INSTITUTE FOR HIGHER EDUCATION LEADERSHIP & POLICY

Research Methods for Understanding Student Success in the California Community Colleges

Presentation to
Bay Area RP Regional Research Meeting

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1. Evolution of a Denominator

- Research question: What is the completion rate?
- Methods challenge: who intends to complete what?
- IHELP developed 3-part criteria with help from RPers
  - Age 17-19 at initial enrollment
  - Self-report goal of completion or transfer, *or*
  - Behavioral (12 units and attempt degree-applicable English or math)
- Research basis
  - Younger CC students more likely to report and achieve completion goal (>2/3 of completions were < age 20)
  - 2/3 of completions had indicated goal of completion
  - CCC accountability metric, based on course-taking behaviors
- How good was this measure?
  - 60% of entering cohort

Denominator (cont.)

- Revised measure – enroll in >6 units in first year
  - Borrowed from leading national CC researcher
  - 63% of cohort
- ARCC continued with smaller denominator
- Vastly different rates reported in media
- New scorecard metric
  - At least 6 units earned and attempted any math or English in the first 3 years
  - About 50% of cohort

2. Moving to Progression Measures

- Research question: where and why does progress stall?
- Methods challenges:
  - Distinguish progression points from predictors
  - Data lacking on key milestone (complete remediation)
- Milestones: drew on work of CCRC “momentum points”
- Success indicators: literature review on student success
  - Some factors not actionable (income, parents education)
  - More helpful: enrollment behaviors and academic patterns

Milestones and Success Indicators Framework

- *Milestones*: measurable, intermediate educational achievements students reach along the path to degree completion
- *Success Indicators*: measurable academic patterns that students follow that predict the likelihood they will reach milestones and ultimately earn a degree
- Regression models used to identify patterns related to completion

***Milestones*:**

- 2nd term retention
- 2nd year retention
- 12+ college credits
- 30+ college credits
- Transfer curriculum
- Certificate
- Associate degree
- Transfer – with curriculum
- Transfer – without curriculum

Success Indicators:

- Attend full time in first term
- Take college success course
- Enroll continuously
- Pass college Math w/in 2 yrs
- Pass college Eng w/in 2 yrs
- Complete 20+ credits in first yr
- Earn summer credits
- % course withdrawals
- % course late registration

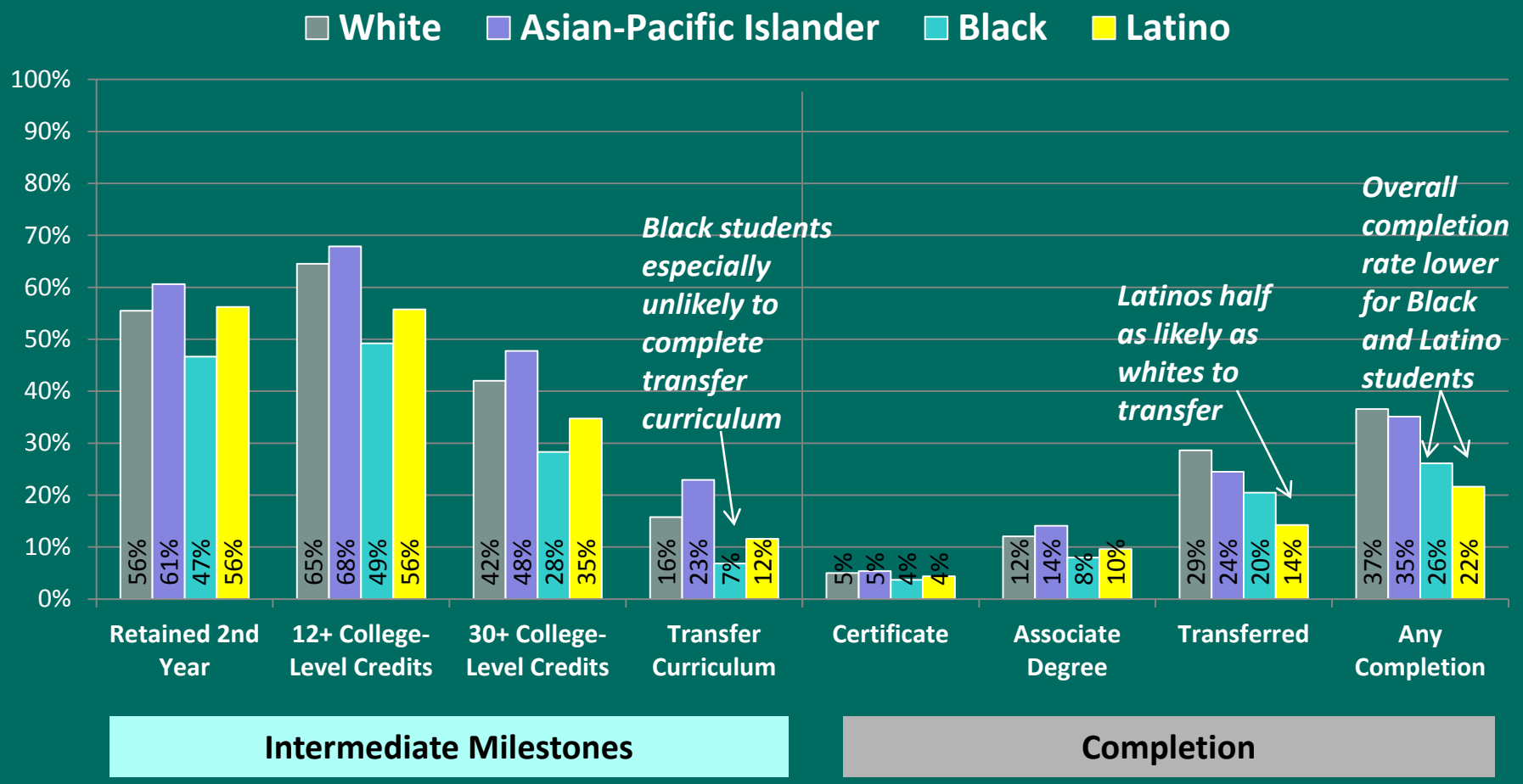
Student Enrollment Patterns are Important Factors in Likelihood of Completion

Percent Who Completed (Certif/Assoc/Transfer) by Success Indicator Behavior - Yes/No

Success Indicator:	Yes	No
CL Math within two years	61%	22%
CL English within two years	51%	21%
Summer credits	45%	15%
Full-time in first term	39%	21%
On-time course registration	32%	24%
Continuous enrollment	36%	29%

Source: IHELP, *Steps to Success: Analyzing Milestone Achievement to Improve Community College Student Outcomes, 2009*

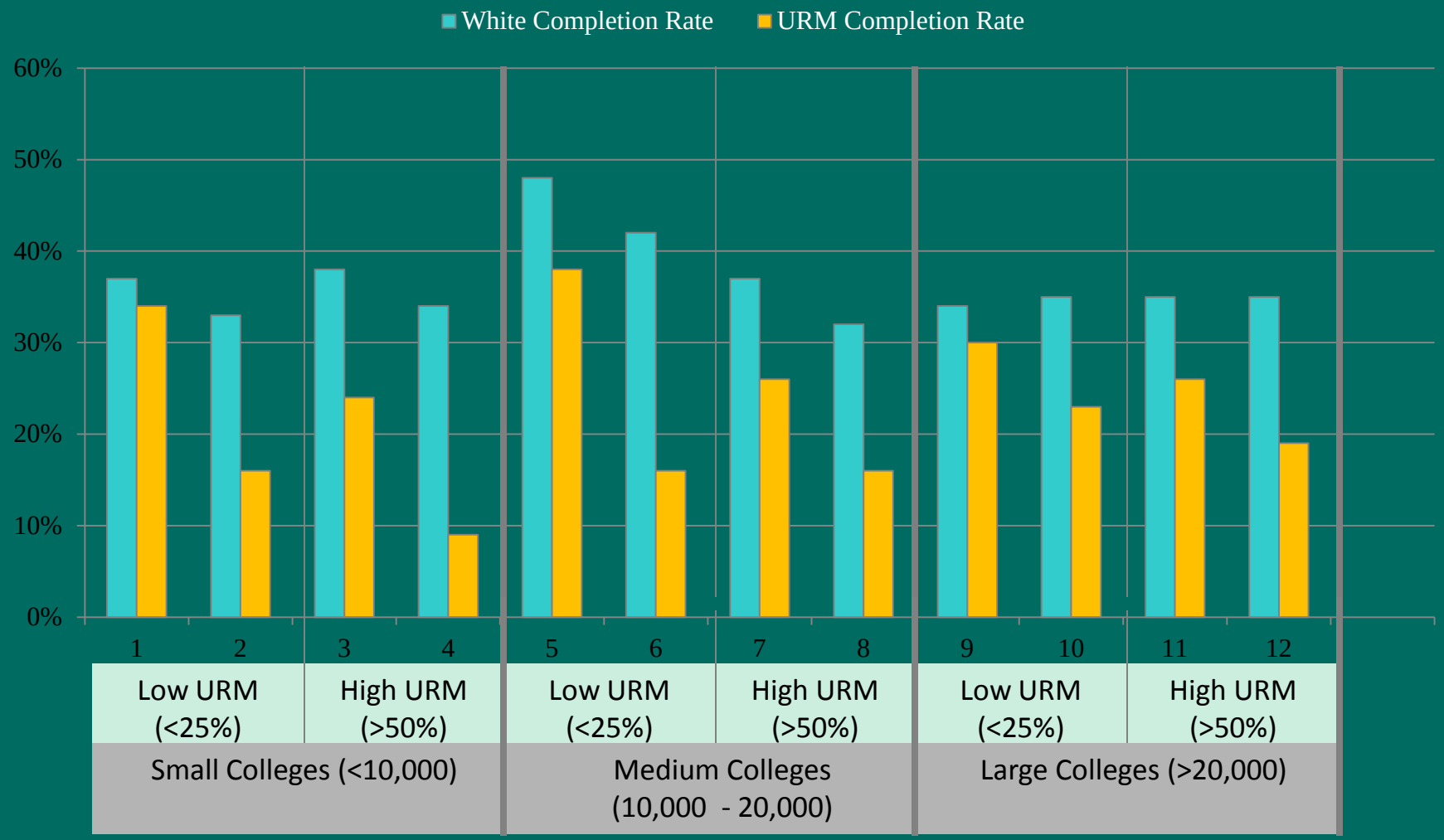
Breakdowns by Race/Ethnicity Reveal Disparities



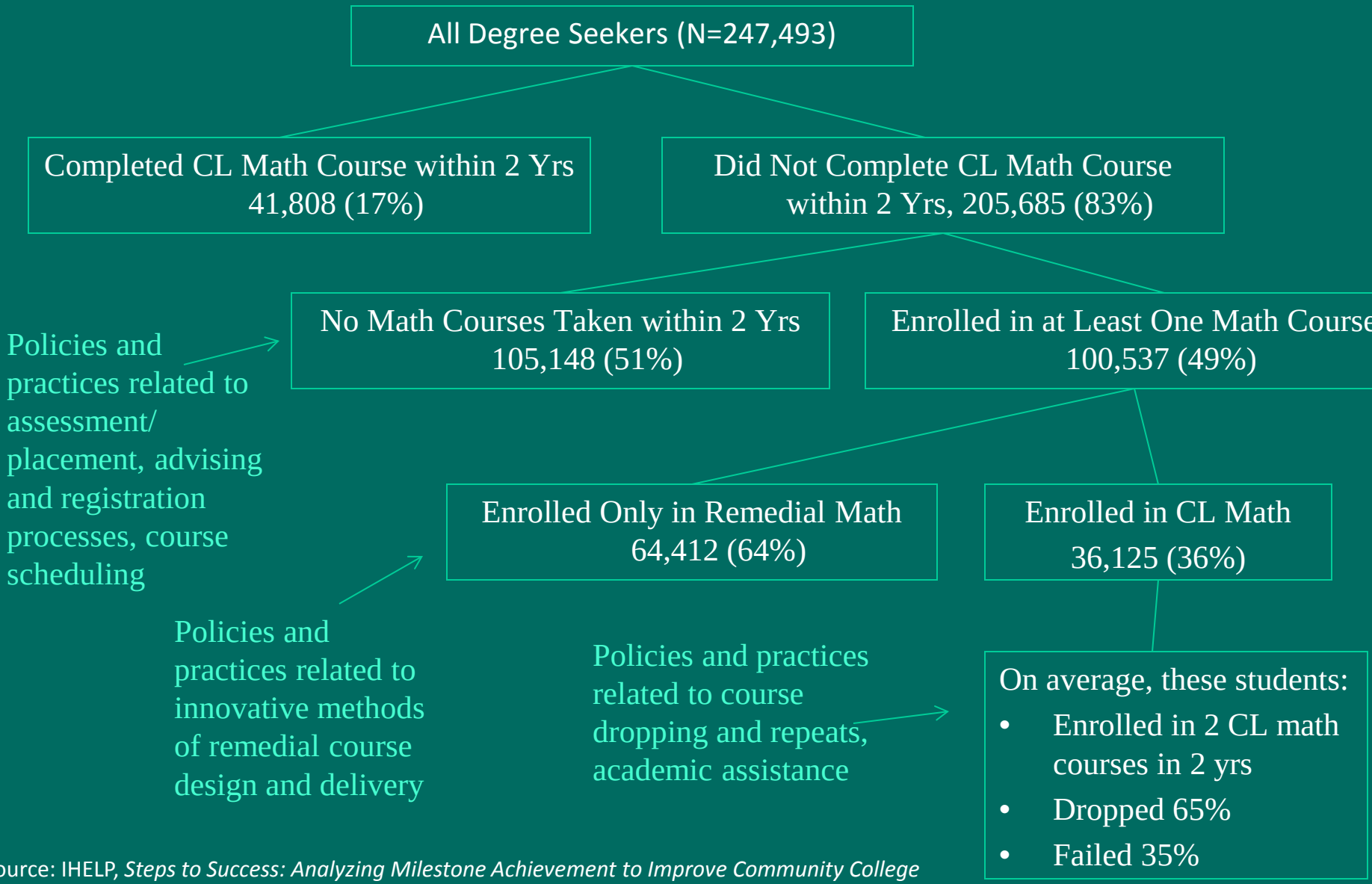
Source: IHELP, *Divided We Fail: Improving Completion and Closing Racial Gaps in California's Community Colleges, 2010.* Note: Students can be double-counted in the certificate, associate degree, and transfer measures

Demographics are Not Destiny:

Colleges of Similar Size and Demographic Profile Produce Very Different Outcomes



Further Analysis on Problems Can Point to Solutions



Source: IHELP, *Steps to Success: Analyzing Milestone Achievement to Improve Community College Student Outcomes, 2009*

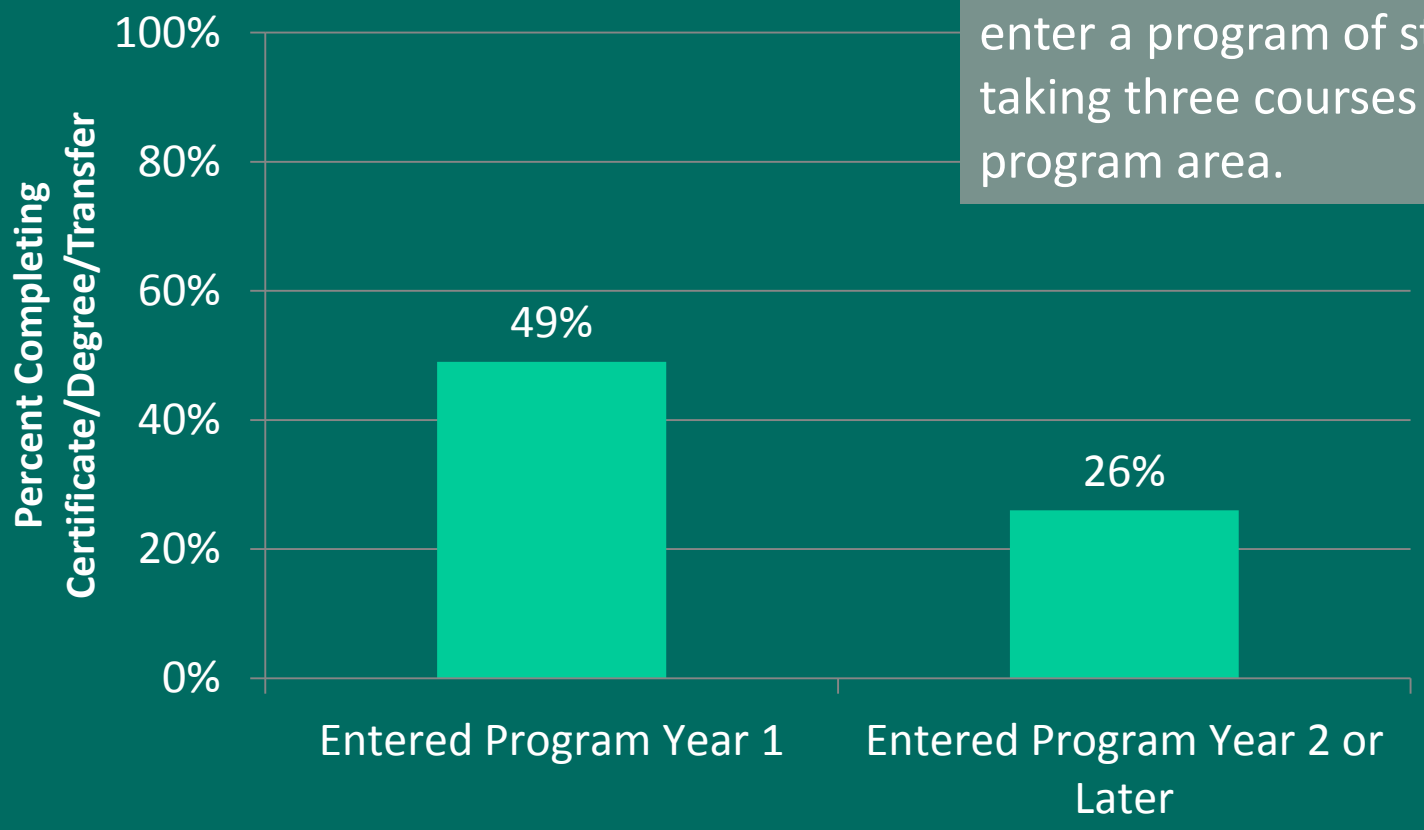
3. Entering a Program of Study

- Research question: how important is this milestone (and a more programmatic emphasis)?
- Methods challenge: students do not declare majors
- Adapted method from CCRC – based on course taking
- Taxonomy of 21 programs (TOP codes)
  - 3 liberal arts and sciences (Math/Natural Sciences, Social/Behavioral Sciences, English/Arts/Humanities)
  - 18 CTE

Determining Students' Program of Study

- Definitions
  - Attempting /Entering a program = enrolling in/completing 9 college-level credits in single program or across the 3 liberal arts/sciences
  - Primary program = the program in which a student completed the largest number of credits (some students "enter" more than one program)
- Useful for –
  - Examining variation across groups of students in program attempt/entry , timing, types of programs entered
  - Examining student progress across programs
- Limitations –
  - Overstates student interest in liberal arts/sciences
  - Only useful for studying patterns, not assisting students

Completion Rate Nearly Twice as High among CCC Students Who Enter a Program of Study in Year 1



But only 60% ever *attempt* to enter a program of study - by taking three courses in a single program area.

Source: IHELP, *Sense of Direction: The Importance of Helping Community College Students Select and Enter a Program of Study*

4. Exploratory Study of CTE Pathways

- Research question: How well are students progressing through career pathways?
- Methods challenge:
  - Students don't declare majors
  - Most transfers do not complete CC degree/certificate
- Selected 4 high-wage, high-need fields
- Studied CC patterns of "completers" (at CCC or CSU)
  - Few basic skills courses (lack of math/English requirements for certificates? low completion among those needing remediation?)
  - Significant excess credits (complexity of pathway? inadequate advising?)
  - Pathway issues – not much sequential progression, few *technical* degrees

CTE Pathways (cont.)

- Studied entering cohort of students who *appeared* to be pursuing those pathways
  - Developed criteria for inclusion in each pathway based on what was learned from "completers"; iterative process – tried out different criteria and compared demographics of resulting group to demographics of completers
  - E.g., Engineering
    - enrolled in 2+ degree-applicable math courses and 2+ physical science courses OR
    - Enrolled in 2+ degree-applicable math courses and at least one engineering course
  - Used course enrollment rather than completion (like Perkins) to be more inclusive of students who may have intended to pursue but did not accrue enough credits

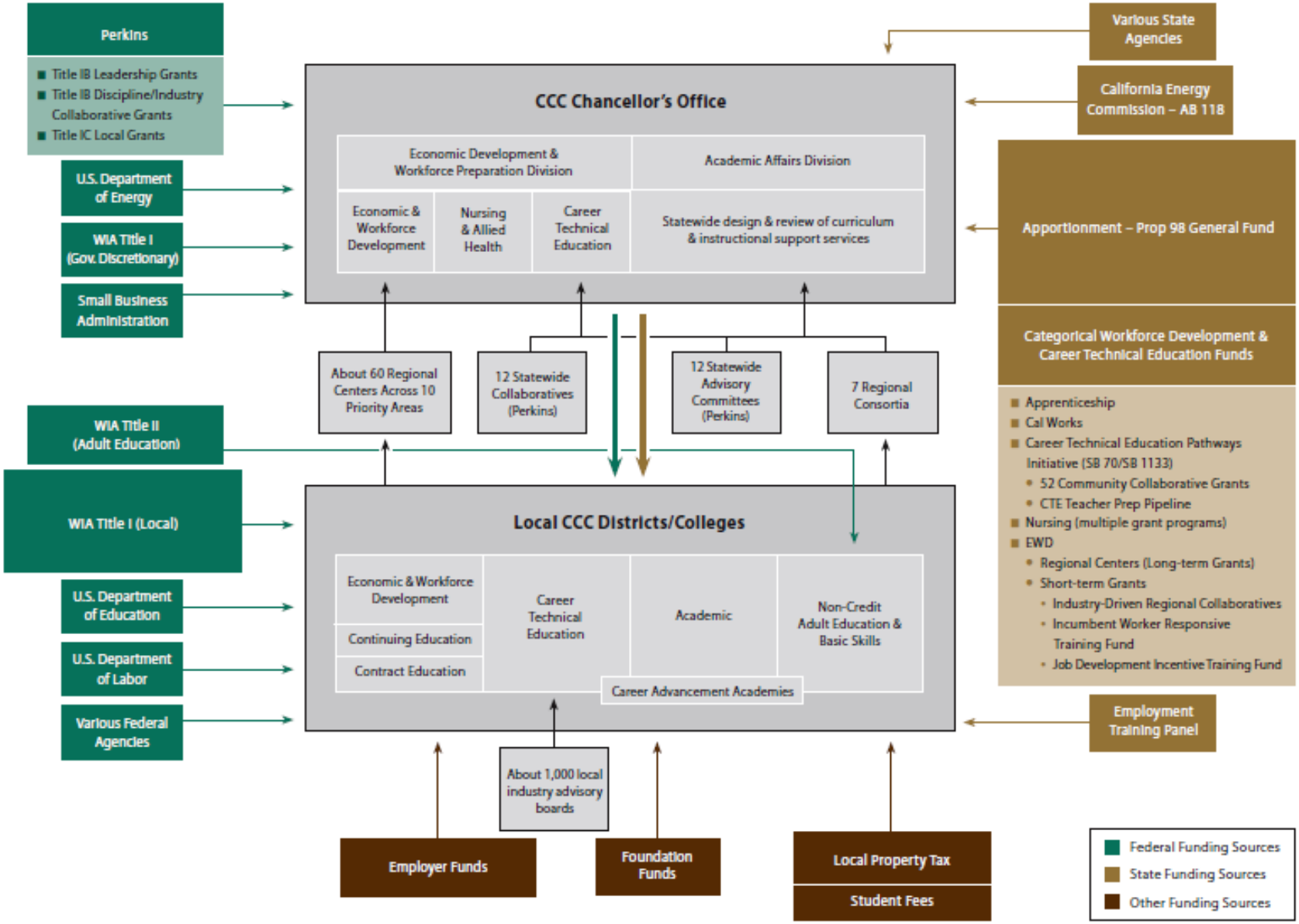
CTE Pathways (cont.)

- Findings
  - Most associate degree earners did not earn certificate
  - Most certificates/degrees were outside field of study
  - Few transfers earned associate, and those who did were mostly in interdisciplinary studies (not vocational)
- Tentative conclusions
  - Good progress not translating into credentials
    - Low incidence of certificates/degrees
    - Significant credit accumulation
  - Weak pathways
    - Basic skills needs and options unclear
    - Little evidence of sequential pathways
    - Substantial program variation

5. Full Evaluation of CTE Mission

- Research question: how well are state/system policies aligned with CTE mission?
  - Hypothesis:“transfer bias” leads to misalignment
- Methods challenge:
  - Limiting the scope to CCC core
  - Huge and complex – how to make sense of it?
- Framed in terms of seven criteria for effective CTE
- Mixed methods – mostly qualitative
  - I. Organization and Funding
  - II. Inventory of programs
  - III. Policies in other states
  - IV. Policy alignment

California Community Colleges Career Technical Education/Workforce Preparation Structure and Funding (Fall 2011)



Inventory: Methods

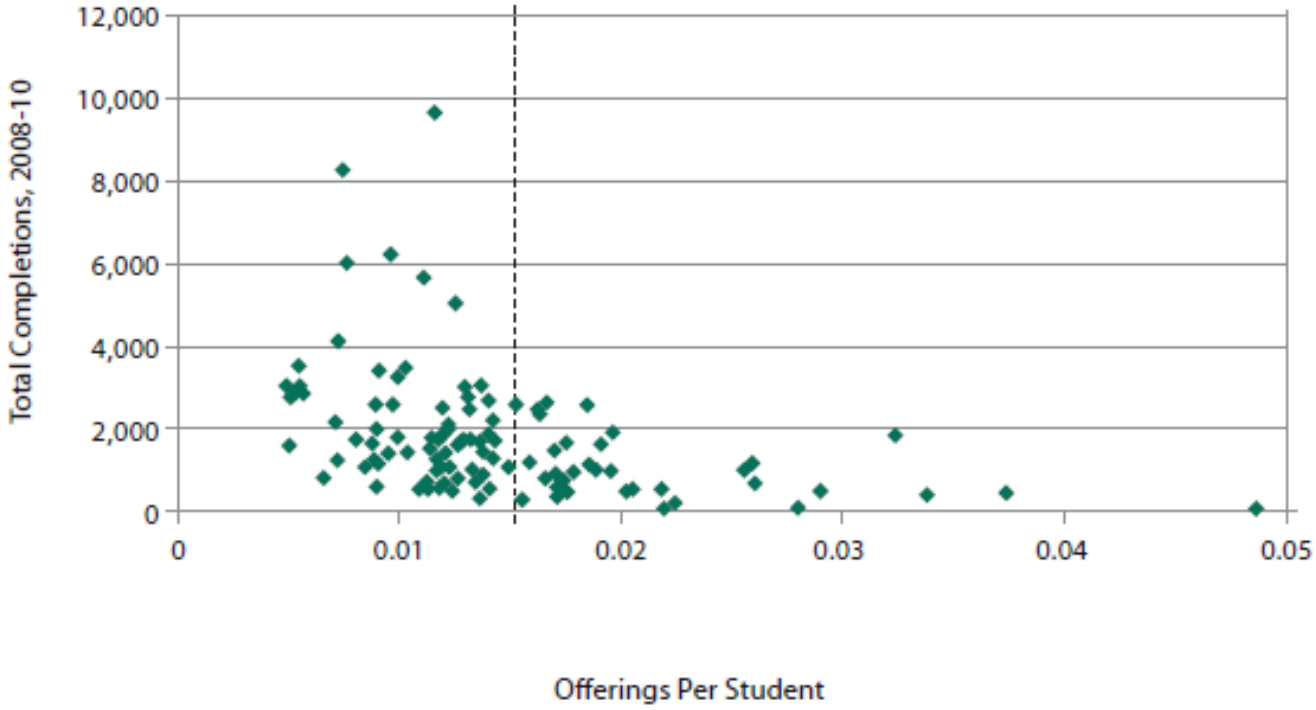
- CCC's inventory of approved programs (associate degrees, certificates of 18+ credits)
- College catalogs for college-approved certificates
- Definitions:
  - Field: 4-digit TOP code level
  - Program: A certificate or degree program at a college
- Count, organize, and analyze

Inventory – Just the Facts

- About 8,000 certificate programs and 4,500 associate degree programs in 142 fields
- Average per college: 113 programs in 25 fields
- Range of programs at a single college: 28 - 275
- Average per region: 959 programs in 91 fields
- Enrollments and completions highly concentrated in a few fields
  - 7% of fields account for half of enrollments
  - 6% of fields account for over half of completions

Are Colleges Spread too Thin?

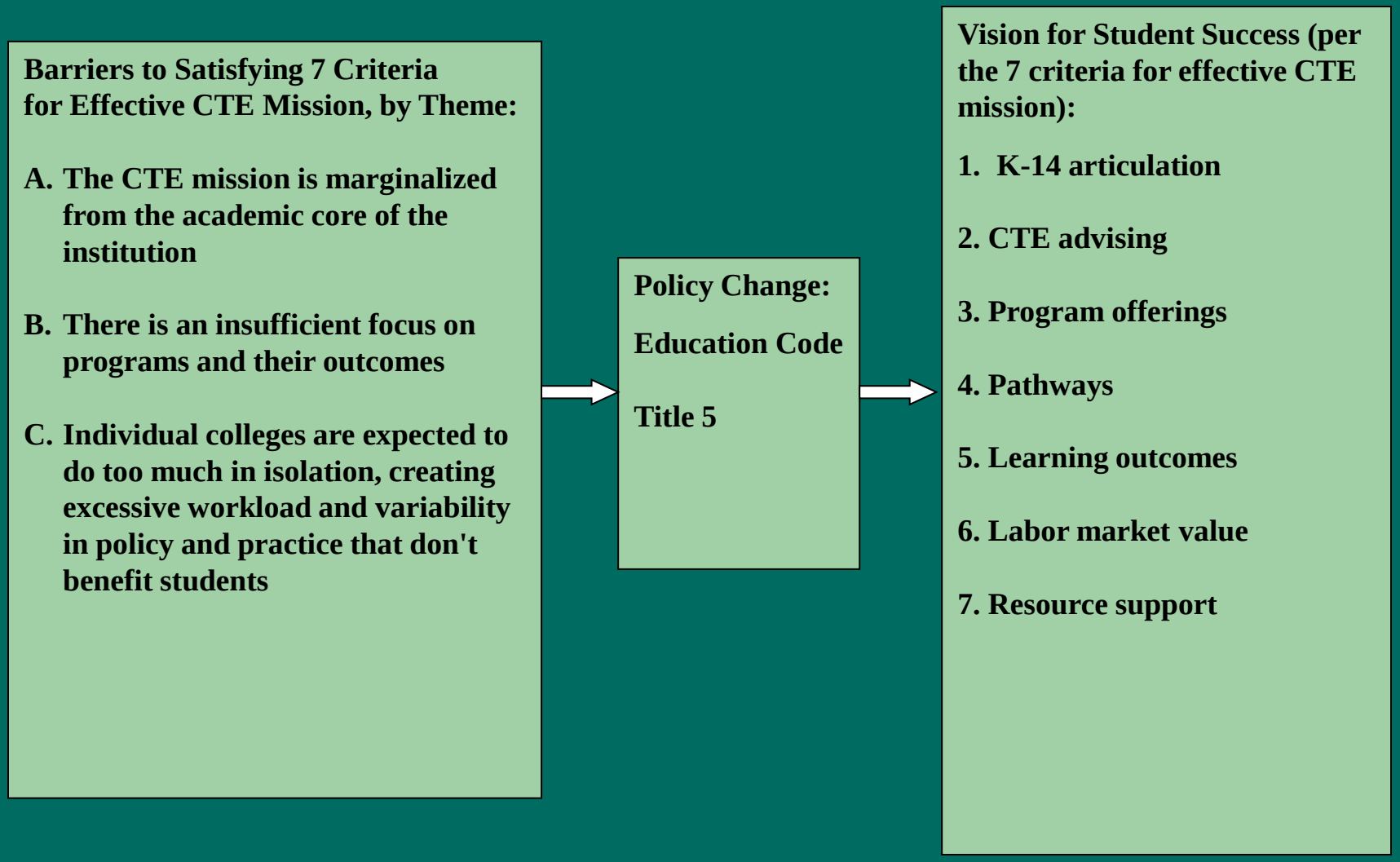
Figure 16
Relationship between Program Offerings Per Student and Completions at Individual Colleges



Methods for Policy Analysis

- Comprehensive set of policies for starters
- Help from the field – which are important factors/why?
- Systematic analysis of policies
  - Education Code and Title 5

Framework for Policy Reform



6. Transfer

- Research question: how can California's transfer process be more effective?
- Methods: policy analysis
  - Identify problems in CA with transfer
  - Identify causes – decentralized; not student-centered
    - Key "aha"- variability in LD prep for Psychology
  - Study other states
  - Identify alternatives and criteria
  - Analyze and apply to California

Classic Policy Analysis

- Alternatives
  1. Associate degrees for transfer (statewide patterns)
  2. Statewide GE curriculum, major prep pathways, no transfer associate degree
  3. Statewide GE for early transfer with LD status
- Criteria
  1. Effective
  2. Efficient
  3. Transparent
  4. Robust
  5. Strategic (target state needs)
  6. Feasible