CAPR | CENTER FOR THE ANALYSIS OF POSTSECONDARY READINESS

Multiple Measures Assessment: Two Studies on Implementation and Early Impacts

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League for Innovation in the Community College
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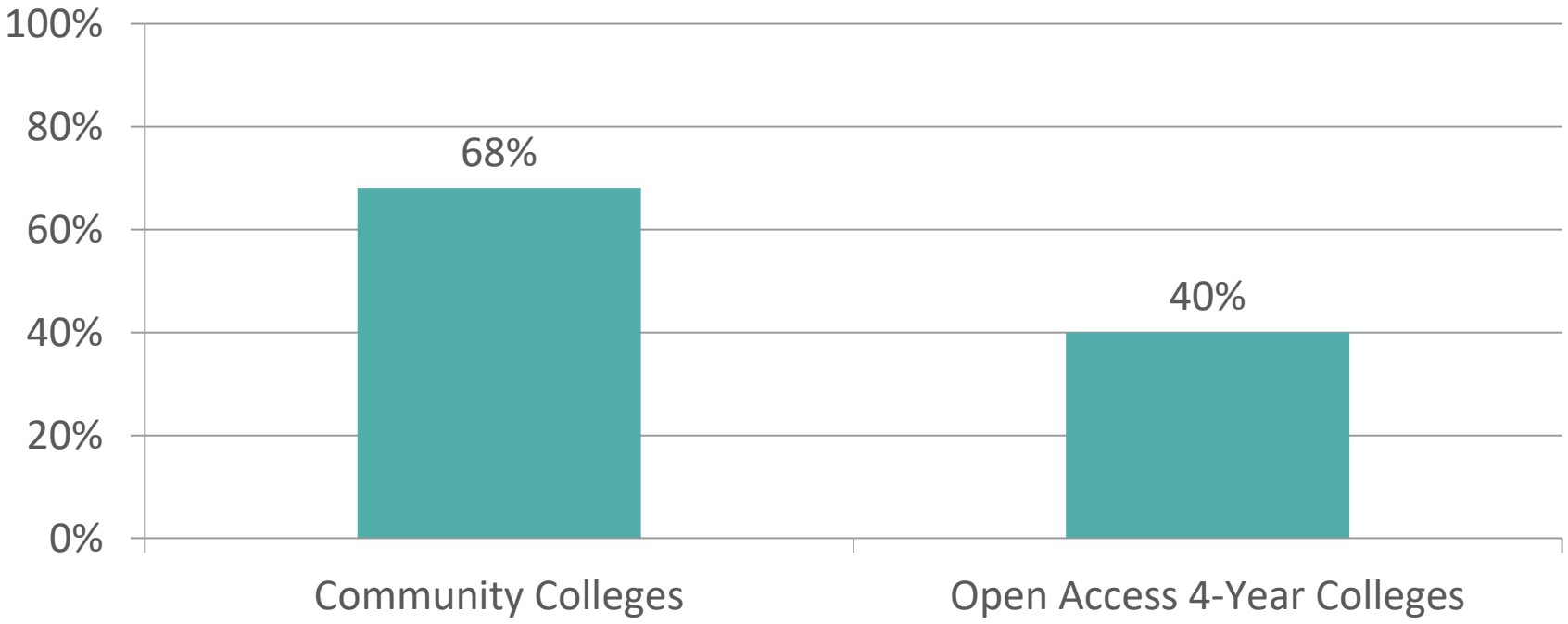
Agenda

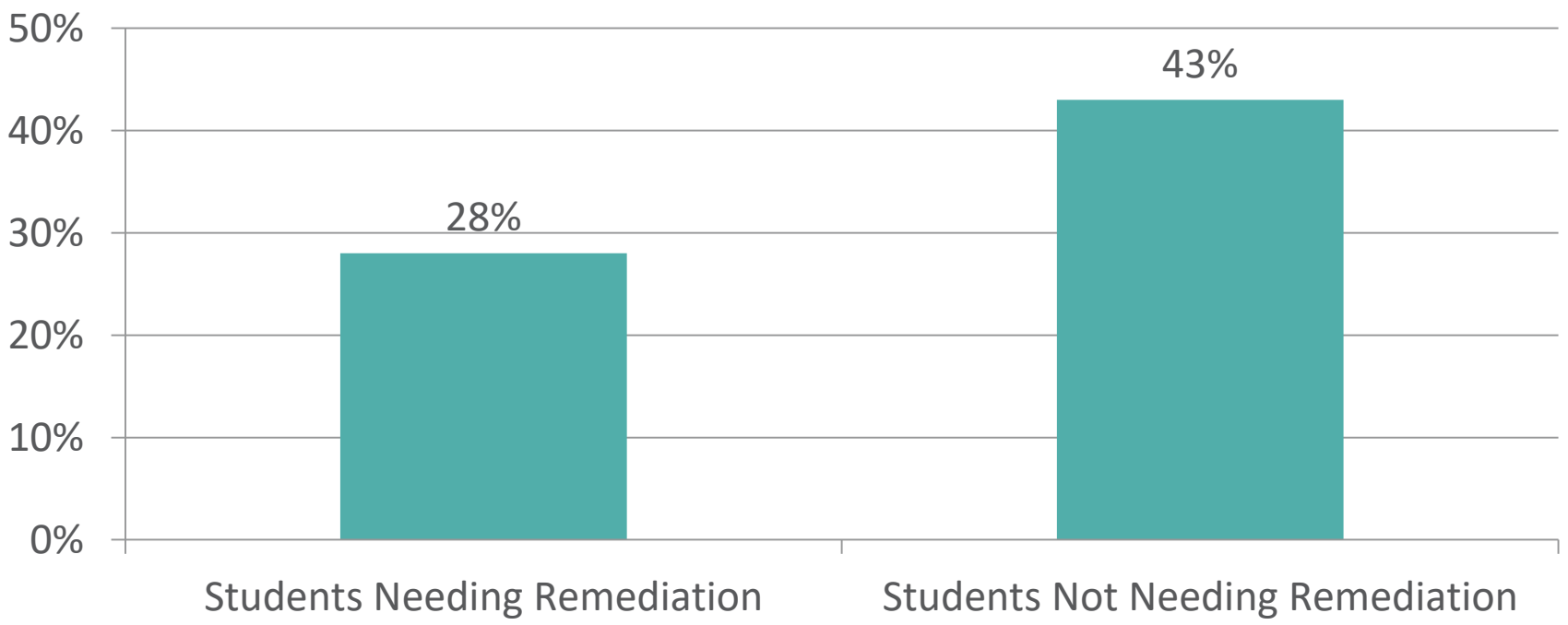
- Why use multiple measures for placement
- Results of research in SUNY colleges
- Implementing multiple measures
- Niagara County Community College experience

Students needing 1+ developmental education course (NCES, 2013)



Community college 8-year graduation rates

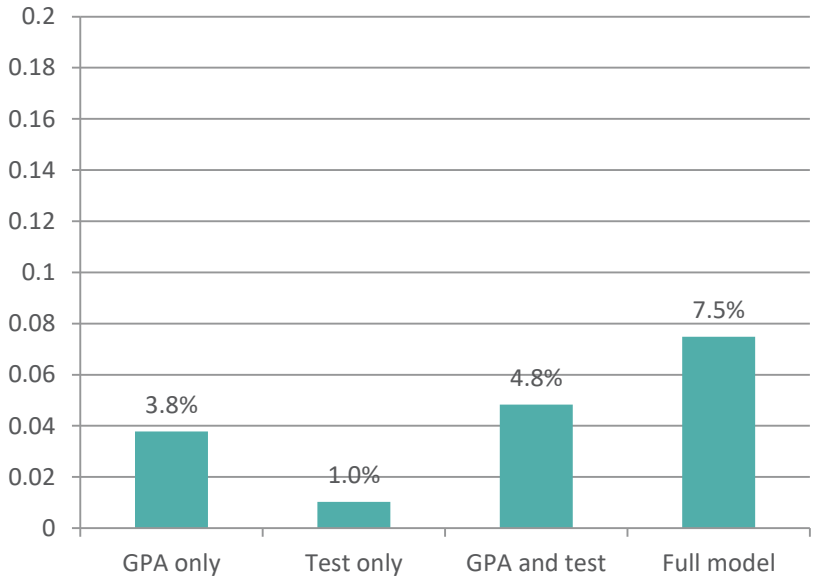
(Attewell, Lavin, Domina, and Levey, 2006)



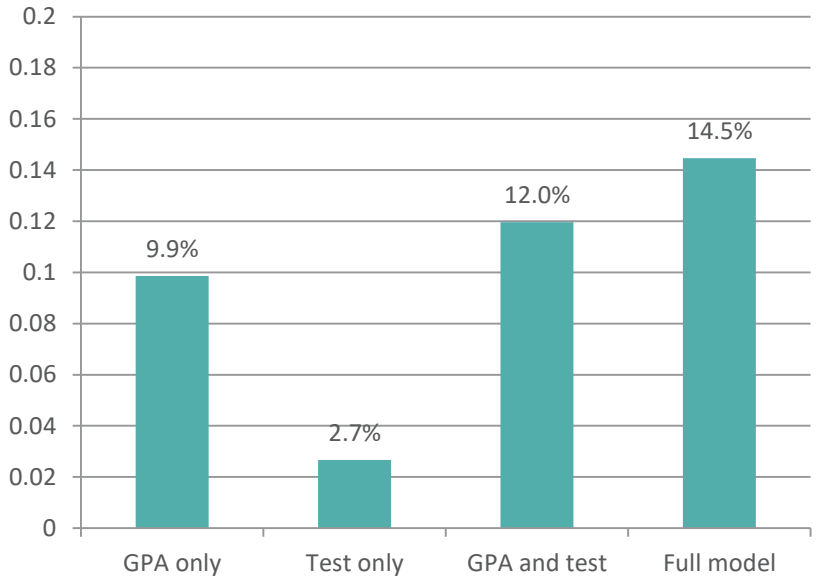
Under-placement and Over-placement

		Placement According to Exam	
		Developmental	College Level
Student Ability	Developmental	✓	***Over-placed*** ***(English – 5%)*** ***(Math – 6%)***
	College Level	***Under-placed*** ***(English – 29%)*** ***(Math – 18%)***	✓

COLLEGE 2: ENGLISH



COLLEGE 2: MATH



Conclusions so far

- Students placed into developmental education are less likely to complete.
- Better assessment systems are needed.
- HS GPA is the best predictor of success in college math and English.

The CAPR Assessment Study

Organization of CAPR

MDRC

CCRC

Descriptive Study of Developmental Education

Evaluation of The New Mathways Project (RCT in TX)

Evaluation of New Assessment Practices (RCT in NY)

Supplemental Studies

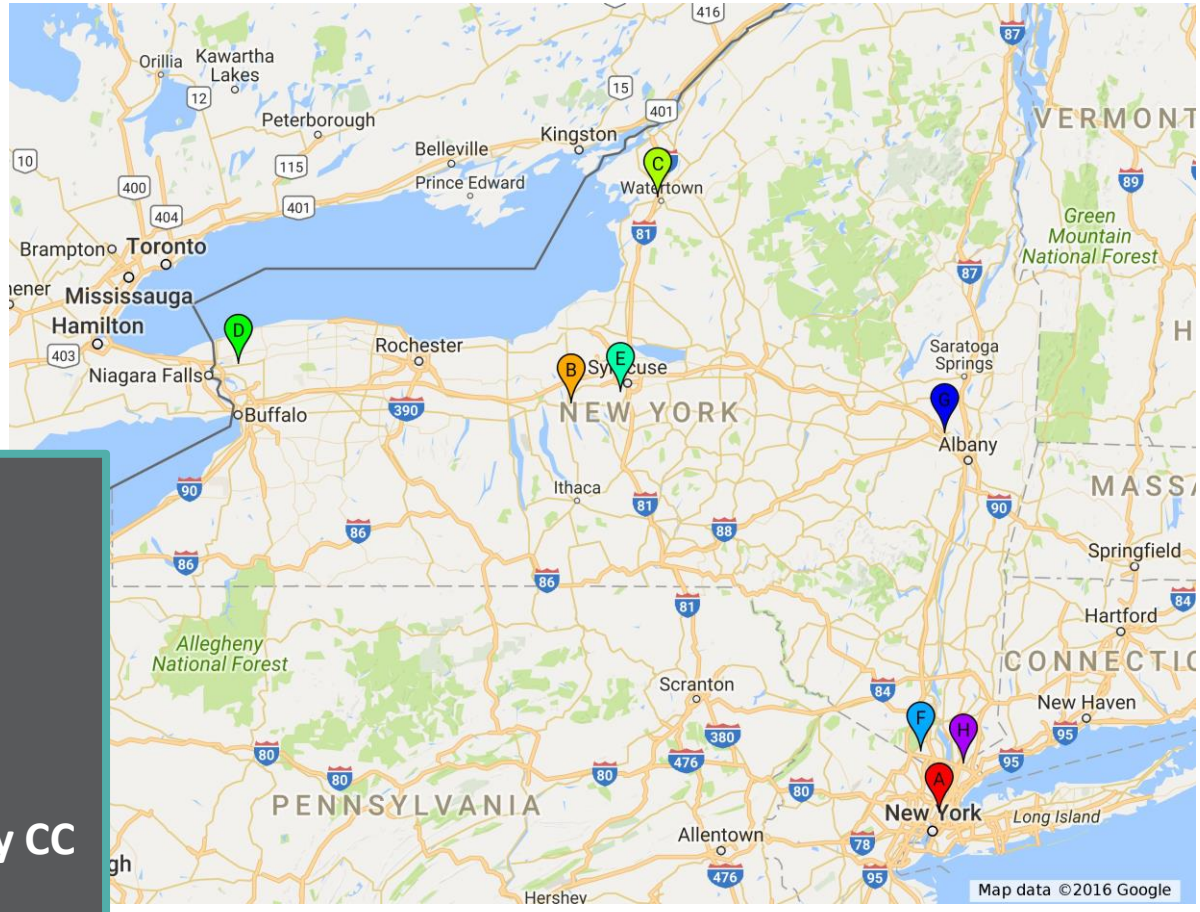
Research on Alternative Placement Systems (RAPS)

- 5 year project; 7 SUNY community colleges
- Evaluation of the use of predictive analytics in student placement decisions.
- Random assignment/implementation/cost study
- Current status: beginning to look at impact

Research Questions (Summary)

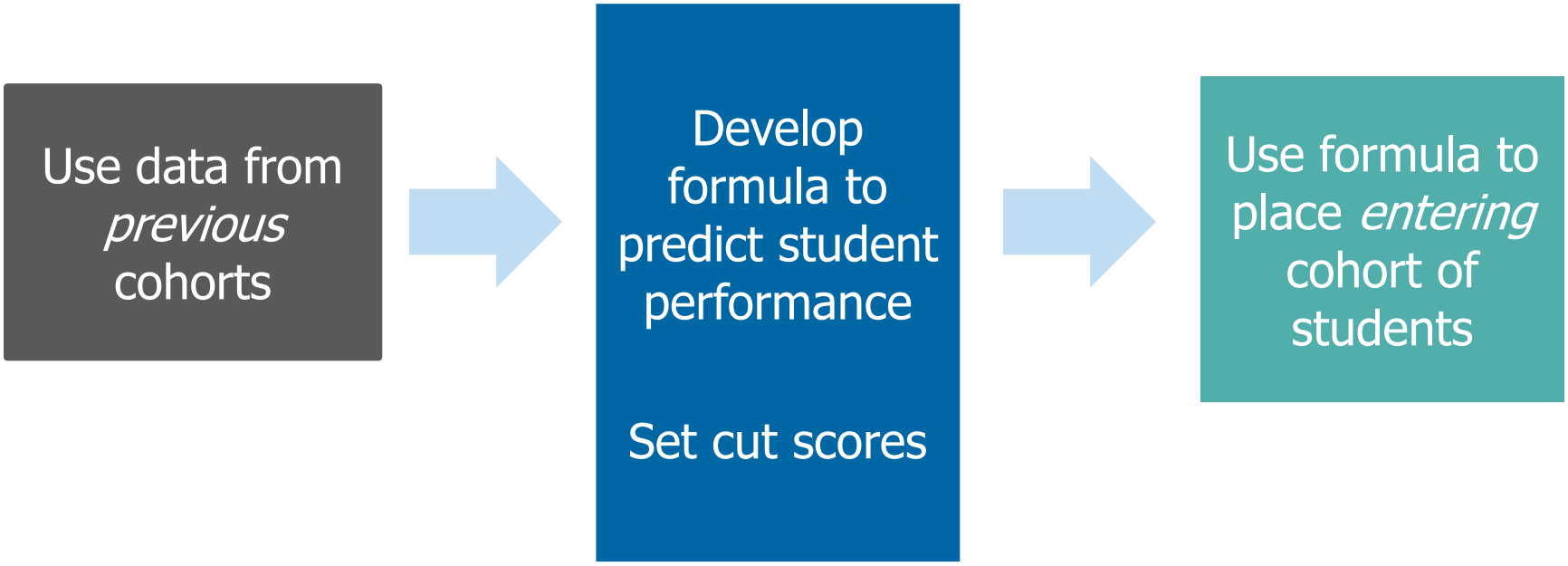
1. Do student outcomes improve when they are placed using predictive analytics?
2. How does each college adopt/adapt and implement such a system?

SUNY Partner Sites



A – CAPR/CCRC/MDRC
B – Cayuga CC
C – Jefferson CC
D – Niagara County CC
E – Onondaga CC
F – Rockland CC
G – Schenectady County CC
H – Westchester CC

How Does the Predictive Analytics Placement Work?



Early Findings

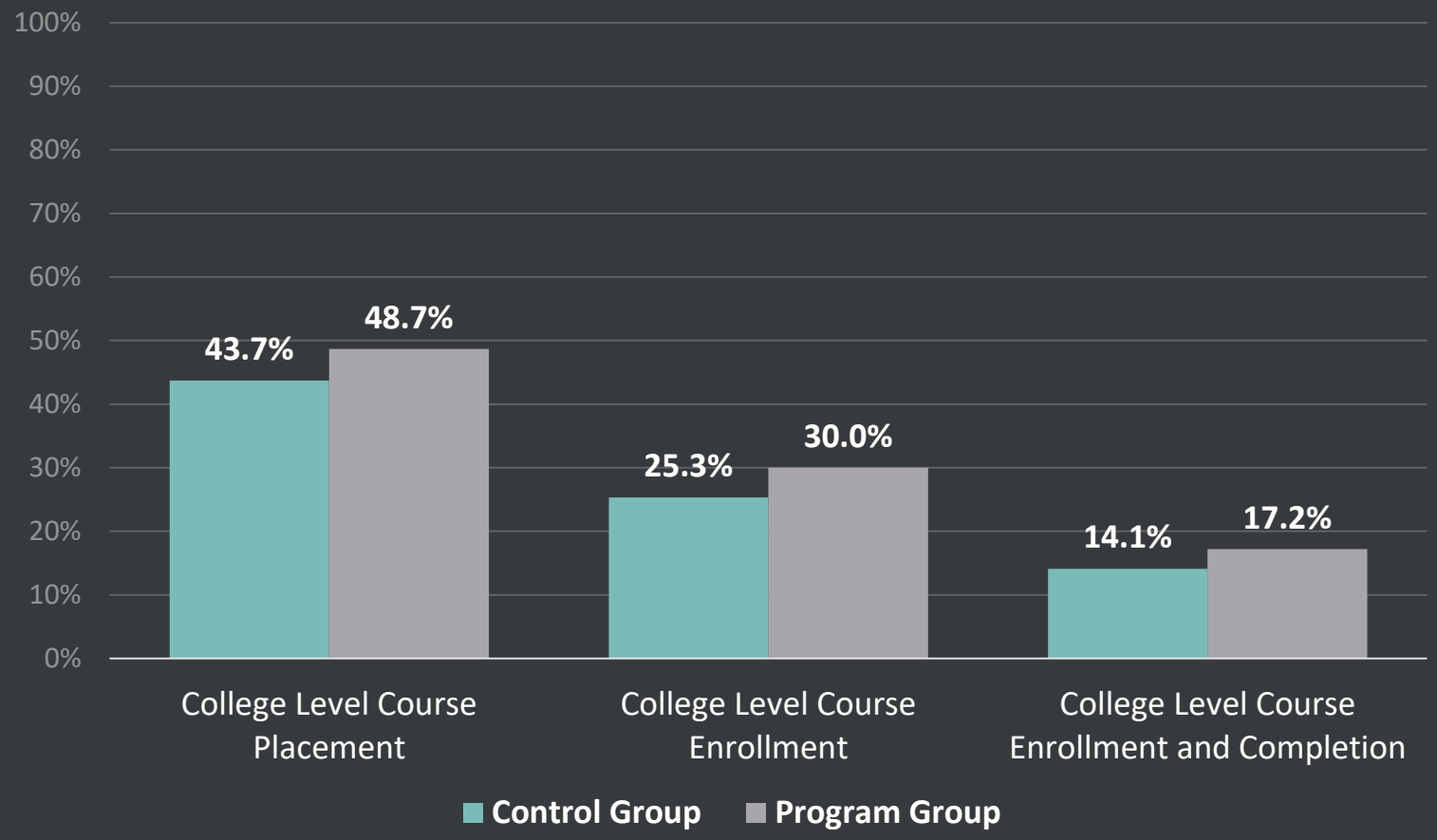
Fall 2017

First Cohort - First Semester (Fall 2016)

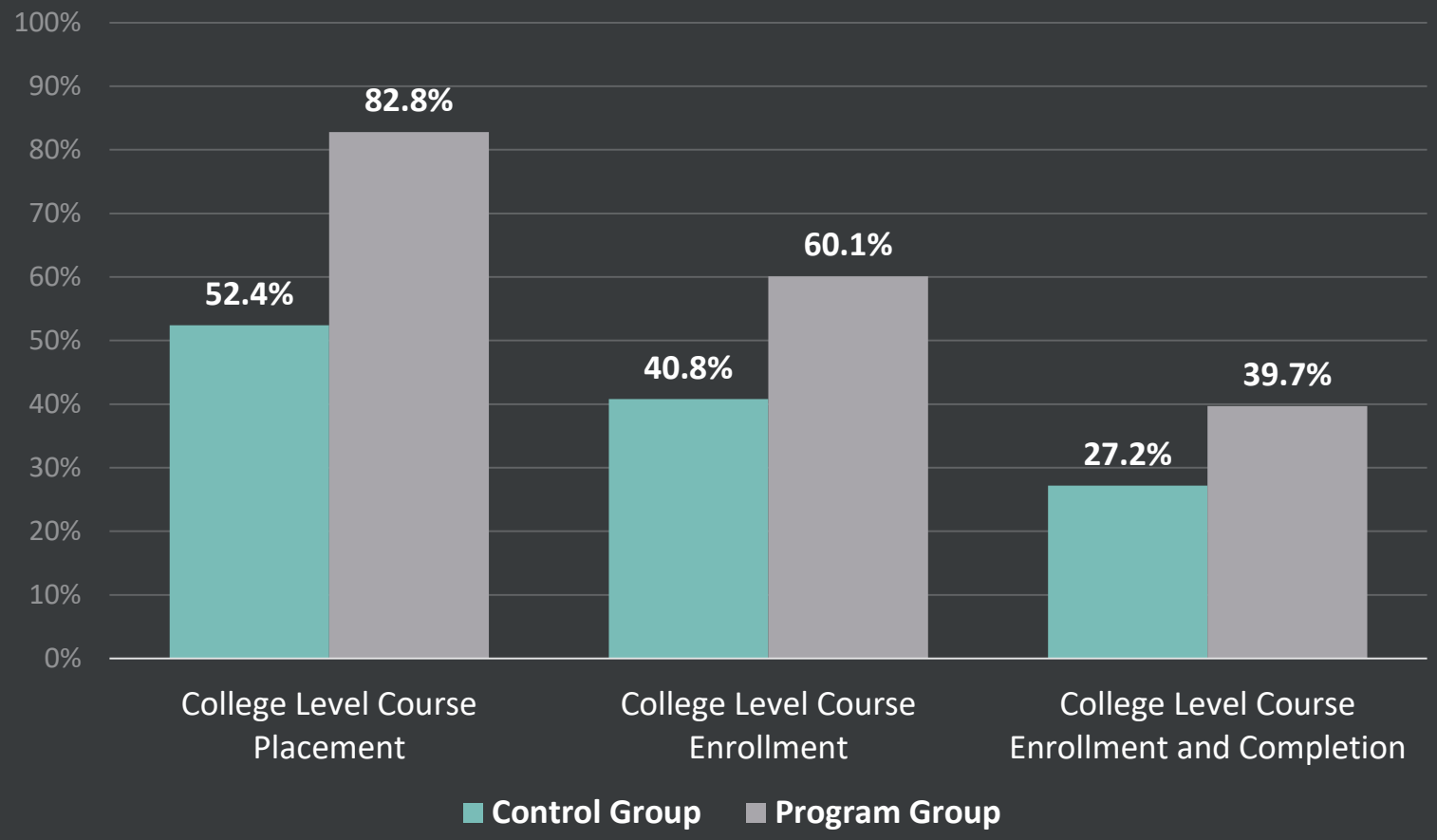
Sample = 4,729 first year students across 5 colleges

- 48% students assigned to business-as-usual (n=2,274)
- 52% students assigned to treatment group (n=2,455)
- 82% enrolled into at least one course in 2016 (n=3,865)

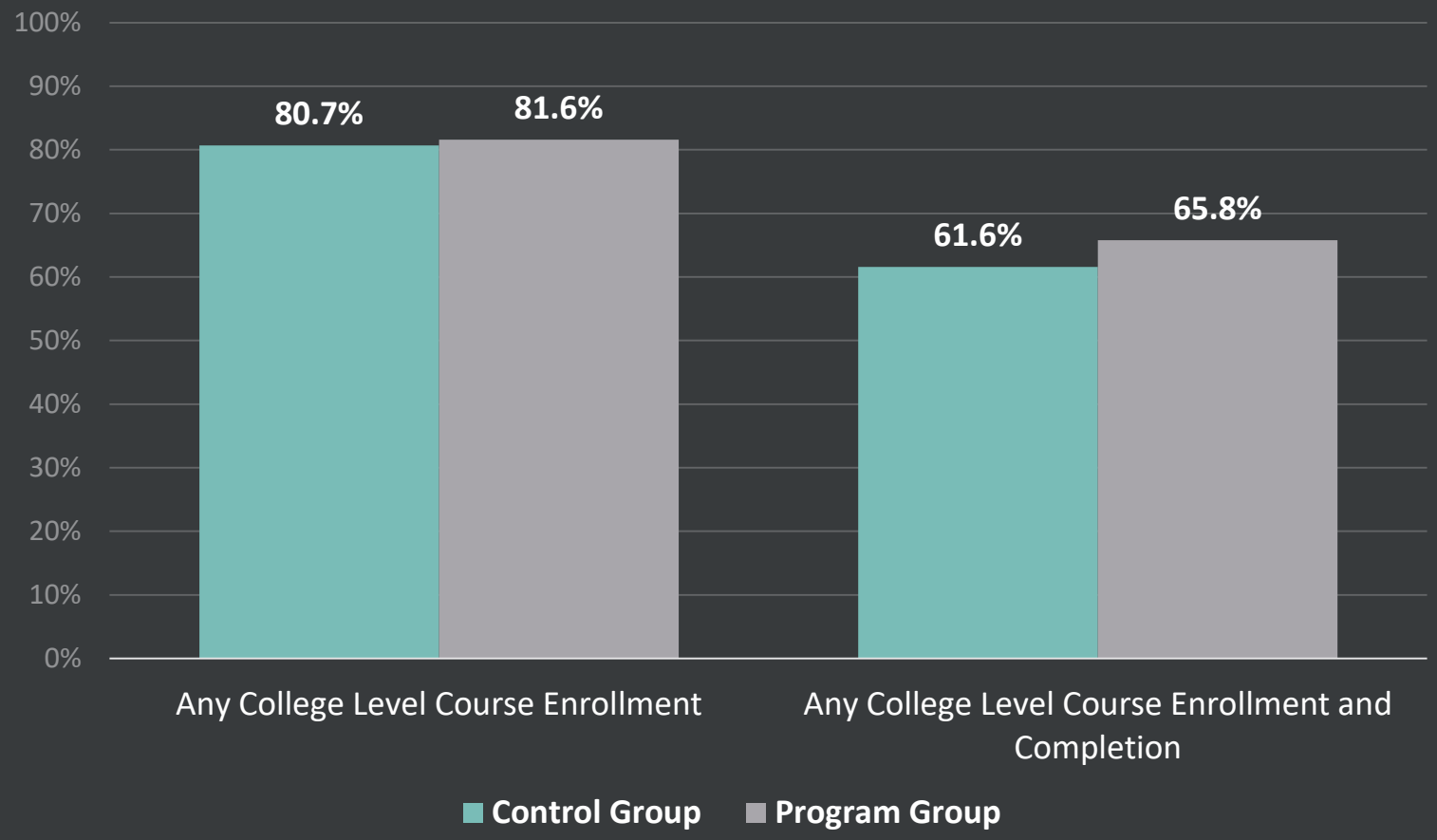
Treatment Effects: Math



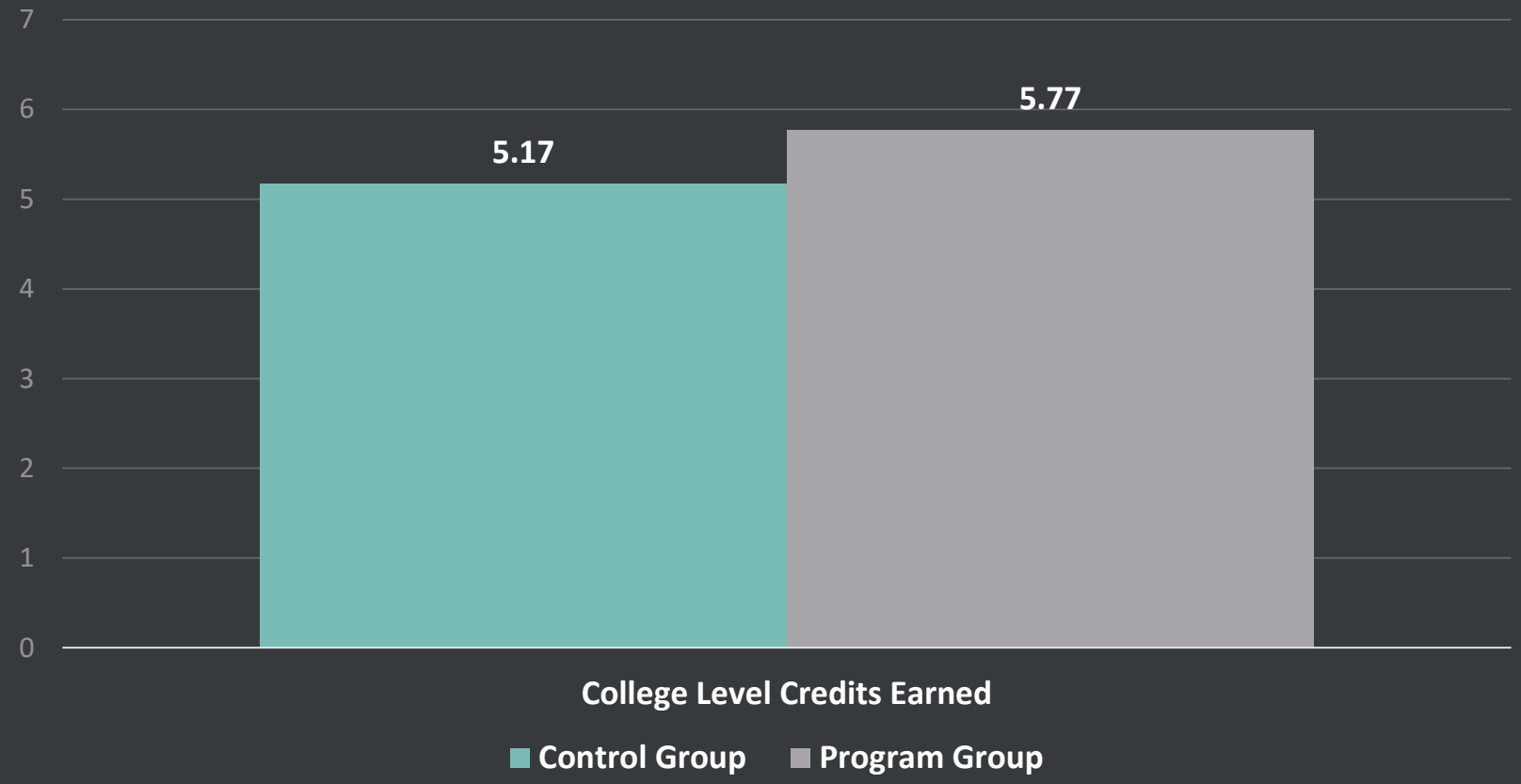
Treatment Effects: English



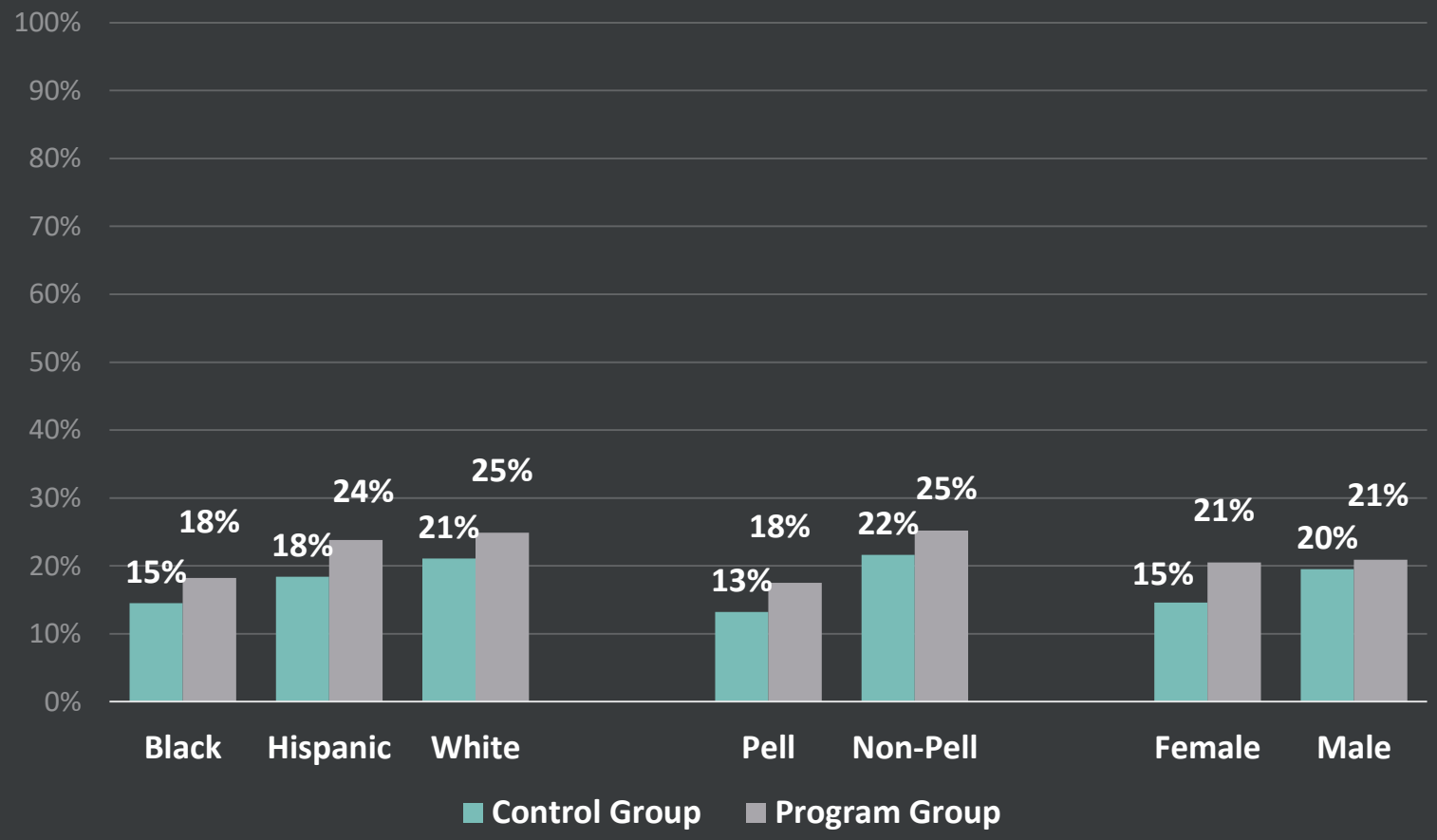
Treatment Effects: Any College Level Course



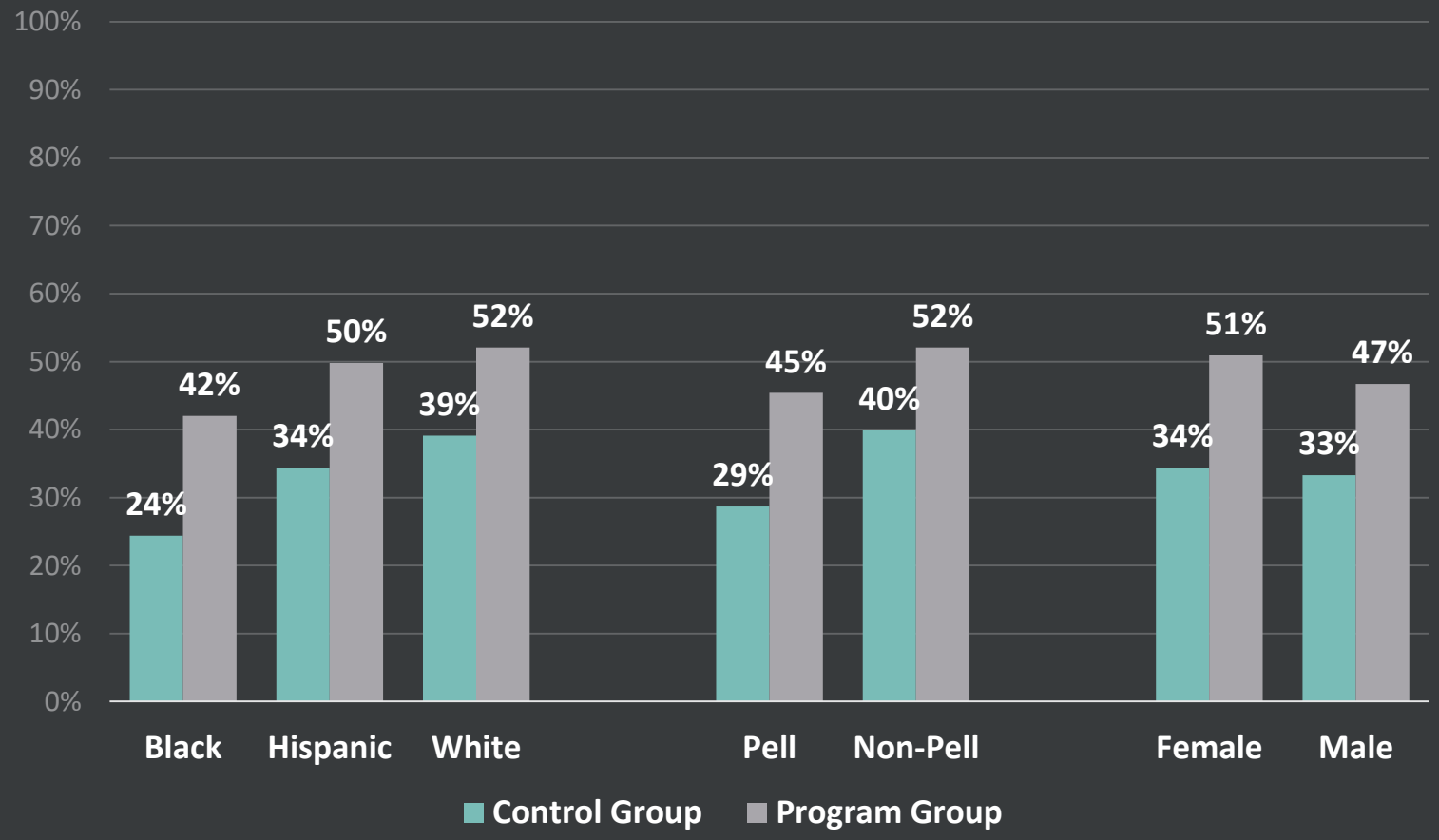
Treatment Effects: Total College Level Credits Earned



Treatment Effects: College Level Math Completion



Treatment Effects: College Level English Completion



Costs

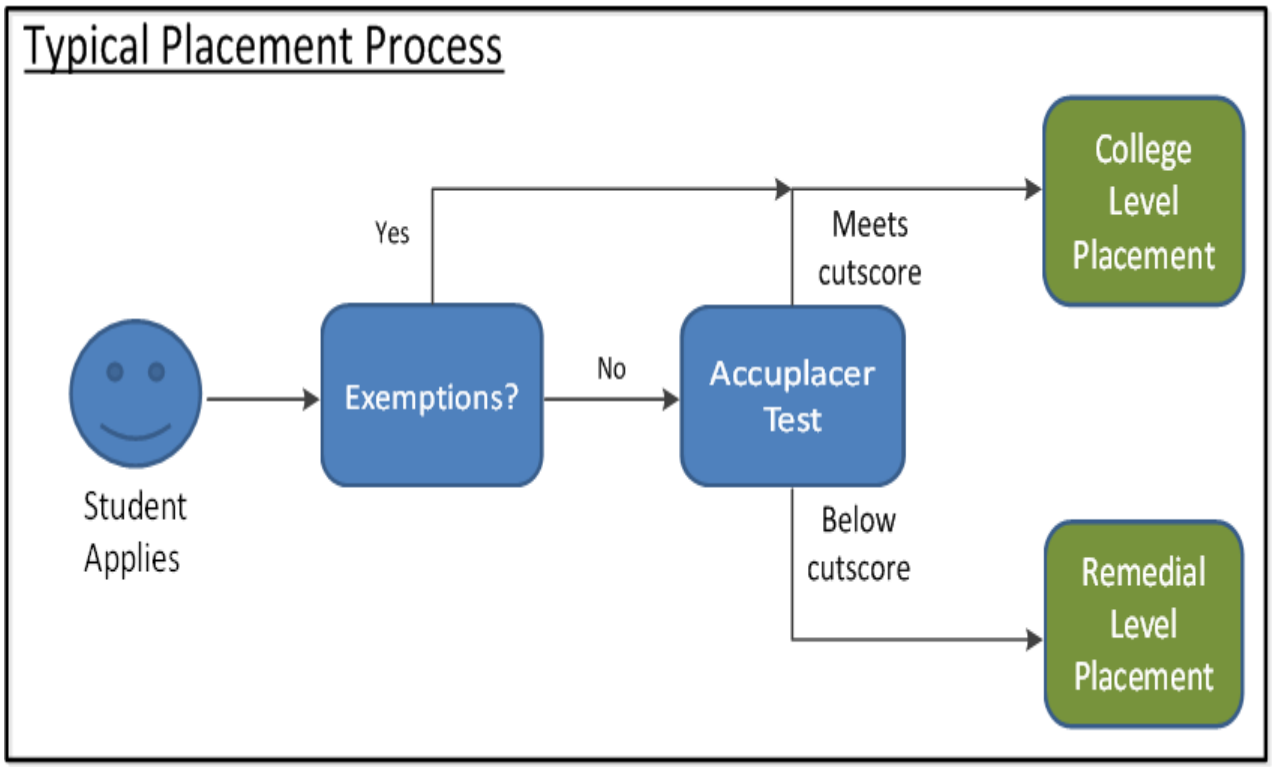
- First fall-term costs were roughly $110 per student above status quo (Range: $70-$320)
- Subsequent fall-term costs were roughly $40 per student above status quo (Range: $10-$170)

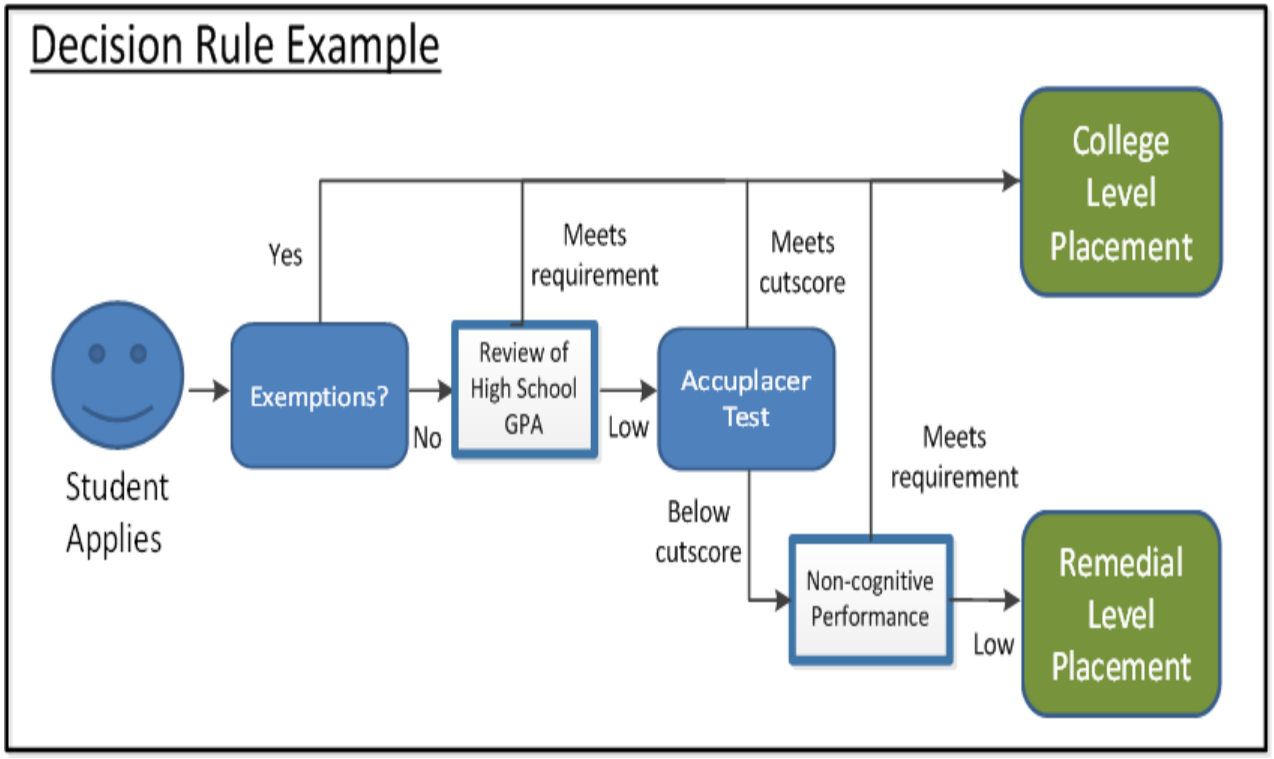
Choosing Measures and Decision rules

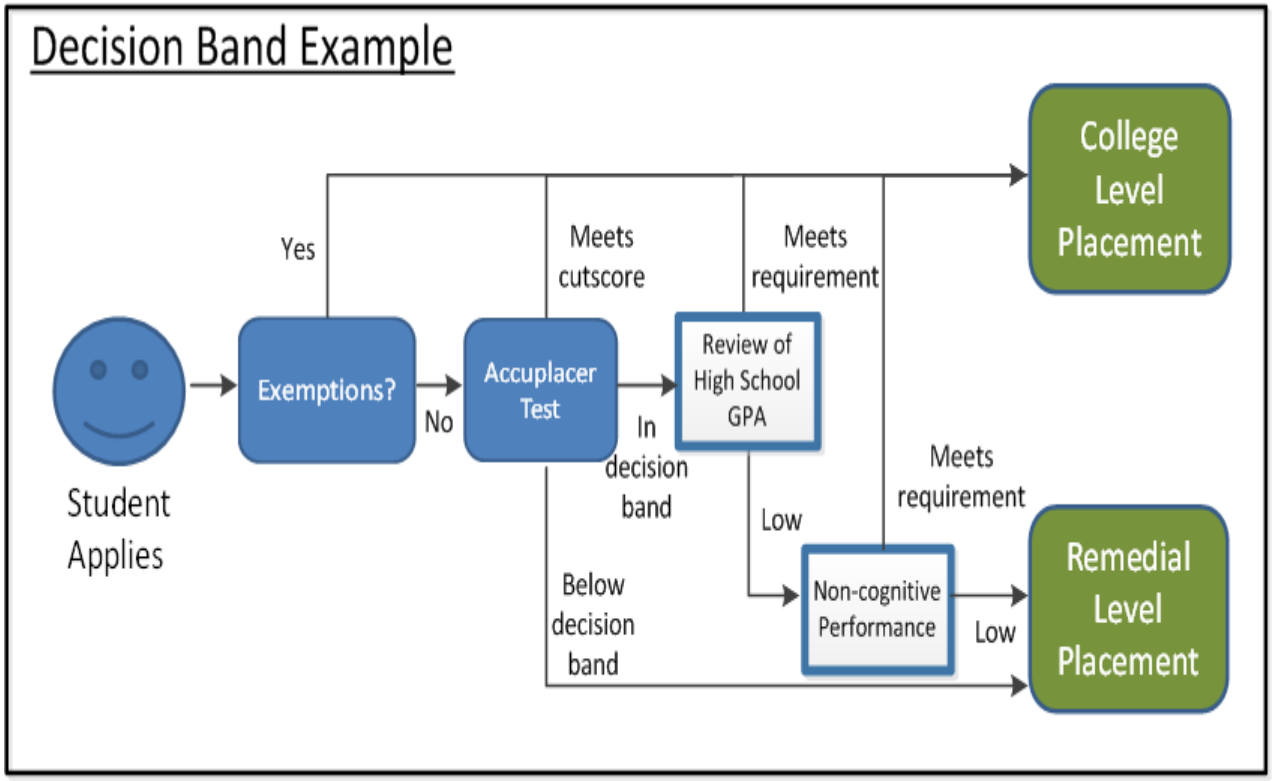
Are the conditions right to use multiple measures?

(from CAPR research)

1. We have a consensus that placement tests alone are not good predictors of student success in college.
2. Our faculty are committed to making sure that the right students are placed into developmental education.
3. Leadership supports the use of an effective assessment process.
4. We have access to incoming students' high school GPAs.
5. We have strong IT capability.
6. We are using or can use a non-cognitive assessment.


Typical Placement Process
Student Applies
Exemptions?
Yes
No
Accuplacer Test
Meets cutscore
Below cutscore
College Level Placement
Remedial Level Placement


Decision Rule Example
College Level Placement
Yes
Meets requirement
Meets cutscore
Student Applies
Exemptions?
No
Review of High School GPA
Low
Accuplacer Test
Meets requirement
Below cutscore
Non-cognitive Performance
Low
Remedial Level Placement


Decision Band Example
College Level Placement
Yes
Meets cutscore
Meets requirement
Exemptions?
No
Accuplacer Test
Review of High School GPA
In decision band
Meets requirement
Student Applies
Low
Below decision band
Non-cognitive Performance
Low
Remedial Level Placement

Non-cognitive assessments

Development of non-cognitive skills promotes students' ability to think cogently about information, manage their time, get along with peers and instructors, persist through difficulties, and navigate the landscape of college…(Conley, 2010).

Non-cognitive assessments may be of particular value for:

- Nontraditional (older) students.
- Students without a high school record.
- Students close to the cut-off on a test.

Selection criteria: non-cognitive assessment

- Face validity (fit with college priorities, faculty judgment on importance of domains measured, expected usefulness of results)
- Predictive validity (in relation to college success, gatekeeper English and math completion)
- Cost (initial, ongoing)
- Time required (time staff and students must spent on assessment and follow up activities)
- Fit with college systems (such as admissions, onboarding, testing, counseling, IT)
- Special considerations (population served, goals of the placement process, college context and history, existing course sequences….)

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Planning the implementation

Admissions Challenges

- Adjusting to increased data entry demands of multiple measures.
- Obtaining high school transcripts before students enroll can be difficult.
- Timing the entry of high school data into the system before placement.
- Communicating new requirements in such a way as to not discourage student enrollment in the college.

Testing Challenges

- Building a new set of rules to incorporate multiple measures along with IT.
- Providing a revised set of information to students about assessment procedures and results.
- Managing the administration of both Accuplacer and a non-cognitive assessment.
- Exporting new information into the college's MIS/IT system.

IT/Registrar Challenges

- Creating new fields in the MIS system.
- Incorporating varied measures into an IT system that applies placement rules in a way that does not add to staff time.
- Adapting registration blocks/prerequisites to reference the revised placement results instead of raw test scores.

Advisor/Counselor Challenges

- Understanding and becoming comfortable with the new assessment system.
  - Test scores appear to have a more definitive result, despite weaker predictive power than multiple measures.
- Preparing ways to communicate results to students. Depending on the method used, placement results may not be as transparent as test scores.
- Advising students on whether to re-test on the Accuplacer becomes more complicated.

Faculty Challenges

- Considering willingness to change standards for college-level enrollment.
- Rethinking the meaning of college-ready: not only those most likely to succeed, but also those more likely to succeed by enrolling in college-level than if they took developmental courses first.

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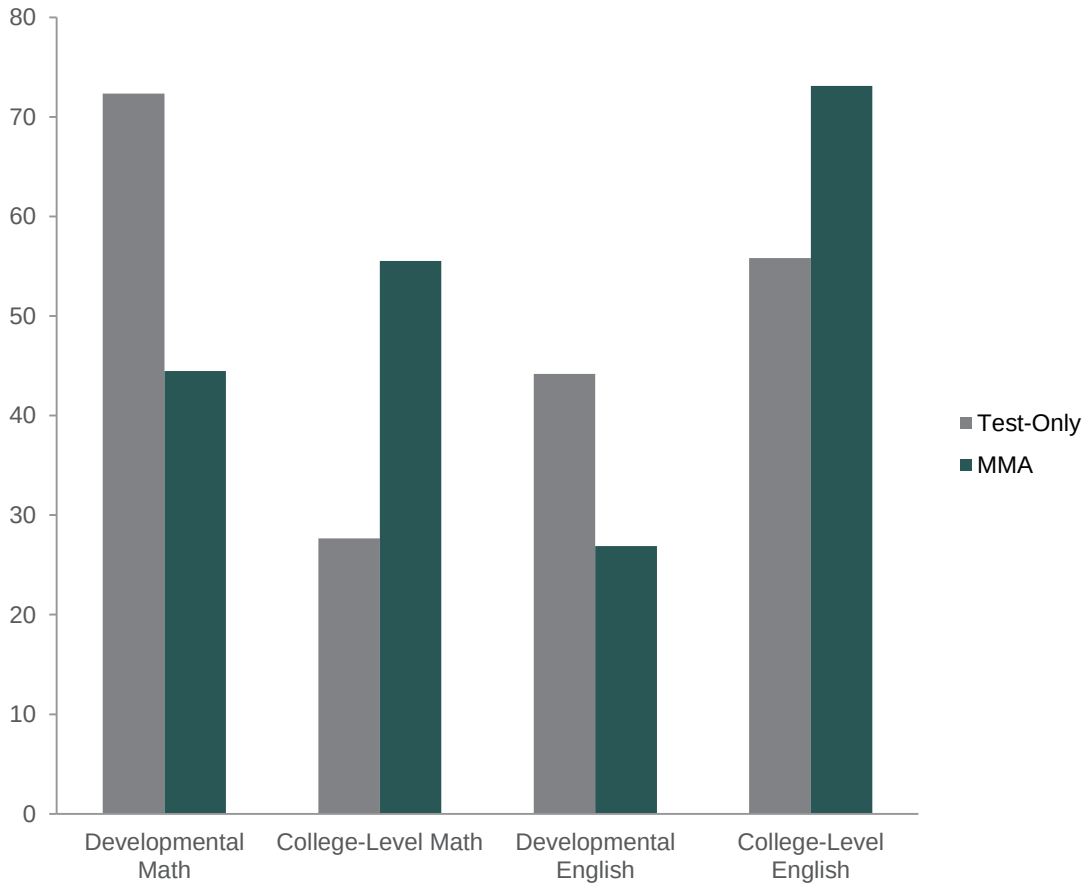
Monitoring MMA

Track how placements are changed

	Example Placement Results								Comparison	
	Multiple Measures Assessment				Test-Only Placement Results				Students	
	Developmental		College-Level		Developmental		College-Level		Bumped Up	
Subject	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Math	140	47.30	156	52.70	152	51.35	144	48.65	12	4.05
English	123	41.55	173	58.45	141	47.64	155	52.36	18	6.08
Reading	42	14.19	254	85.81	49	16.55	247	83.45	7	2.36

Placement Contrast of Alternative Placement Systems During 2017 Pilot



Other things to track

- Were MMA placements communicated correctly?
- Did students enroll in the intended courses?
- How do students perform when bumped up?

Implementing Multiple Measures Placement

Or, Confusion as Unifying Principle

DRIVING THE CAPTURED PIGS TO THE POUND—SCENE OF GREAT CONFUSION AND RIOT.

Points to consider:

- Organizational communication is always a problem
- Not everyone has the same motives
- Not everyone sees data the same way
- If you think you have done everything you can to make the conversion
  to Multiple Measures Placement run smoothly, you are wrong

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