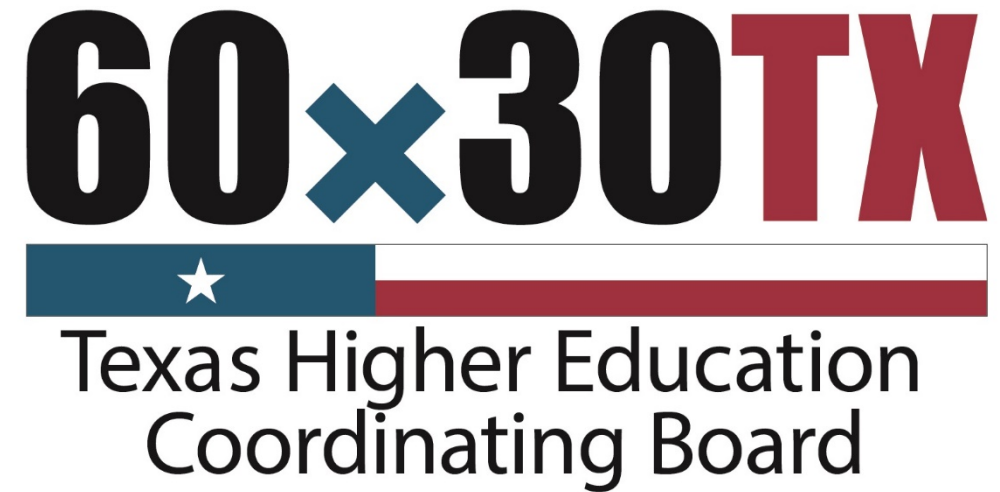


Risk Factors Associated with Excess Semester Credit Hours for Associate Degree Recipients

Chrys Dougherty, Ph.D.
TAIR Conference
March 3, 2020

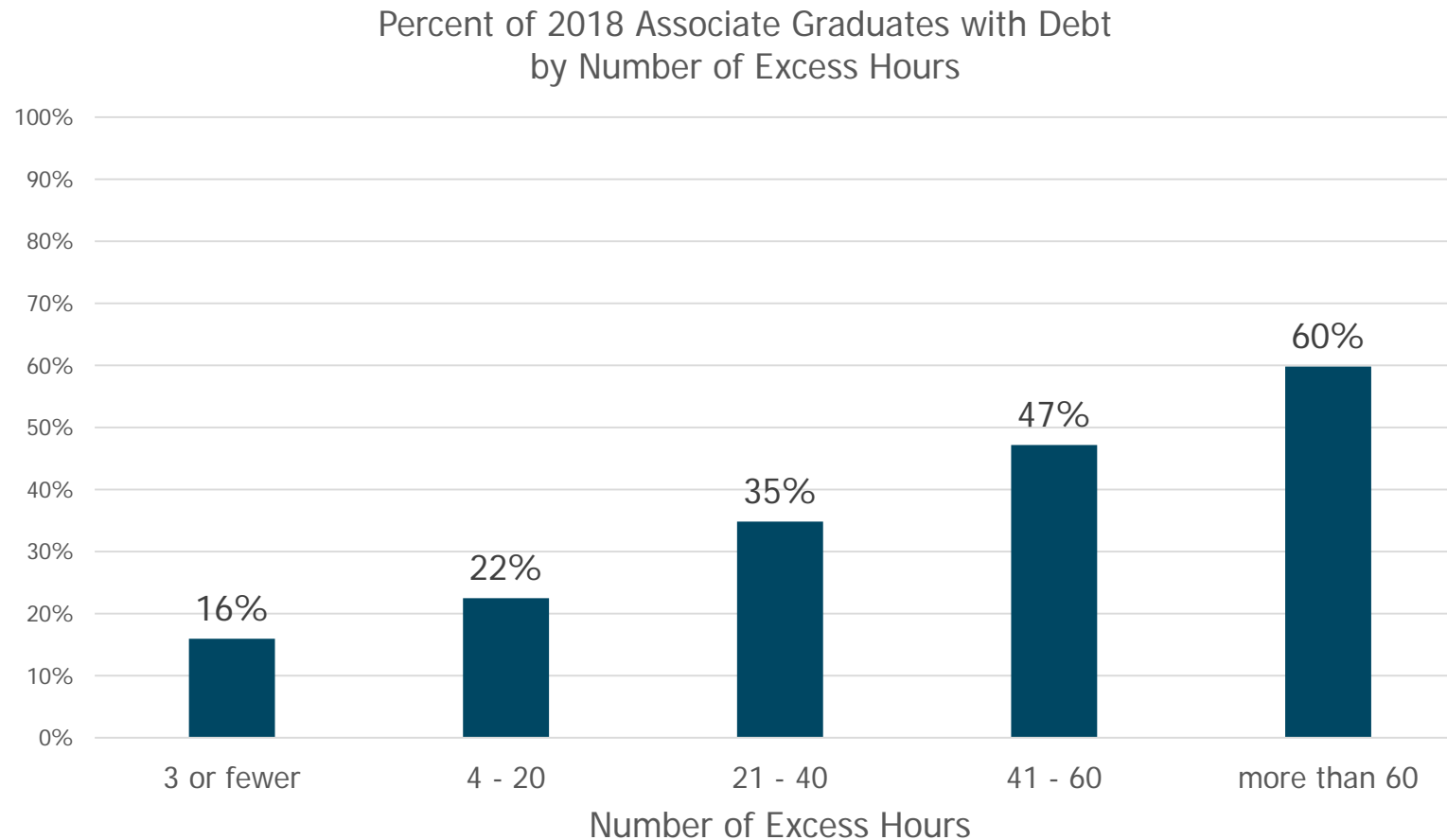


Why Focus on Excess Credit Hours?

Associated with higher levels of student debt and opportunity cost as well as cost to the state

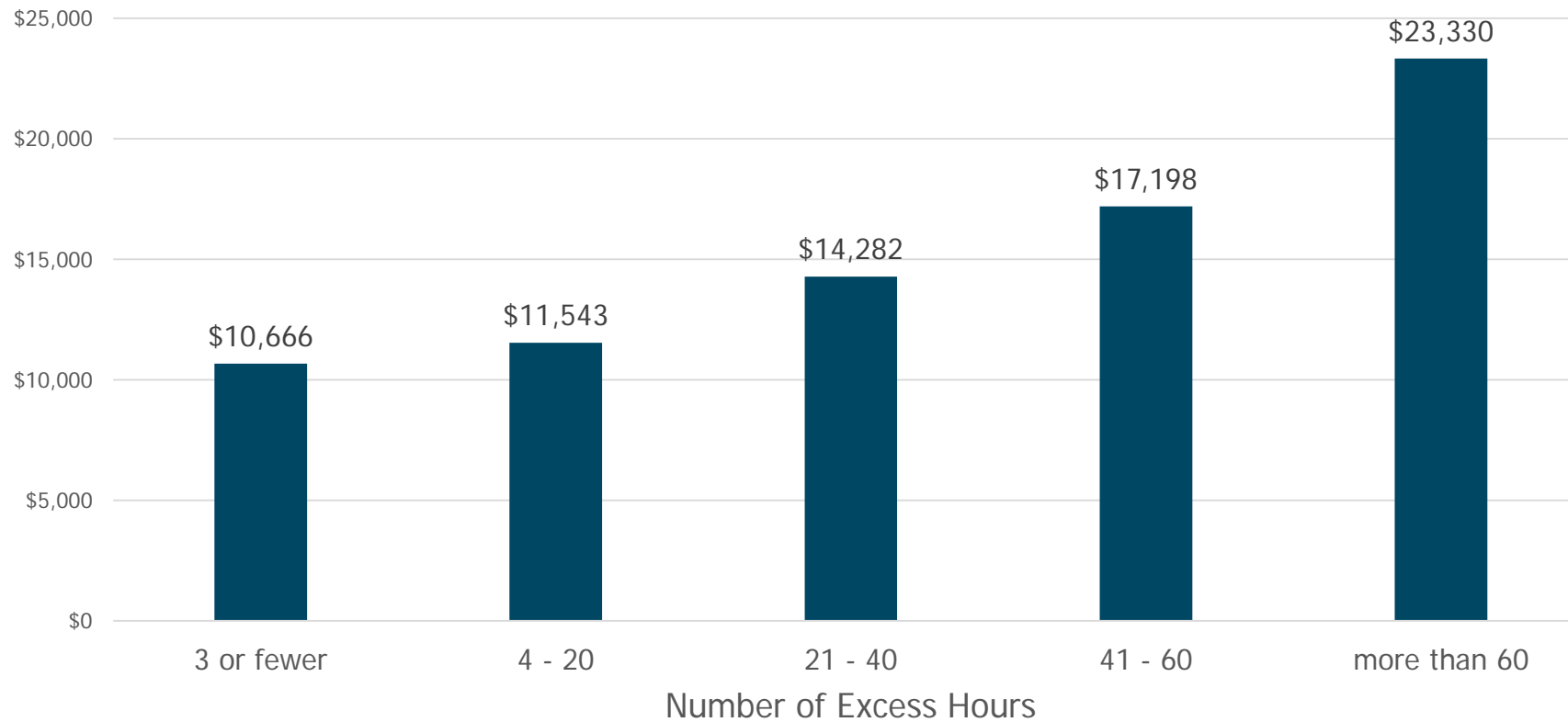
Key assumption motivating this research: Excess hours are mostly evidence that students are completing credentials less efficiently, not learning more broadly or deeply.

Excess Hours Are Associated with Higher Percentages of Students Graduating with Debt

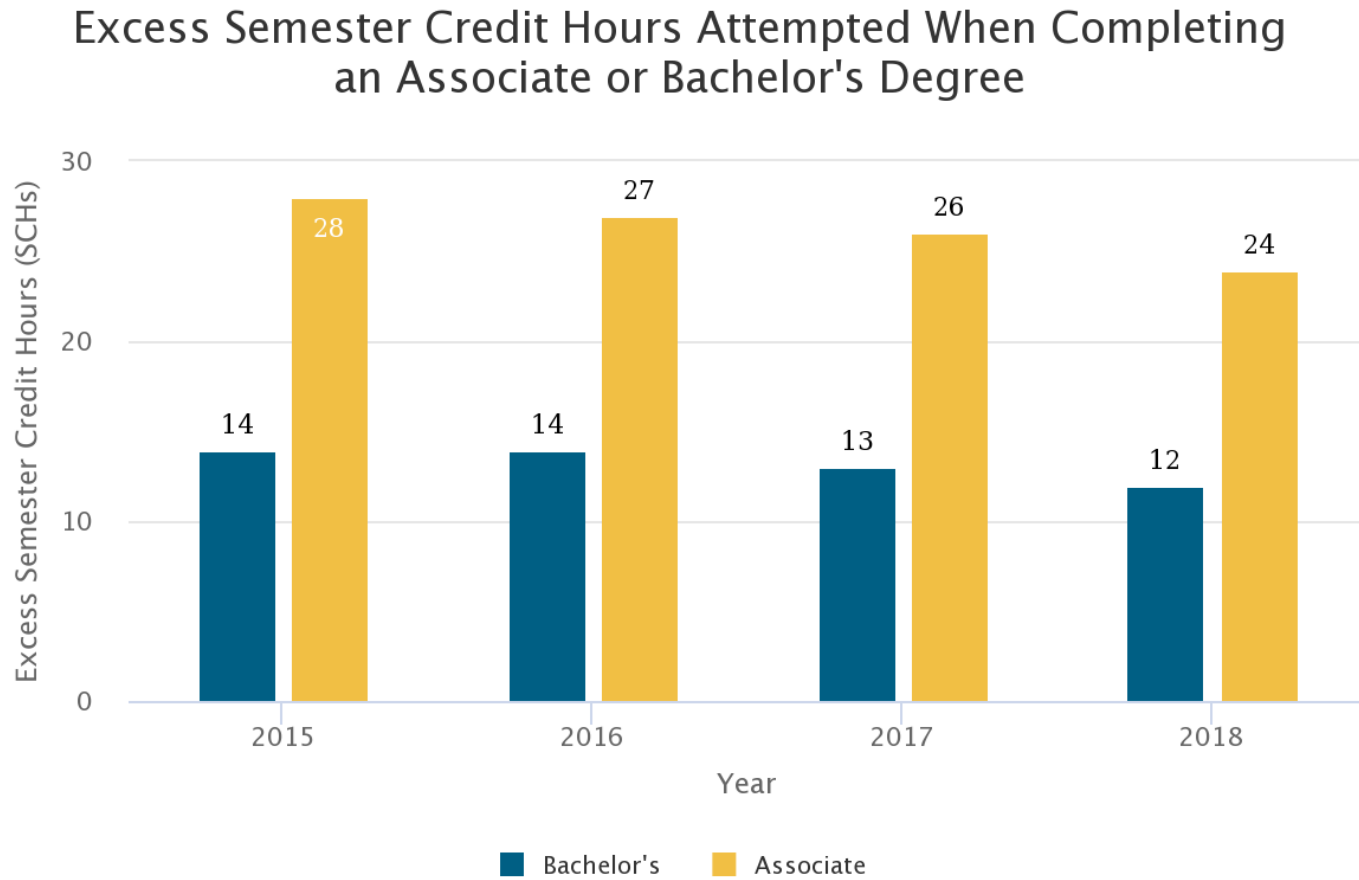


Excess Hours Are Associated with Increased Debt for Students Graduating with Debt

Average Debt for 2018 Associate Graduates with Debt
by Number of Excess Hours



Average Excess Hours Declined between 2015 and 2018



Source: 60x30TX 2019 Progress Report

Population Included in the Analysis

- Associate degree recipients in 2015-2018
- Matches accountability system methodology
 - Backward cohorts - looked back 10 years for hours attempted
 - Data from Texas public higher education institutions only
 - Prior degree recipients and students with no first-time-in-college record are excluded
- Number of students in 2018 analysis: 46,044

Transfer Categories Used

- Non-transfer students – attempted all hours in the institution where they graduated
- Two-year transfers – attempted some hours (including non-credit hours) in a different two-year institution but none in a four-year institution
- Four-year transfers – attempted some hours in a four-year institution

Excess SCH Risk Factors Examined

- Student Pell status and other demographic variables
- Transfers
- Changes in major
- Undeclared major
- Part-time and summer semesters
- Stopouts
- Course repeats
- Unsuccessfully completed credit hours
- Developmental education hours
- Dual credit hours

Three Emerged as Particularly Important

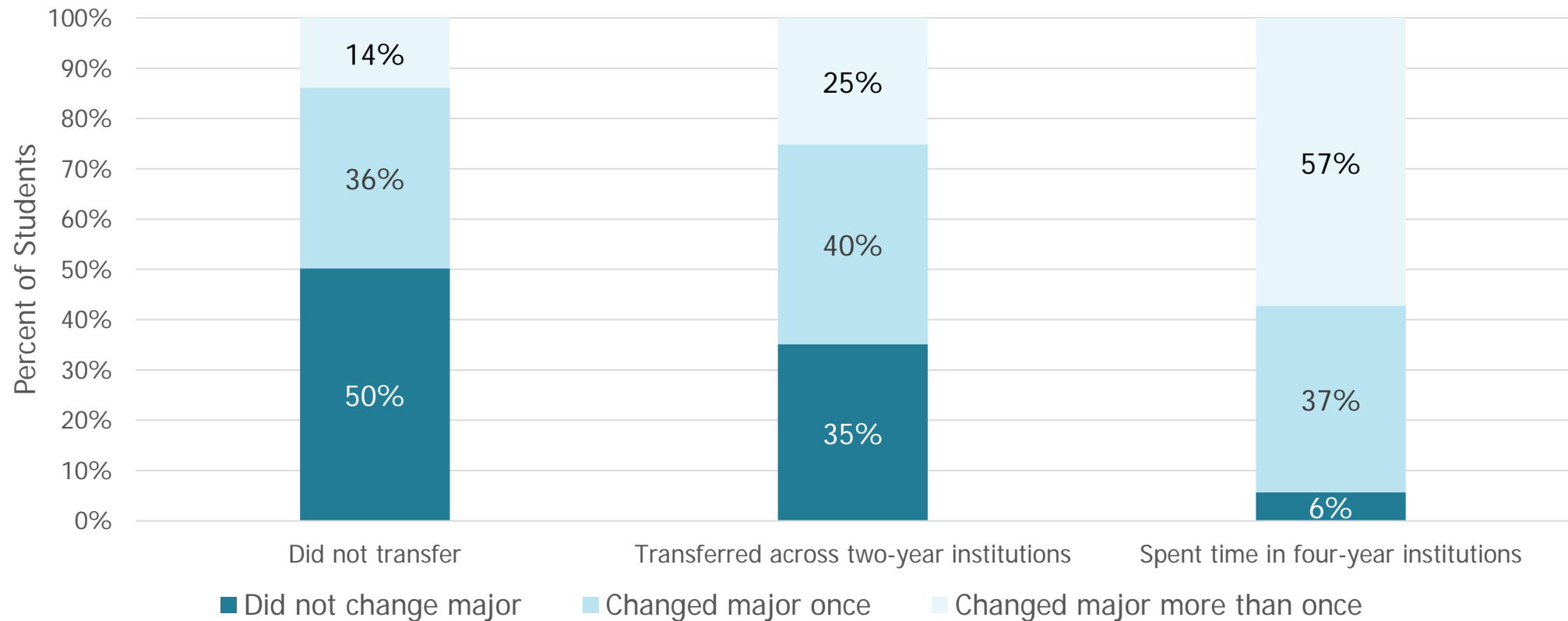
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- Developmental education hours
- Dual credit hours

Each of the Three is Strongly Associated with Excess Hours

		Percent of associate degree recipients	Average number of excess semester credit hours
Transfer status	Did not transfer	43%	11
	Transferred across two-year institutions	26%	21
	Transferred into four-year institutions	30%	44
Changes in major	Did not change major	33%	8
	Changed major once	37%	22
	Changed more than once	30%	43
Number of unsuccessfully completed credit hours	0 hours	29%	6
	1-6 hours	26%	17
	7-12 hours	18%	27
	more than 12 hours	27%	48

Risk Factors Usually Exist in Combination

2018 Associate Degree Recipients Transferring to Four-Year Institutions
Were More Likely to Change Majors



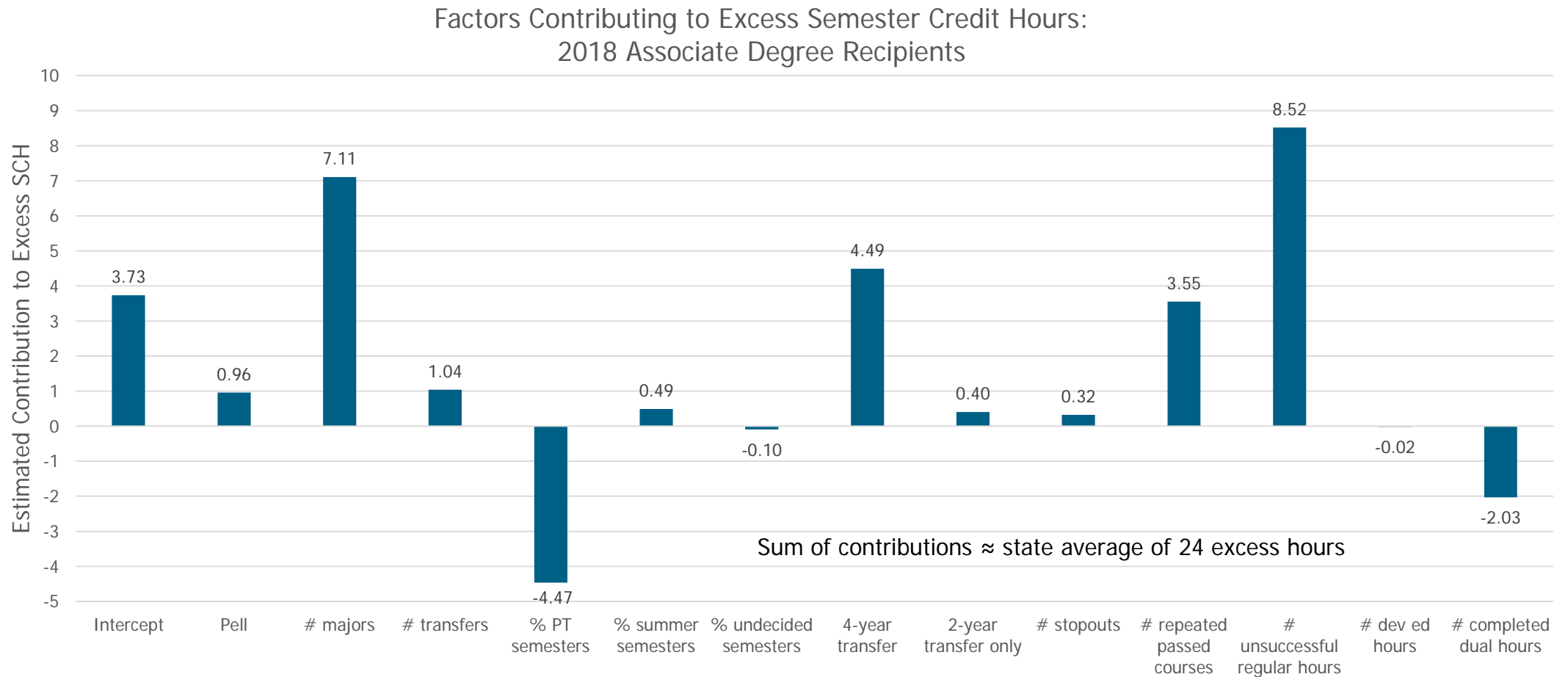
Students with No More Than One of the Three Risk Factors Had Relatively Few Excess Hours

Number of risk factors	Student status	Number of students	Average excess hours
0	no transfers, major changes, or unsuccessful hours	4,766	-3.4
1	one major change	2,482	5.2
1	1-6 unsuccessful hours	2,804	5.7
1	one transfer to another two-year institution	701	-2.1
1	one transfer to a four-year institution	180	16.8
	students with one or fewer risk factors (out of 46,137 students)	10,933	1.3

Assessing Relative Importance of these Risk Factors

- One strategy: use coefficients from ordinary least squares regression
- Regression coefficient: contribution of one additional unit of the predictor
- Multiply by average level of predictor to get total contribution
- Requires attention how variables are centered (e.g. on 0 or mean)
- Back-of-the-envelope estimate: does not take interactions or nonlinearity into account

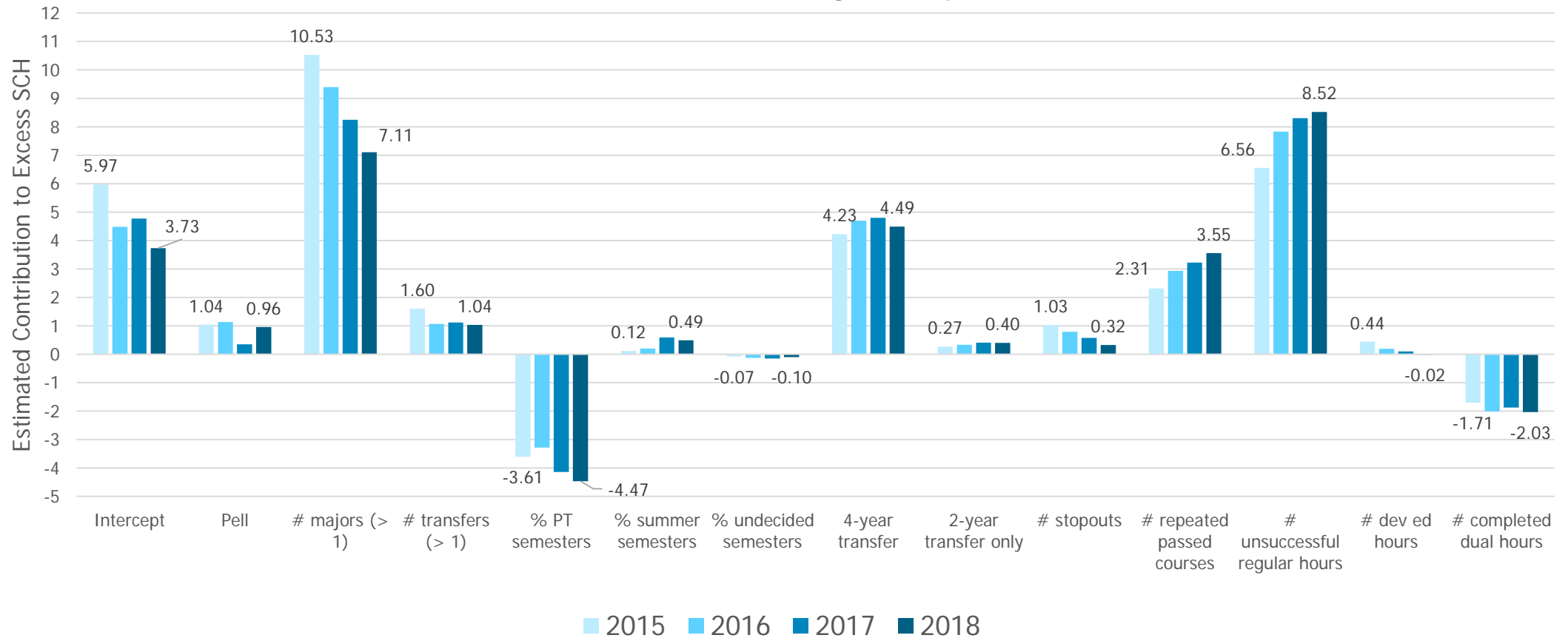
Estimated Contributions of Risk Factors in 2018



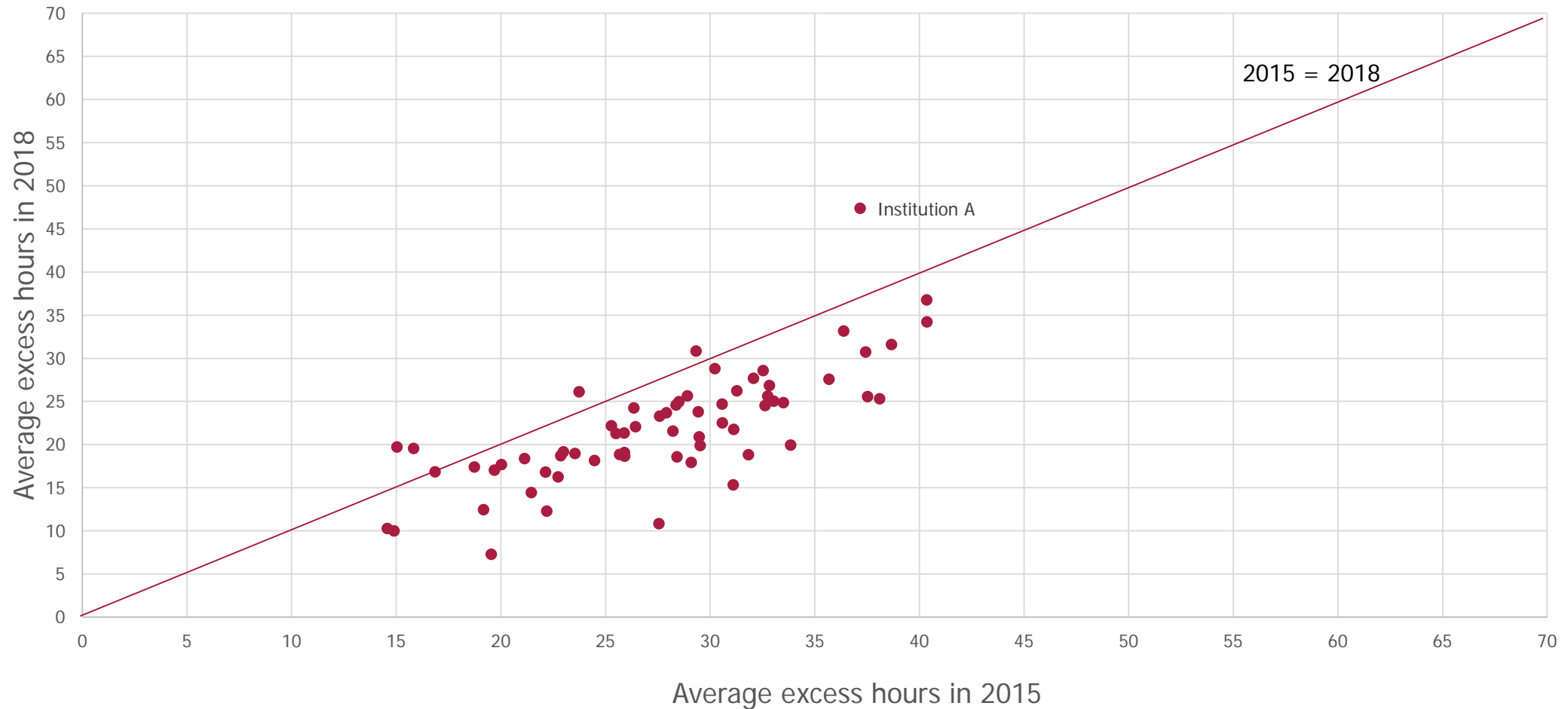
Intercept: Excess SCH associated with zero value of all predictors

Estimated Contributions of Risk Factors, 2015-18

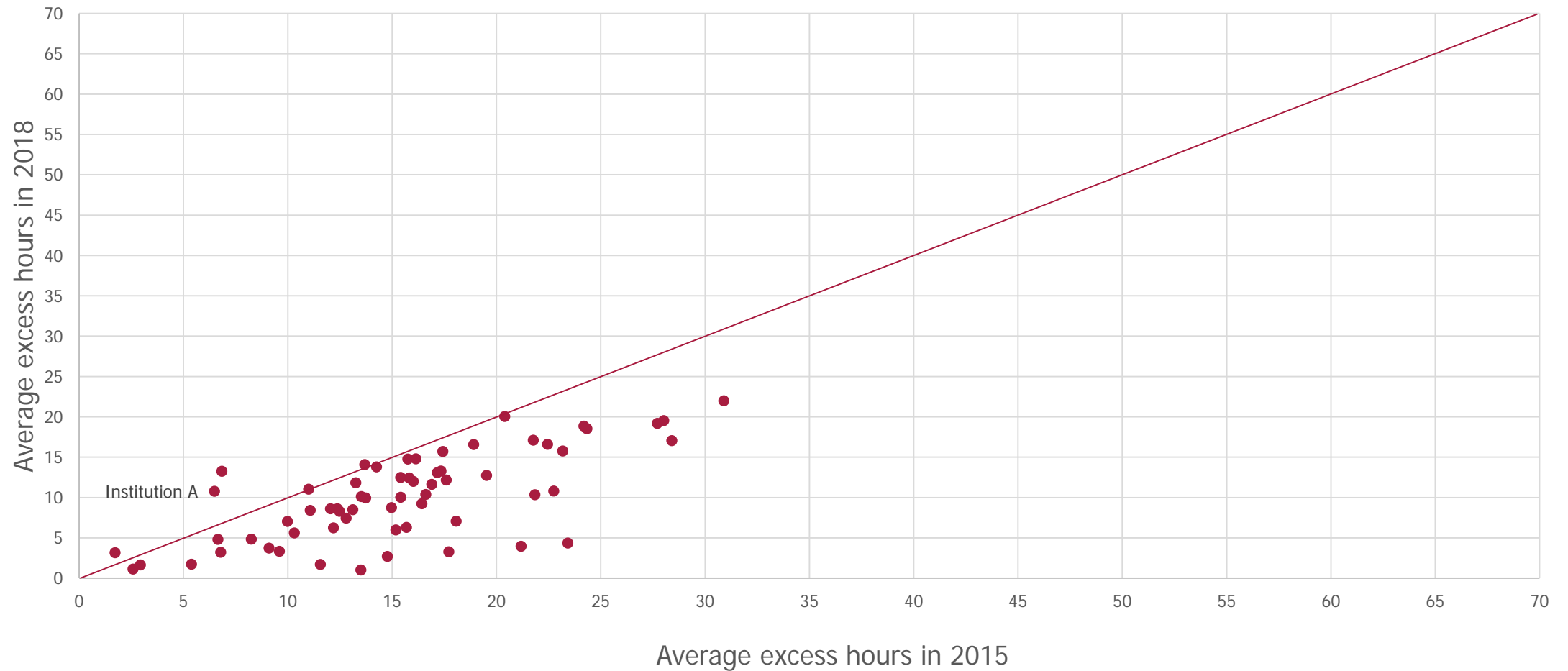
Factors Contributing to Excess Semester Credit Hours:
2015-2018 Associate Degree Recipients



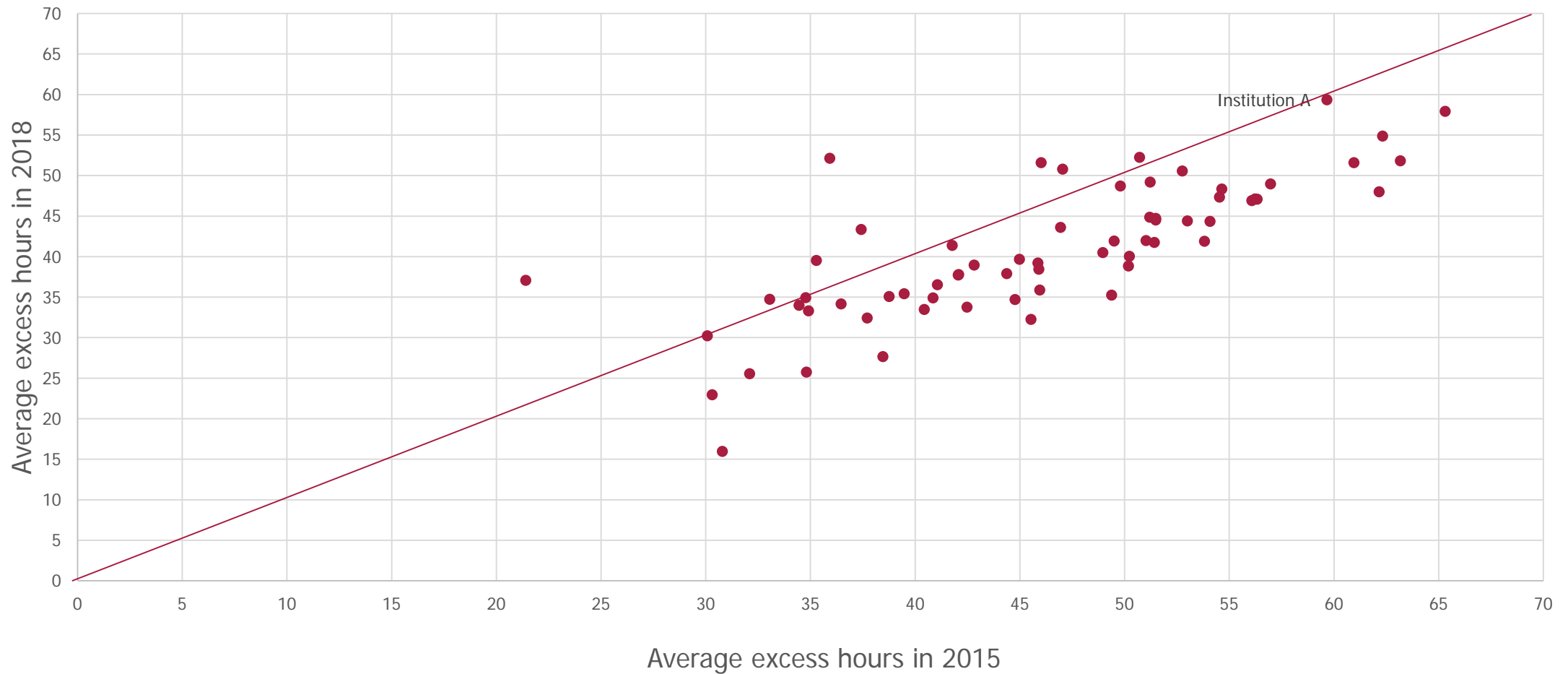
Average Excess Semester Credit Hours for 2015 and 2018 All Associate Degree Recipients



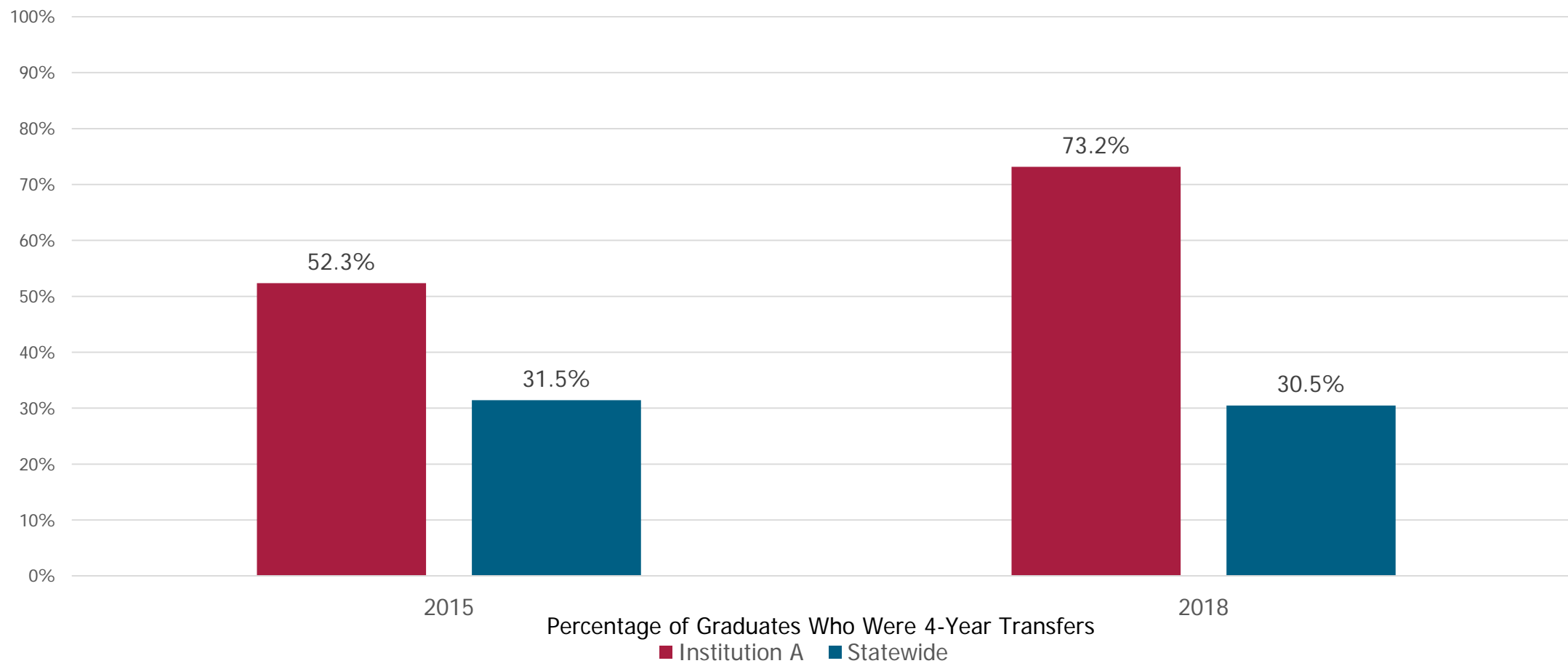
Average Excess Semester Credit Hours for 2015 and 2018 Non-Transfer Students



Excess Semester Credit Hours for 2015 and 2018 Students Transferring to 4-Year Institutions



Institutions' Mix of Students May Affect Their Average Number of Excess Hours



Discussion Questions

- How do you identify and work with students at risk for non-completion and/or accumulation of excess hours?
- What data sources do you use to keep track of students' total attempted hours across institutions?
- How would you identify cases or situations where the excess hours students accumulate are productive?

Contact information

Chrys Dougherty

Program Director, Texas Higher Education Coordinating Board

Chrys.Dougherty@theccb.state.tx.us

512-940-4964

Supplemental Slides

Excess Hours by Four-Year Transfers

Attended Their First Semester	Attended Their Last Semester	Number of students	Percent of four-year transfers	Average number of excess hours
2-year Institution	2-year Institution	5,898	42%	37.5
4-year Institution		3,965	28%	42.0
2-year Institution	4-year Institution (reverse transfer)	3,107	22%	57.1
4-year Institution		1,060	8%	49.6
All Four-Year Transfers		14,030	100%	44.1

Unsuccessfully Completed Hours by 2018 Associate Degree Recipients

		Number of hours	Average hours per student	Percent of all attempted hours
Unsuccessfully completed hours	Dropped	229,953	5.0	5.9%
	Not passed	191,374	4.2	4.9%
	Total	421,327	9.2	10.9%
Successfully completed hours		3,448,170	74.9	89.1%
All attempted hours		3,869,497	84.0	100.0%

Change in Excess Hours Associated with Change in the Number of Majors

2015-18 change in number of majors		2015 additional excess hours per additional major		change attributable to change in the number of majors
-0.136	x	8.419	=	-1.14
2015-18 change in additional excess hours per additional major		2015 average number of majors (in excess of one)		change attributable to change in the excess hours associated with each additional major
-2.046	x	1.251	=	-2.56
2015-18 change in number of majors		2015-18 change in additional excess hours per additional major		change attributable to interaction between the two changes
-0.136	x	-2.046	=	0.28
total change attributable to the number of majors				-3.42

Most of the reduction came from having fewer excess hours associated with each additional major.