared students, as measured by the number of ACT benchmarks met;
  - More economically advantaged students, as measured by free- and reduced-price lunch eligibility;
  - Students from the North Central prosperity zone (Triangle area);
  - Female students; and
  - Asian and White students.
- Change rates (continuing at different institutions) were higher among:
  - students at four-year, private, in-state institutions;
  - students at two-year, public, out-of-state institutions;
  - less academically prepared on-time enrollers (1-2 ACT benchmarks met);
  - more academically prepared delayed enrollers (3-4 ACT benchmarks met); and
  - Black and White students.

### Next Steps

After successfully transitioning from high school to college and returning for their second year, students must persist in their education until they complete a degree or a credential. In our next data brief, we will explore how completion varies by the institution and intensity of first enrollment and by student characteristics.



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## Introduction

Initial enrollment in a postsecondary program is just the first step toward the goal of postsecondary degree or certificate attainment. Following enrollment, students must continue their enrollment to degree completion, typically referred to as persistence. First-year persistence rates represent the share of students who began a postsecondary program and who are still enrolled in any postsecondary program one year later. First-year retention rates represent the share of students who are still enrolled at the same institution of initial enrollment.

First-year persistence rates are a key indicator, as the first year of postsecondary enrollment is a critical period: the greatest share of postsecondary dropouts occur during the first year than any other time.<sup>3</sup> There are well-documented differences in student persistence and retention by:

- Type of program (two-year versus four-year);
- Institutional sector (public versus private);
- Institutional selectivity and academic readiness;
- Intensity of attendance (full-time versus part-time); and
- The sociodemographic characteristics of the student and their family.<sup>4</sup>

These characteristics are often interrelated. For example, economic disadvantage is associated with lower academic readiness and such students are more likely to enroll part-time or at less selective institutions. These students may be more likely to face academic or financial challenges during their first year, resulting in lower overall persistence.

## Retention Versus Persistence

Retention and persistence are both metrics that capture a student's progress through postsecondary:

- Institutions retain. **Retention rates** capture the share of students who continue enrollment within the **same** higher education institution or system.
- Individuals persist. **Persistence rates** capture the share of students who continue enrollment at **any** higher education institution in the following year, even if this is a different institution or system than the one at which the student initially enrolled.

Because retention rates are limited to progress within the same initial institution, they are lower than persistence rates.



# Trends in Overall Persistence and Retention

## KEY FINDINGS:

- Most students who enroll on time persist into their second year of postsecondary education, and the majority of these are retained at their original postsecondary institutions.
- Students who delay enrollment are less likely to persist into their second year compared to those who enrolled on time.

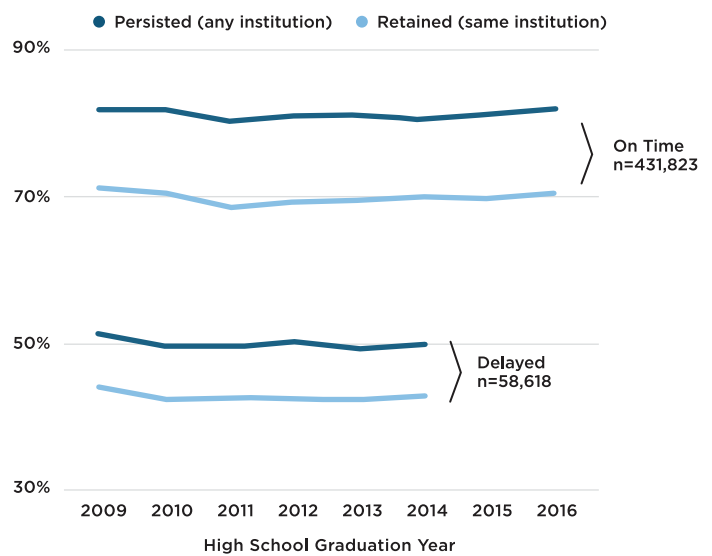
Figure 1 shows the overall persistence and retention rates of students who enrolled on time and who delayed enrollment (within two years) in postsecondary education for each graduating cohort over this period.<sup>6</sup>

On average, 81 percent of 2009-2016 North Carolina high school graduates who enrolled on time persisted into the second year of college. Overall persistence rates for this group peaked in 2009 at 82 percent and declined to a low of 80 percent in 2011. These persistence rates rebounded to 82 percent in 2016, matching their 2009 peak.

Most of these students continued their postsecondary education at their institution of initial enrollment (retained). The average retention rate among on-time enrollers over this period was 70 percent, peaking in 2009 at 71 percent and declining to a low of 69 percent in 2011. Retention rates rebounded to 70 percent in 2016, though they remained one percentage point below their observed peak.

Overall persistence rates and retention rates were much lower among those who delayed enrollment in postsecondary. The average persistence rate was 50 percent among students who delayed enrollment, ranging from a low of 49 percent among those who graduated high school in 2013 to 51 percent among those who graduated in 2009. The average retention rate across cohorts was 43 percent, ranging from 42 percent for the 2013 cohort to 44 percent for the 2010 cohort.

FIG. 1: POSTSECONDARY PERSISTENCE AND RETENTION RATES OF NC HIGH SCHOOL GRADUATES WHO BEGAN POSTSECONDARY (2009-2016)



## How does persistence vary by institution of initial enrollment?

### KEY FINDINGS:

- Persistence rates were highest among students who began at a four-year institution compared to students who began at a two-year institution, regardless of enrollment timing.
- Students who began within the UNC system had the highest overall persistence rates for both on-time (92 percent) and delayed (81 percent) enrollments.
- Among students who began at a two-year institution, retention rates were highest among students who began within the NCCC system.

Students who initially enrolled at four-year institutions were more likely to persist compared to students who began at two-year institutions (**Figure 2**). Among on-time enrollers, 91 percent of students who began at four-year institutions persisted to their second year compared to 67 percent of students at two-year institutions, a difference of 24 percentage points. Although these rates were lower for delayed enrollments, the patterns were similar: 69 percent of students who initially enrolled at four-year institutions persisted to their second year compared to 45 percent of students who began at two-year institutions (24 percentage point difference).

Eleven percent of students who began at a four-year institution changed institutions between their first and second years, regardless of enrollment timing. Among students who initially enrolled at a two-year institution, changing institutions was more common among on-time enrollers (12 percent) compared to delayed enrollers (6 percent).

### Four-Year Institutions

**Figure 3** presents first-year persistence and retention rates by four-year institution type and timing of enrollment. **Among on-time enrollers:**

- The highest persistence rates were observed among students who initially enrolled at a public institution: 92 percent of individuals who began at a UNC system school or an out-of-state public institution persisted to their second year.
- Students who initially enrolled at a private institution were less likely to be enrolled a year later compared to students who began at a public institution.

FIG. 2: PERSISTENCE AND RETENTION RATES BY INSTITUTION OF INITIAL ENROLLMENT (2009-2016)

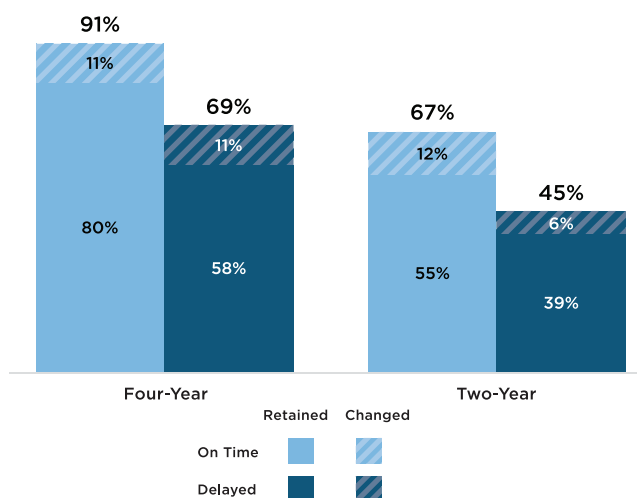
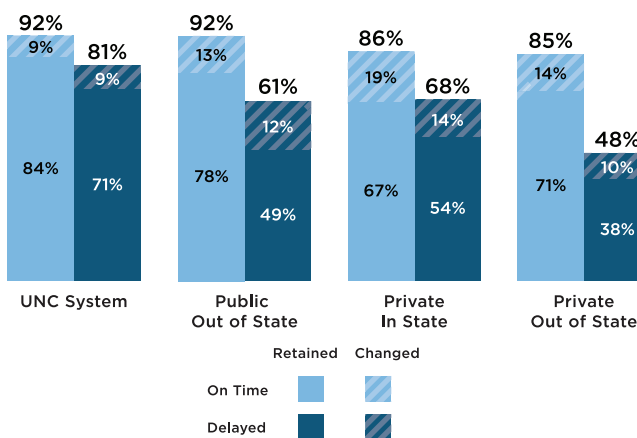


FIG. 3: PERSISTENCE AND RETENTION RATES BY FOUR-YEAR INSTITUTION TYPE (2009-2016)



Note: Percentages may not add up due to rounding.<sup>5</sup>



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Persistence rates were similar among individuals who began in-state (86 percent) and out-of-state (85 percent).

- UNC had the highest retention rates of any four-year institution: 84 percent of students who enrolled on time at a UNC system school were enrolled in the same school the following year.
- Students who initially enrolled at a private, in-state institution were more likely to change schools between their first and second year: 19 percent of these students continued at a different institution.
- Students who began at UNC were the least likely to change schools: Just 9 percent of students who began at UNC were enrolled at a different institution the following year.

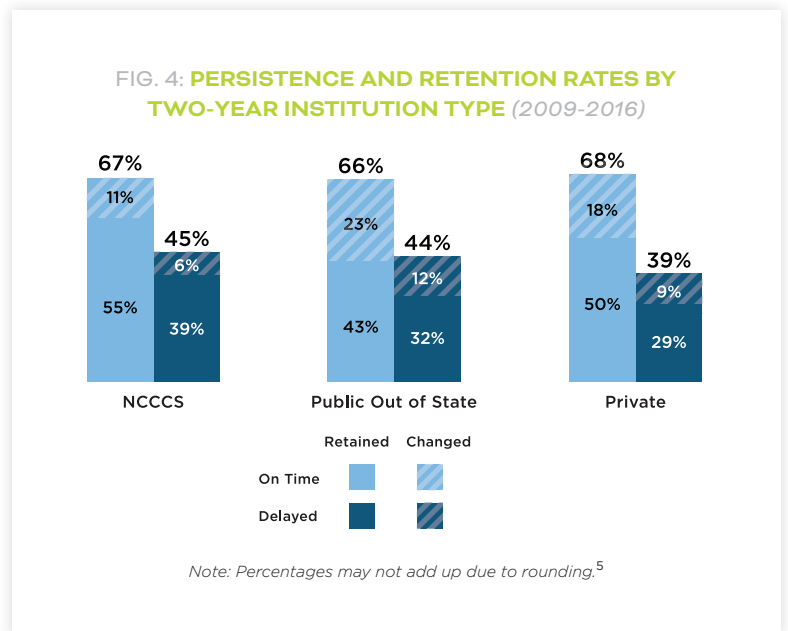
**Among delayed enrollers:**

- UNC had the highest persistence rates: 81 percent of students with delayed enrollments who began at a UNC system school were still enrolled one year later, with 71 percent still enrolled at the same school. Students who began at an in-state, private institution had the next highest persistence rates (68 percent).
- Students who delayed enrollment and began at a four-year private, out-of-state institution were the least likely to persist. Less than half (48 percent) of these students were enrolled for a second year.
- Changing institutions was most common among students who delayed enrollments and began at a private, in-state school (14 percent) or a public, out-of-state school (12 percent).

**Two-Year Institutions**

Figure 4 presents first-year persistence and retention rates by two-year institution type and timing of enrollment. Among on-time enrollers, there were few differences in overall persistence rates by institution of initial enrollment. Persistence rates ranged from 66 percent at public, out-of-state institutions to 68 percent at private institutions. Larger differences were observed for retention rates: 55 percent of North Carolina Community College System (NCCCS) students with on-time enrollments were still enrolled at their initial institution in their second year and just 11 percent had changed schools. Students who began on-time at a public, out-of-state or a private institution were more likely to change schools by their second year (23 percent and 18 percent, respectively).

Among delayed enrollers, persistence rates were higher among individuals who began at an NCCCS school system (45 percent) or another public institution (44 percent) compared to individuals who began at a private institution (39 percent). Retention rates were highest among individuals who began at an NCCCS school system (39 percent) while students with delayed enrollments who began at a public, out-of-state institution were the most likely to change schools (12 percent).



# How does persistence vary by intensity of initial enrollment?

## KEY FINDINGS:

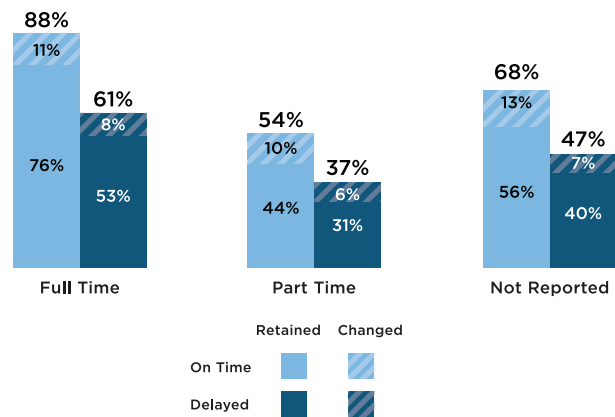
- Persistence rates were highest among students who were enrolled full time in their first term compared to students who began part time, regardless of enrollment timing.
- Students who delayed enrollment but began full time had higher persistence rates than individuals who enrolled on time as part-time students (61 percent vs. 54 percent).
- Changing institutions was slightly more common among full-time students compared to part-time students. This pattern was more pronounced among delayed enrollments.

Persistence rates were higher among students who were enrolled full-time in their first term, regardless of enrollment timing (**Figure 5**). Among on-time enrollers, overall persistence rates were 34 percentage points higher among those who were enrolled full time (88 percent) compared to those who were enrolled part time (54 percent). This difference was driven mainly by retention: 76 percent of full-time, on-time students returned to their initial institution compared to 44 percent of part-time, on-time students.

These patterns were similar for delayed enrollers. Overall persistence was 24 percentage points higher among those enrolled full time versus part time (61 percent vs. 37 percent) and this was driven mainly by differences in retention rates (53 percent vs. 31 percent, a gap of 22 percentage points). Students who delayed enrollment but began full time had higher persistence rates than individuals who enrolled on time as part-time students (61 percent vs. 54 percent).

Changing institutions was slightly more common among full-time students compared to part-time students. This pattern was more pronounced among delayed enrollments (8 percent vs. 6 percent) than on-time enrollments (11 percent vs. 10 percent).

FIG. 5: PERSISTENCE AND RETENTION RATES BY INTENSITY OF INITIAL ENROLLMENT (2009-2016)



Note: Percentages may not add up due to rounding.<sup>5</sup>

# How does persistence vary by student characteristics?

## KEY FINDINGS:

- Characteristics associated with higher persistence rates, regardless of enrollment timing, included: greater academic readiness; economic advantage; being female, Asian, or White; and being from the North Central prosperity zone (Triangle).
- Among delayed enrollers, Hispanic students had the second-highest persistence rate of any racial/ethnic subgroup.
- Among on-time enrollers, changing institutions was more common for students who were less academically ready (as measured by the ACT exam). Among delayed enrollers, changing institutions was more common for students with greater academic readiness.

## Academic Readiness

Since 2013, all North Carolina 11th graders have taken the ACT exam, which means that college-readiness indicators are available for most high school graduates beginning with the 2014 cohort.<sup>7</sup>

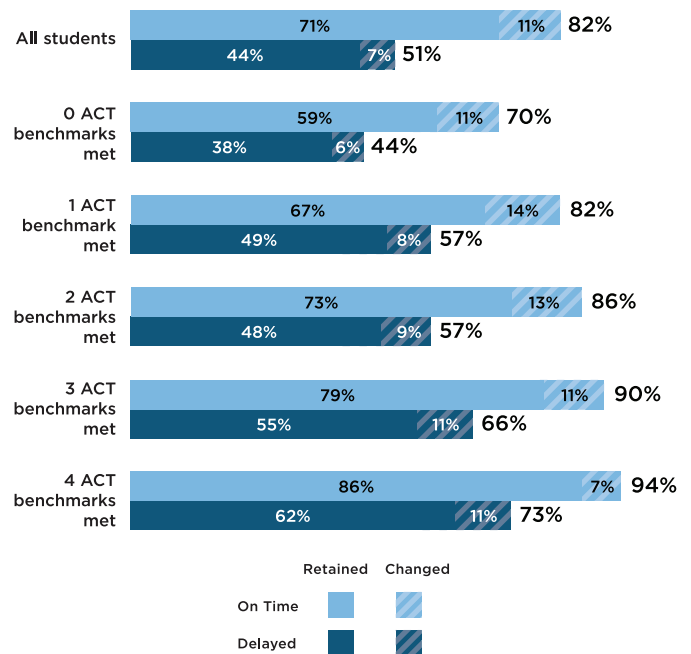
The ACT exam is comprised of four main subtests: English, Mathematics, Reading, and Science. For each of these subtests, ACT, Inc. has established a set of benchmark scores that indicate the likelihood that an individual will succeed in a related first-year college course.<sup>8</sup>

Persistence and retention rates were higher among students who met more ACT benchmarks for both on-time and delayed enrollers (**Figure 6**). The average overall persistence rate for on-time enrollers was 82 percent, ranging from 70 percent among those who met no ACT benchmarks to 94 percent among those who met all four ACT benchmarks. Persistence rates were lower among delayed enrollers, ranging from 44 percent among students who met no ACT benchmarks to 73 percent among students who met all four ACT benchmarks.<sup>9</sup>

The likelihood of changing institutions between the first and second year varied depending on timing of enrollment:

- Among students with on-time enrollment, less academically prepared students were the most likely to change institutions between their first and second year: 14 percent of students who met one ACT benchmark and 13 percent of students who met two benchmarks changed institutions compared to 7 percent of students who met all four benchmarks.
- Among students who delayed enrollment, more academically prepared students were the most likely to change institutions: 11 percent of students who met three or four benchmarks changed institutions compared to 6 percent of students who met no benchmarks and 8 percent of those who met one.

FIG. 6: PERSISTENCE AND RETENTION RATES BY ACADEMIC READINESS (2014-2016)



Note: Percentages may not add due to rounding.<sup>8</sup>



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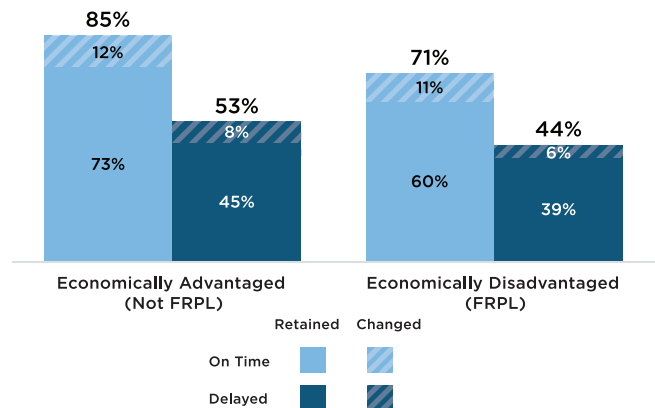
## Economic Disadvantage

**Figure 7** shows the differences in persistence rates by economic disadvantage, as measured by free- and reduced-price lunch eligibility (FRPL) in high school.

For on-time enrollers, there was a 14 percentage point gap between those who were economically advantaged (not FRPL; 85 percent) and those who were economically disadvantaged (FRPL; 71 percent). This difference was driven mostly by retention rates, which were 73 percent for the more economically advantaged compared to 60 percent for those who were more disadvantaged (13 percentage point difference). Change rates were also one percentage point higher among the economically advantaged, which may be related to greater overall college access for this group.

This pattern was consistent for those who delayed postsecondary enrollment though the overall gaps were smaller. Persistence rates were higher for more economically advantaged students compared to more disadvantaged students (53 percent vs. 44 percent), a difference driven by gaps in both retention rates (45 percent vs. 39 percent) and change rates (8 percent vs. 6 percent). Again, the higher change rates among economically advantaged students may reflect differences in overall college access.

**FIG. 7: PERSISTENCE AND RETENTION RATES BY ECONOMIC DISADVANTAGE (2009-2016)**



Notes: Percentages may not add due to rounding; FRPL = Free- and reduced-price lunch eligibility.<sup>5</sup>

## Demographic Characteristics

**Table 1** (on the next page) highlights overall persistence, retention, and change rates by select demographic characteristics (geography, sex, and race/ethnicity) and timing of enrollment.<sup>10, 11</sup>

### Among students with on-time enrollment:

- Persistence rates ranged from 76 percent in the Sandhills prosperity zone to 84 percent in the North Central prosperity zone, an eight percentage point difference. These gaps were primarily driven by differences in retention rates.
- Change rates did not vary greatly across prosperity zones, ranging from 11 percent to 12 percent.
- Female students (83 percent) were more likely to persist than male students (79 percent), largely due to differences in retention rates (72 percent vs. 68 percent). Male and female students changed institutions at nearly the same rates.
- Asian students had the highest overall persistence rates (90 percent), followed by White (84 percent), Hispanic (79 percent), Black (74 percent), and American Indian (71 percent) students.
- Retention rates by race/ethnicity followed a similar pattern, with Asian students having the highest retention rates (82 percent) and American Indian students having the lowest (60 percent).
- Black (12 percent) and White (12 percent) students were the most likely to change institutions between their first and second years. Asian (8 percent) and Hispanic (9 percent) students were the least likely to change institutions.



TABLE 1: PERSISTENCE AND RETENTION RATES BY DEMOGRAPHIC CHARACTERISTICS AND TIMING OF ENROLLMENT (2009-2016)

	On Time (Fall after Graduation)			Delayed (Within 2 years)			Number of Students	
	Persistence (any institution)	Retention (same institution)	Changed institutions	Persistence (any institution)	Retention (same institution)	Changed institutions	On Time	Delayed
<b>Overall</b>	<b>81%</b>	<b>70%</b>	<b>11%</b>	<b>50%</b>	<b>43%</b>	<b>7%</b>	<b>431,823</b>	<b>58,618</b>
Prosperity Zone								
North Central	84%	74%	11%	53%	46%	8%	105,971	13,284
Northeast	77%	66%	11%	45%	38%	7%	23,013	3,194
Northwest	80%	68%	12%	49%	43%	6%	26,328	3,294
Piedmont-Triad	81%	70%	11%	50%	43%	7%	75,551	10,466
Sandhills	76%	64%	12%	45%	38%	7%	36,813	6,183
Southeast	79%	67%	11%	49%	42%	7%	38,365	5,648
Southwest	82%	71%	12%	50%	43%	7%	100,866	13,321
Western	80%	68%	12%	49%	43%	6%	24,883	3,218
Sex								
Female	83%	72%	12%	52%	44%	7%	240,112	30,631
Male	79%	68%	11%	48%	41%	7%	191,711	27,987
Race/Ethnicity								
American Indian	71%	60%	11%	42%	38%	5%	4,940	970
Asian	90%	82%	8%	63%	57%	6%	13,455	1,266
Black	74%	62%	12%	43%	36%	7%	106,248	21,072
Hispanic	79%	70%	9%	55%	50%	5%	25,723	5,730
White	84%	73%	12%	54%	46%	8%	268,938	27,748

Note: Percentages may not add due to rounding. Numbers by prosperity zone and race/ethnicity do not sum to the overall total due to the exclusion of a small number of students who could not be classified in the above categories.

### Among students with delayed enrollment:

- Persistence rates ranged from a low of 45 percent among students from the Northeast and Sandhills prosperity zones to a high of 53 percent among students from the North Central prosperity zone, an eight percentage point gap.
- Retention rates by prosperity zone followed a similar pattern, ranging from a low of 38 percent among students from the Northeast and the Sandhills prosperity zones to a high of 46 percent among students from the North Central prosperity zone.
- Students from the Northwest (6 percent) and Western (6 percent) prosperity zones were the least likely to change institutions while students from the North Central prosperity zone (8 percent) were the most likely to change institutions.
- Female students were more likely to persist compared to male students (52 percent vs. 48 percent), largely due to differences in retention. There were no notable sex differences in the share of students who changed institutions.
- Asian students had the highest overall persistence rates (63 percent) followed by Hispanic (55 percent), White (54 percent), Black (43 percent), and American Indian (42 percent) students.



- Asian students also had the highest retention rates (57 percent) followed by Hispanic students (50 percent). Black students had the lowest retention rates (36 percent) followed by American Indian students (38 percent).
- White students were the most likely to change institutions (8 percent). American Indian and Hispanic students were the least likely to change institutions (5 percent for both groups).

## Conclusions

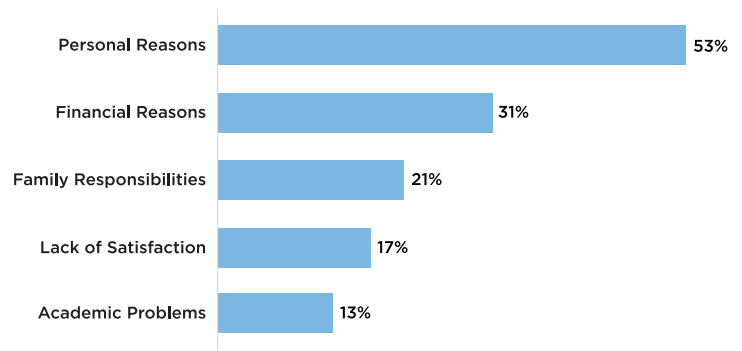
Persistence to degree completion is a challenge for both individual students and the institutions they are attending, and overall patterns of persistence and retention can amplify and exacerbate inequalities shown in college access. Identifying patterns of college access and persistence among North Carolina high school graduates is critical to guiding intervention strategies.

The results presented in this brief are consistent with past research completed using national samples, finding similar patterns of persistence with respect to four-year versus two-year, public versus private, academic readiness, economic advantage, and demographic characteristics.<sup>12</sup> National research suggests that no single reason for leaving dominates (**Figure 8**). Among students in the United States who entered postsecondary in 2003-04 and left after their first year without a degree, personal reasons (53 percent) were the most commonly reported factor followed by financial reasons (31 percent), family responsibilities (21 percent), lack of satisfaction (17 percent), and academic problems (13 percent; students could report multiple reasons).<sup>13</sup> While the patterns of results in this data brief may suggest similar reasons for leaving or changing institutions, these data do not identify why North Carolina students left and do not include detail on student collegiate academic performance or financial aid status.

Though there are many unique reasons why individuals leave institutions, research on first-year persistence among students who began enrollment at a four-year institution suggested that there are three primary groups of students who leave their initial institution after the first year:<sup>14</sup>

- **Underprepared students** who lack full academic preparation. These students were less college-ready and often entered postsecondary with a lower high school GPA and/or standardized test scores. Underprepared students were more likely to be first-generation students and were the most likely to drop out of postsecondary education entirely or to transfer to a two-year program.<sup>15</sup>
- **Affordability issues:** Among college-ready students, concern about having enough funds for college was the single greatest risk factor in attrition. Among students who initially enrolled at a four-year program, students identified as

FIG. 8: TOP 5 REASONS CITED FOR LEAVING POSTSECONDARY AMONG STUDENTS WHO LEFT AFTER THE FIRST YEAR (2003-04)



Note: Students could report more than one reason.

Source: Ross et al. (2012)



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leaving their initial institution due to affordability issues were the least likely to drop out and were the most likely to persist in their postsecondary education by transferring to a lower-cost institution.

- **“Unexpected Underperformers”** were students who were academically prepared and could afford college but then performed poorly. The educational trajectories of these students were less predictable as the reasons for unexpectedly poor performance were more variable than purely academic underpreparation or financial concerns and may include factors such as a lack of non-cognitive college readiness skills, issues in mental or physical health, interpersonal problems, or other personal or family reasons.

A combination of economic, demographic, and individual characteristics predict persistence and attrition. As such, there is no single intervention that will fully address challenges of student persistence. Identifying the likely reasons for leaving and addressing those reasons means unique programs may be needed for different student populations. For example, underprepared students may be better served by more comprehensive preparation and transition programs. For students who are struggling financially, programs that help students navigate their potential funding mechanisms and connect them with opportunities to learn and earn (e.g. work study) may be more impactful.<sup>16</sup> Interventions for students who leave for “personal reasons” or who are at risk of being “unexpected underperformers” may be more varied. These may be institutionally specific and will require more research to fully understand.

## References

1. A small number of students (396 or 0.05 percent of all graduates) had their first reported enrollment at a less than two-year institution. For the purposes of this analysis, less than two-year institutional enrollments were included with two-year institutions.
2. This report uses postsecondary enrollment records from the National Student Clearinghouse (NSC) to examine the postsecondary outcomes of North Carolina high school graduates. The NSC is a nonprofit organization that provides postsecondary enrollment data and verification for more than 3,750 colleges and universities in the United States. Collectively, these institutions serve 97% of all postsecondary students nationwide and 98% of students in North Carolina.  
  
The NSC data does not cover all institutional sectors equally, however. Nearly all students enrolled at a public institution are covered in the NSC data, as are the majority of students at four-year, non-profit private institutions. While NSC coverage of the for-profit sector has been improving, it remains less comprehensive: just 82% of enrollments at four-year for-profit institutions were covered in 2017 and this rate was even lower (25%) for two-year for-profit institutions. In addition to these coverage gaps, students can file requests for privacy under the Family Educational Rights and Privacy Act (FERPA) that prohibit the release of their enrollment records.
3. Crissman Ishler, Jennifer L., and M. Lee Upcraft. 2005. “The keys to first-year student persistence.” pp. 27-46 in Upcraft, Gardner, and Barefoot (Eds.) *Challenging and supporting the first-year student: A handbook for improving the first year of college*. San Francisco: Jossey-Bass.
4. Ibid. See also: Burrus, Jeremy, Diane Elliott, Meghan Brenneman, Ross Markle, Lauren Carney, Gabrielle Moore, Anthony Betancourt, Teresa Jackson, Steve Robbins, Patrick Kyllonen, and Richard D. Roberts. 2013. *Putting and Keeping Students on Track: Toward a Comprehensive Model of College Persistence and Goal Attainment*. ETS Research Report RR-13-14. ETS: Princeton, NJ. | National Center for Education Statistics. 2017. *Digest of Education Statistics* (Table 326.30). Washington, DC: U.S. Department of Education. | Ross, Terris, Grace Kena, Amy Rathbun, Angelina KewalRamani, Jijun Zhang, Paul Kristapovich, and Eileen Manning. 2012. *Higher Education: Gaps in Access and Persistence Study*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

	On Time	Delayed
<b>Fig. 2: Institution of Initial Enrollment</b>		
Four-Year	257,713	12,116
Two-Year	174,110	46,502
<b>Fig. 3: Four-Year Institutions</b>		
UNC System	179,818	5,831
Public, Out of State	17,965	1,355
Private, In State	40,626	2,030
Private, Out of State	19,304	2,900
<b>Fig. 4: Two-Year Institutions</b>		
NCCCS	166,879	43,148
Public, Out of State	4,264	2,482
Private	2,967	872
<b>Fig. 5: Intensity of Initial Enrollment</b>		
Full Time	320,844	23,756
Part Time	45,081	16,987
Not Reported	65,898	17,875
<b>Fig. 6: Academic Readiness</b>		
0 ACT benchmarks met	58,476	5,112
1 ACT benchmarks met	25,853	1,302
2 ACT benchmarks met	22,949	801
3 ACT benchmarks met	20,317	517
4 ACT benchmarks met	35,498	608
<b>Fig. 7: Economic Disadvantage</b>		
Not FRPL	327,768	36,037
FRPL	104,055	22,581



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## References, continued

6. Students were classified as having an on-time enrollment if they were enrolled in a postsecondary institution in the Fall semester of their high school graduating year. Students were classified as having delayed enrollment if they were not enrolled in a postsecondary institution in the fall semester of their high school graduating year but were enrolled during a fall or spring semester within two years of their graduation. For the purposes of all analyses, certain enrollments were excluded from the evaluation: enrollments that began and ended between May 1st and August 31st (summer enrollments), enrollments shorter than 21 days (e.g., Maymesters and J-terms), and enrollments with a status of "Withdrawn," "Leave of Absence," or "Deceased."

For students with simultaneous enrollments at multiple institutions in the same 6-month period (January-June or July-December), enrollment intensity was based on the two terms with the highest enrollment status. Enrollment intensity was considered full-time if at least one term was full-time or three-quarters-time, or if both terms were half-time. Enrollment intensity was considered part-time if both terms were less-than-half-time, one was half-time and the other was less-than-half-time, or one was less-than-half-time and the other was missing.

Students who completed a degree or certificate were excluded from the evaluation of persistence. Of the 431,823 students who enrolled in postsecondary on-time, 991 had completed a degree or certificate by the next year. Of the 58,618 students who delayed enrollment into postsecondary, 89 had received a degree or certificate by the next year.

7. 91% of graduates from 2014 to 2016 had scores for all four ACT benchmarks. College-readiness benchmark scores are 18 for the English subtest, 22 for Mathematics and Reading, and 23 for Science.
8. The ACT exam college-readiness benchmarks are established by ACT, Inc. and "represent the level of achievement required for students to have a 50% chance of obtaining a B or higher or about a 75% chance of earning a C or higher in corresponding credit-bearing first-year college courses." (ACT, Inc. 2010. *What Are ACT's College Readiness Benchmarks?*).

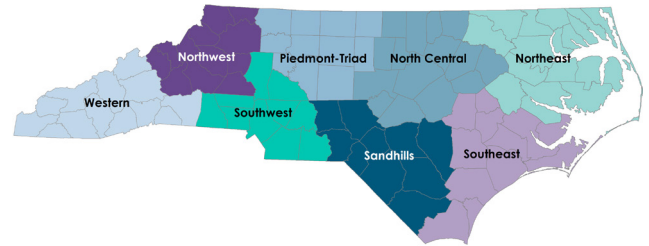
ACT, Inc.'s College Readiness Benchmarks have been developed based on the actual performance of first-year college students. Through its Course Placement Service, the ACT has collected test score and course grade data on over 90,000 students across 98 two- and four-year institutions. These benchmark outcomes reflect the typical performance of a first-year college student.

More information on ACT college readiness standards and benchmarks is available at <https://www.act.org/content/act/en/college-and-career-readiness/standards.html>.

	On Time	Delayed
<b>Total Graduates with ACT Scores</b>	<b>163,093</b>	<b>8,340</b>
0 ACT benchmarks met	58,476	5,112
1 ACT benchmark met	25,853	1,302
2 ACT benchmarks met	22,949	801
3 ACT benchmarks met	20,317	517
4 ACT benchmarks met	35,498	608

9. Among delayed enrollers, the persistence rate for those who met only one benchmark was slightly higher than that of those who met two (57.3% vs. 56.3%). This may be attributable to the types of institutions that these students chose to attend or due to smaller sample sizes of delayed enrollers in this analysis. Since 2015 and 2016 graduates have not completed the two-year period for delayed enrollment, delayed enrollments in academic preparedness analyses include only 2014 graduates (n=8,340).

10. North Carolina's eight prosperity zones were created as part of the 2014 legislation (HB 1031) that also created the public-private partnership Economic Development Partnership of North Carolina (EDPNC). The main goal of the prosperity zones is to promote enhanced collaboration and cooperation between state, local, and regional entities. Each zone has a dedicated EDPNC representative and ranges in size from 10 to 17 counties each. Regional schools designated as Juvenile Justice and Residential Schools were not included in the prosperity zone analysis.



11. Racial/ethnic classifications were provided by the student; the identification used here is from the NC Department of Public Instruction. Hispanic included those of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race. All other groups are non-Hispanic. Prior to 2011, Pacific Islander was not a separate category and these students were classified as Asian. This group was therefore combined with Asian for the purposes of this analysis. Multiracial students were included in overall calculations, but this group was not included in subgroup analysis due to small sample size and the considerable heterogeneity of its membership.
12. Crissler Ishman and Upcraft (2005); National Center for Education Statistics (2017).
13. Ross et al. (2012). Additional reasons for leaving included scheduling problems (8%) and "finished classes" (4%). Twenty-four percent of students who left postsecondary without completing a degree reported "other reason" that could not be classified in the other categories. Reasons for leaving varied by sex and race/ethnicity: male students were more likely to report leaving for financial reasons than female students (40% vs. 23%) while female students were more likely than male students to report leaving for personal reasons (63% vs. 43%) and academic problems (16% vs. 10%). Among male students, Hispanic students were more likely to report leaving for financial reasons (59%) compared to Asian (38%), White (36%), and Black (33%) students. Meanwhile, Black male students were more likely to report leaving for family reasons (36%) than White (19%) and Hispanic (17%) male students.
14. Mattern, Krista D., Jessica P. Marini, and Emily J. Shaw. 2015. "Identification of Multiple Nonreturner Profiles to Inform the Development of Targeted College Retention Interventions." *Journal of College Student Retention: Research, Theory, & Practice*: 17(1): 18-43.
15. Mattern et al. (2015) found that 35% of underprepared students dropped out after their first year and 65% transferred, compared to a 74% transfer rate among "Unexpected Underperformers" and 82% among students with affordability issues. Among those who transferred, 64% of the students identified as underprepared transferred to a two-year institution compared to 46% of "Unexpected Underperformers" and 40% of students identified as facing affordability issues.
16. Work in other states can help guide potential strategies. See, for example, this review of successful persistence/retention efforts from Indiana: Spradlin, Terry E., David J. Rutkowski, Nathan A. Burroughs, and Justin R. Lang. 2010. "Effective College Access, Persistence and Completion Programs, and Strategies for Underrepresented Student Populations: Opportunities for Scaling Up." Center for Evaluation & Education Policy at Indiana University: Bloomington, Indiana. Retrieved from <https://www.isac.org/dotAsset/d616ed16-5205-4db4-9947-09e30539526d.pdf>

