The Research Base for Defining "Adequate" Public University Funding in Illinois

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Dimensions of Adequacy Addressed by Research

- Student choice
- Student characteristics and needs
- Institutional capacity
- Program effectiveness
- Program costs

Working Definition of Adequacy

"The amount of funding necessary to equitably support all students to enroll and complete a degree without placing undue financial burden on students/families and for each university to carry out its mission. The cost of adequacy will vary across institutions based on the different needs of students being served, different degree types and the different mission components across institutions."

"Defining Adequacy in K-12 Funding"

- "The degree to which funding for schools is enough for students to reach some minimal level of educational outcomes"
- In other words, adequacy is the **amount of funding** it takes (the cost) to provide a **high quality education** to all students
- In the Evidence-Based model, the components of a high quality education – those that are used to estimate the cost of adequacy – are educational elements/inputs that research has shown have a significant and positive impact on student outcomes

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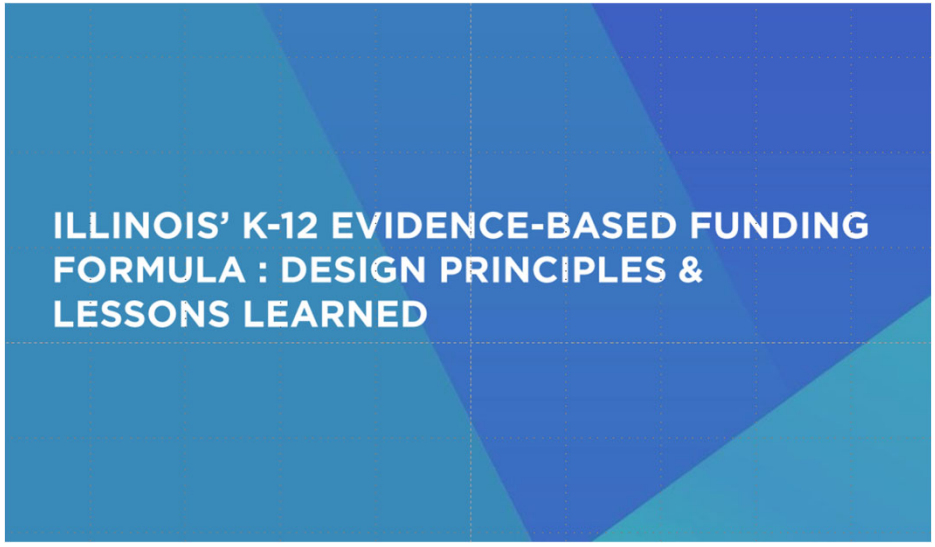
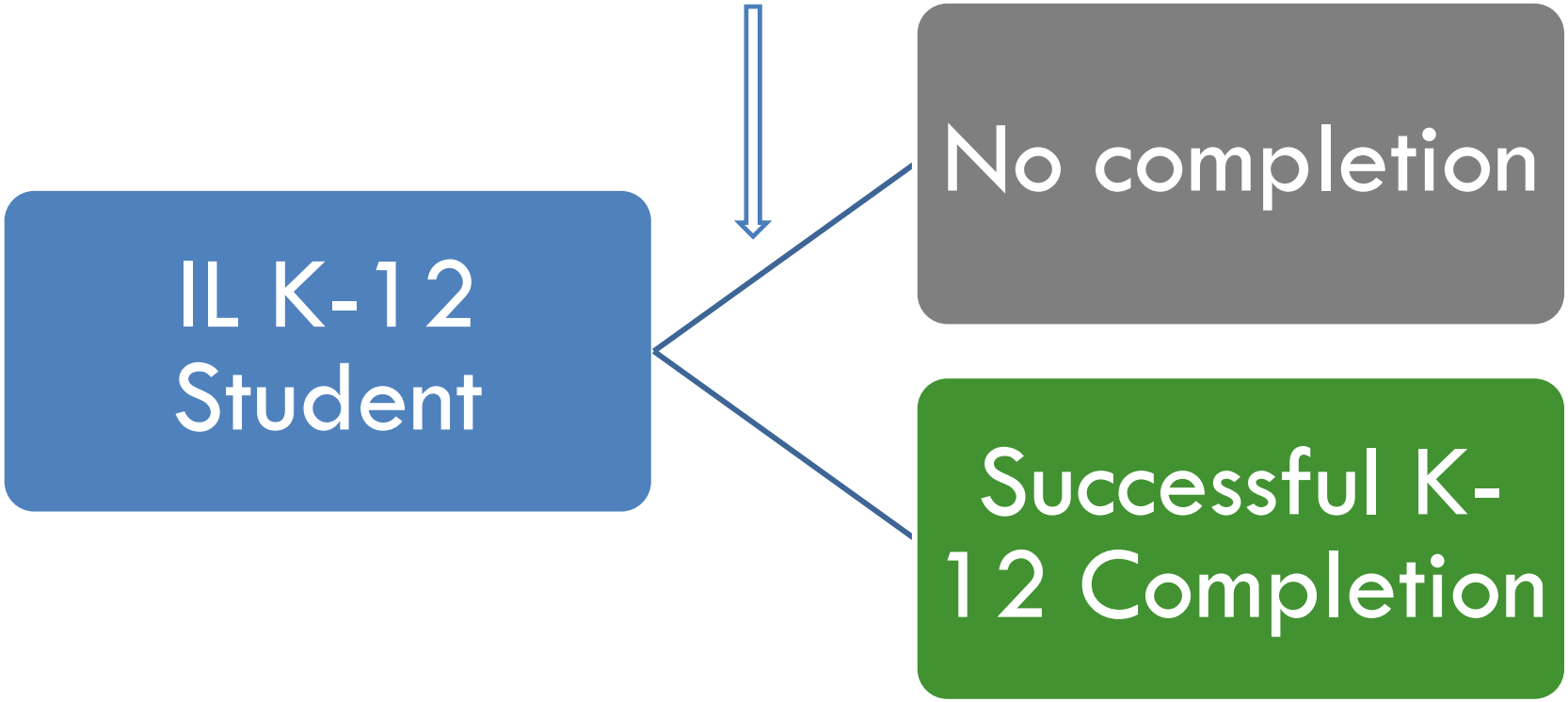
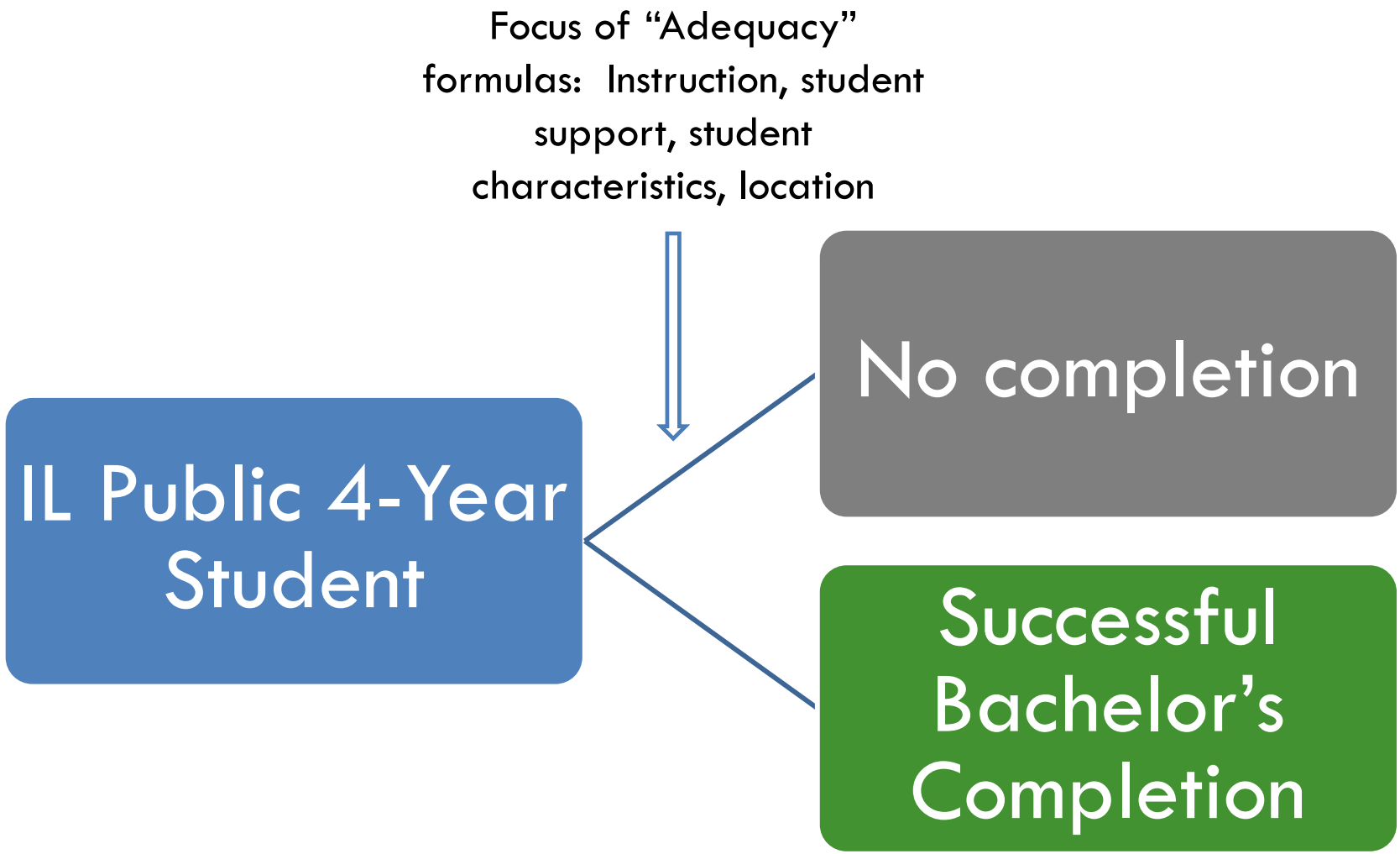


Approach to K-12 Adequacy Funding Also Describes Some Elements of Possible IL Public 4-Year Funding Adequacy

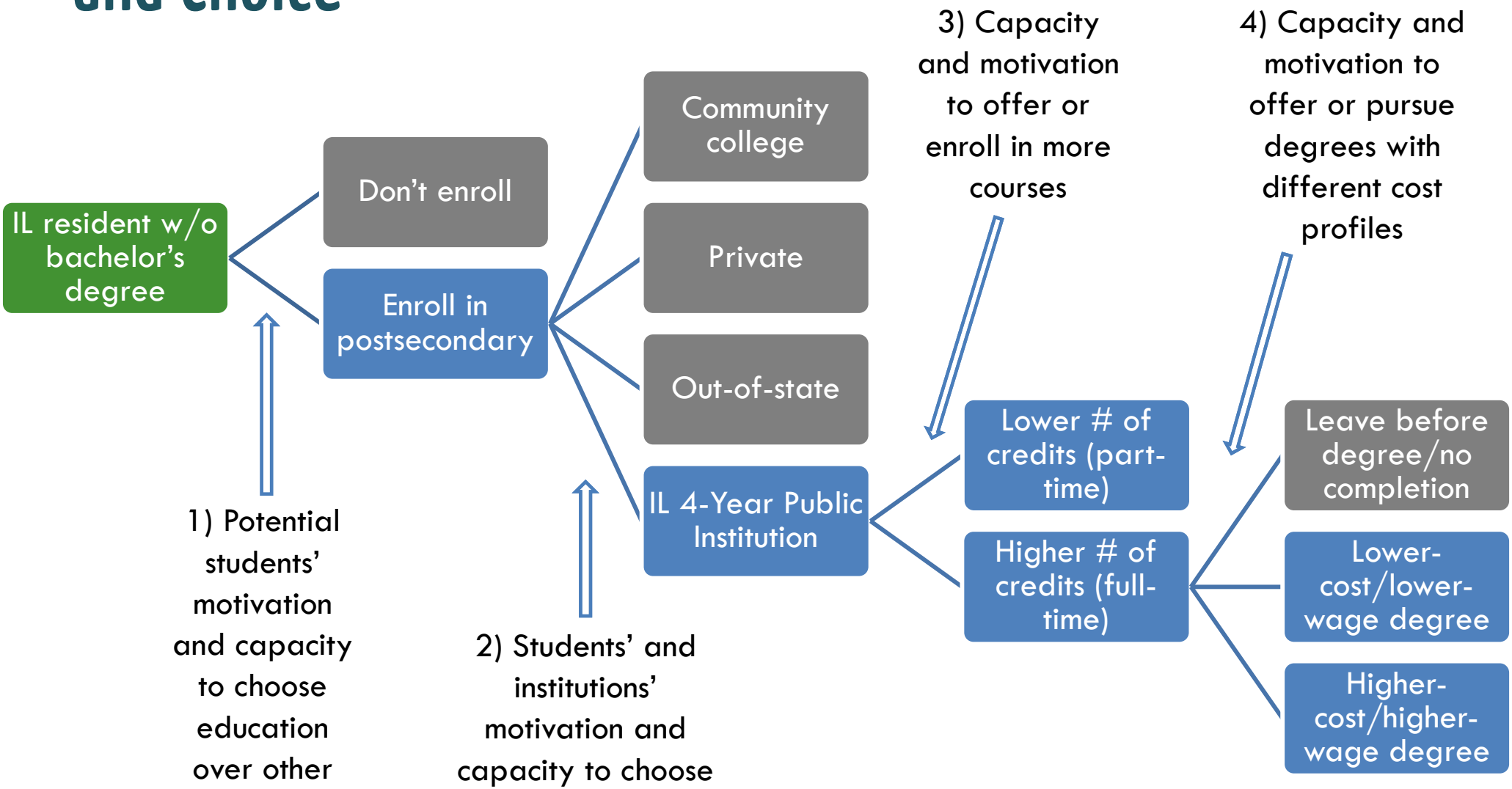
Focus of "Adequacy" formulas: Instruction, student support, student characteristics, location



If Applied to Illinois Public Four-Year Institutions, K-12 Model Might Look Like This



Working Definition Takes Into Account Other Ways Funding Affects Student and Institutional Capacity and Choice



Two Ways to Use An Additional Dollar to Improve Student Outcomes

- Keep institutional programs and services the same, but lower the price for students
- Keep the price for students the same, but invest in programs/services that improve student outcomes

Funding Adequacy and Prices

- Lower prices improve low-income student outcomes
  - More likely to choose institutions with higher graduation rates
  - More likely to graduate, shorter time-to-degree
- Higher-income students not as sensitive to price
- Two types of costs in "net price of attendance"
  - Direct: tuition, fees, books, transportation
  - Indirect: housing, food, time off work, childcare
- "Sticker" prices can also be a factor

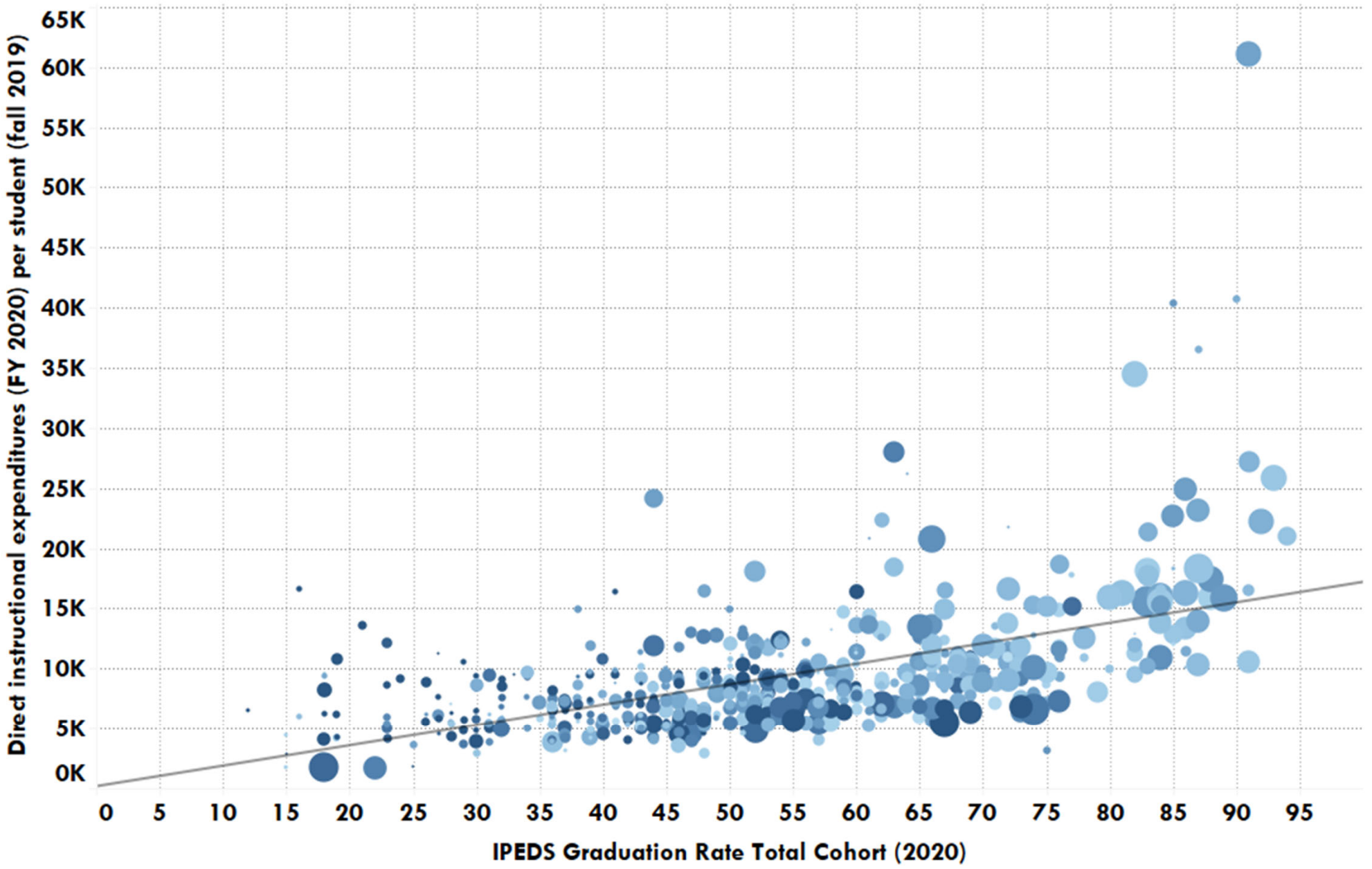
"Adequate" Institutional Funding Can Improve Student Outcomes by Supporting:

- Well-structured and predictable pathways to graduation
- Research-based advising and instructional practices
- Programs that reduce student direct or indirect costs
  - Financial aid or lower sticker prices
  - More frequent/convenient times and locations
  - Direct provision of services (childcare, health, nutrition, housing)

Student Characteristics Associated with Higher Need for Institutional Spending to Achieve Same Outcome

- Academic preparation
- Lower-income
- Parental status
- Time elapsed since last enrollment
- Distance from institution

U.S. Public Four-Year Institution Graduation Rates and Instructional Expenditures per Student



Enrollment

391 20,000 40,000 69,402

% Underrepresented Minority

3 — 50

Research Base for Institutional Spending and Funding Adequacy

- Funding is necessary but not sufficient
- There is a harder "floor" than "ceiling"
- Similar findings in studies with different beginning/end points, more control variables
- Direct instructional expenditures tend to have most consistent correlation with outcomes
- Student support can be highly effective, but depends more on program design

Spending Does Matter but it is Not Everything

Ability to predict graduation rate:	R-squared
Instruction $ per student	0.27
Student services $ per student	0.03
Total $ per student	0.21
Instruction and student services $ per student	0.23

How Program/Major Costs Affect Funding Adequacy

Examples of higher-cost programs:

- Most engineering disciplines
- Most licensed health professions
- Most performing arts

Consistent across multiple states with cost studies (IL, OH, MN, FL, TX)

Analyzing Historical Costs and Outcomes: CCRC Example

- CCRC tracked both "pathway" and "degree" costs for an entering cohort of students
- Lower levels of preparation = higher cost per degree
- Higher-cost disciplines = higher cost pathways and degrees
- Similar analysis possible at bachelor's-level institutions, too

CCRC COMMUNITY COLLEGE RESEARCH CENTER

TEACHERS COLLEGE, COLUMBIA UNIVERSITY

Can Community Colleges Afford to Improve Completion? Measuring the Costs and Efficiency Effects of College Reforms

Clive Belfield
Peter Crosta
Davis Jenkins

April 2013

CCRC Working Paper No. 55

Table 1
Pathway Costs, Output, and Costs per Completion at USACC

Student Characteristics	Number of students [1]	Pathway Cost [2]	Output [3]	Cost per Completion [= 1*2/3]
All students in 2005-06	3,800	$13,970	477	$111,310
Full-time in first semester	1,530	$19,580	271	$110,660
Part-time in first semester	2,280	$10,220	206	$112,930
Field:				
Allied Health	111	$30,560	24	$142,050
Mechanics/Repair	120	$21,710	15	$172,470
General Liberal	1,460	$17,250	222	$113,300
Arts/Science				
Business/Marketing	170	$16,320	24	$117,890
Initial Placement:				
College-ready	200	$19,670	53	$74,180
DE placement level 1	880	$18,040	157	$100,820
DE placement level 2	580	$17,860	80	$129,680
DE placement level 3	860	$15,390	76	$173,390

Notes: College credits only; not developmental education credits. Weights are based on the average duration to complete the award. Only data for curriculum (award-bearing) students are reported. Numbers rounded to nearest ten.

How Funding Adequacy Can Support Effective Programs

- Specific programs have stronger research base
- Experimental and quasi-experimental design are critical tools
- Cost-effectiveness of programs vary
- Interventions that increase coherence & fit of instructional programs are often worthwhile

Courses / Credit Hours

Completed Degree

Washington State Institute for Public Policy Cost-Benefit Calculator

- Legislatively-funded policy evaluator (similar to GAO)
- Reviews literature and attempts to estimate costs and benefits of potential public policy interventions
- https://www.wsipp.wa.gov
- (Not endorsing all conclusions presented)

Program name (click on the program name for more detail)	Date of last literature review	Total benefits	Taxpayer benefits	Non-taxpayer benefits	Costs	Benefits minus costs (net present value)	Benefit to cost ratio	Chance benefits will exceed costs
Early college high school (for high school students)	Feb. 2018	$72,471	$13,568	$58,903	($4,175)	**$68,296**	$17.36	**92 %**
College in the high school (for high school students)	Feb. 2018	$24,726	$5,113	$19,612	($284)	**$24,442**	$87.02	**100 %**
College advising provided by counselors (for high school students)	Jan. 2018	$24,404	$5,043	$19,361	($822)	**$23,582**	$29.70	**97 %**
Dual enrollment (for high school students)	Dec. 2017	$22,396	$5,418	$16,978	($1,589)	**$20,807**	$14.10	**100 %**
Summer outreach counseling (for high school graduates)	Dec. 2016	$15,628	$3,206	$12,421	($101)	**$15,526**	$154.33	**89 %**
Performance-based scholarships (for high school students)	Dec. 2016	$5,335	$962	$4,372	($1,583)	**$3,752**	$3.37	**71 %**
Text message reminders (for 2-year college students)	Dec. 2016	$3,697	$477	$3,220	($37)	**$3,660**	$100.26	**96 %**
Text message reminders (for high school students and graduates)	Jan. 2018	$3,352	$637	$2,715	($10)	**$3,342**	$336.40	**59 %**
Student success courses (for 4-year college students)	Sep. 2017	$3,508	$705	$2,802	($620)	**$2,888**	$5.66	**64 %**
College advising provided by a peer mentor (for high school students)	Dec. 2016	$1,939	$484	$1,455	($825)	**$1,113**	$2.35	**51 %**
Student success courses (for 2-year college students)	Sep. 2017	$620	$48	$572	($290)	**$329**	$2.13	**66 %**
Learning communities—linked developmental and student success courses (for 2-year college students)	Jul. 2017	$183	$51	$132	($401)	**($218)**	$0.46	**36 %**
Brief information interventions (for high school students)	Nov. 2017	($155)	($22)	($133)	($76)	**($230)**	($2.04)	**43 %**
Learning communities—linked developmental and college courses (for 2-year college students)	Jul. 2017	$265	$98	$167	($914)	**($649)**	$0.29	**17 %**
Text message reminders (for 4-year college students)	Dec. 2016	($1,037)	($134)	($903)	($37)	**($1,074)**	($28.14)	**12 %**
Performance-based scholarships (for 4-year college students)	Dec. 2016	($198)	$154	($352)	($2,959)	**($3,157)**	($0.07)	**11 %**
Performance-based scholarships (for 2-year college students)	Dec. 2016	($1,104)	$10	($1,114)	($2,771)	**($3,876)**	($0.40)	**1 %**
Intensive advising (for 2-year college students)	Nov. 2017	($3,670)	($224)	($3,446)	($854)	**($4,525)**	($4.30)	**17 %**

Ways to Incorporate Research into Adequate Funding Model

- Outcomes/enrollment-based funding
- Staffing-based funding for key positions
- Price reductions for students
- Supplements to core funding

Practice Example: Research-Justified Funding for CUNY

- ASAP (Accelerated Study in Associate Programs) aimed to improve outcomes for low-income students
  - Block scheduling
  - Supplemental advising and other supports
  - Financial benefits for students
- MDRC controlled sample study
- Significantly higher completion rates
- Significantly higher cost per student
- Lower to moderately higher cost per degree

Table 3

Direct Cost of ASAP per Student

Program Component	Cost ($)	Total (%)
Administration and staffing		
Administration	3,540	23.1
Research and evaluation	1,255	8.2
Other	2,005	13.1
Subtotal	6,800	44.5
Student services		
Advising	1,912	12.5
Career and employment services	620	4.1
Tutoring	659	4.3
Subtotal	3,191	20.9
Course enrollment		
Blocked or linked courses	1,485	9.7
ASAP seminar	212	1.4
Subtotal	1,698	11.1
Financial supports		
MetroCards	1,906	12.5
Textbooks	1,206	7.9
Tuition waiver	491	3.2
Subtotal	3,603	23.6
Total Direct Cost	15,292	100

SOURCE: MDRC calculations based on CUNY's ASAP expenditure data and the Higher Education Price Index.

NOTES: Tests of statistical significance were not performed.
Rounding may cause slight discrepancies in sums and differences.
Program costs are based on a steady state of operation that excludes external research and start-up costs.
All costs are shown in constant 2019 dollars.

Eight-Year Cost Analysis: https://www.mdrc.org/sites/default/files/ASAP_Cost_Working_Paper_final.pdf

Table 4

Cost-Effectiveness Values

Outcome	Program Group	Control Group	Difference (Impact)
Earned an associate's degree (%)			
At 3 years	40.0	22.1	17.9 ***
At 8 years	52.0	39.9	12.1 ***
Community College Perspective			
Cost per group member ($)			
At 3 years	41,046	26,203	14,843
At 8 years	43,723	29,885	13,838
Cost per degree earned ($)			
At 3 years	102,558	118,382	-15,824
At 8 years	84,087	74,925	9,162
Pell and TAP Perpective			
Cost ($)			

ASAP Expansion and Extension

- Expanded to serve all eligible students: ~25,000 per year
- Cost reduced to $3,400 per student per year
- Replicated in other states
- Accelerate, Complete, Engage (ACE): expanded to bachelor's programs in senior colleges.

How CUNY Translates Research into ~$20 Million Recurring Budget Request

"Accelerate, Complete and Engage (ACE): The baccalaureate adaptation of CUNY ASAP, the goal of ACE is to double four-year bachelor's graduation rates by providing structured advisement, academic and financial support to students. On-time graduation has a direct impact on the cost of a degree — for students and taxpayers — and the economic benefits of the degree (income to students, tax revenues for the State). CUNY proposes to expand ACE to 5,000 students over the next four years, up from the approximately 1,100 students it currently serves. At this level, the program will deliver an additional 525 baccalaureate degrees per year; it will achieve a four-year graduation rate of at least 50% among first-time freshmen; it will achieve a two-year graduation rate of at least 50% among transfer students with an associate degree; and based on current outcomes, will lower the average cost per degree by more than $17,000 per graduate."

Challenges to CUNY's Approach

- Predictability: still separately budgeted "program"
- Understanding effectiveness of specific components

Using Research to Support Funding Models: Implementation Concerns for States

- Transparency: avoiding "black boxes"
- Precision: translating research into real world
- Timing: funding before, during, and after student success