

# Evidence and Innovations to Improve the Tough Transition to College

College Mathematics Project – Provincial Forum

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# The Community College Research Center (CCRC)

CCRC conducts quantitative and qualitative studies on community colleges to analyze their policies and programs and uncover emerging trends. Our mission is to contribute to the development of practice and policy that expands access to higher education and promotes success for all students.



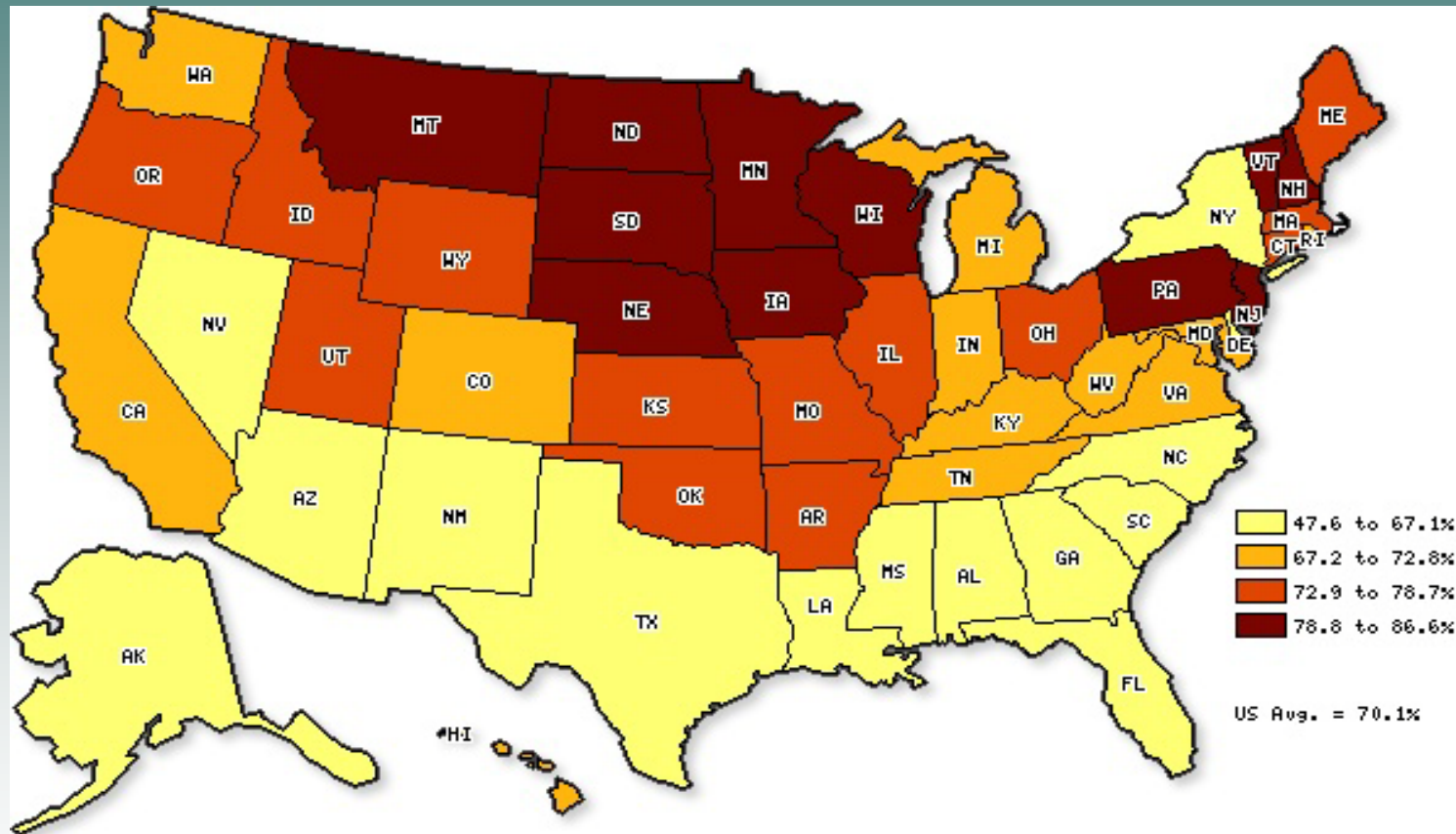
## We focus on:

- Access to and success in postsecondary education
- High school to college transition
- Missions, governance and accountability
- Programs and practice
- Workforce education

# Problems through the Pipeline

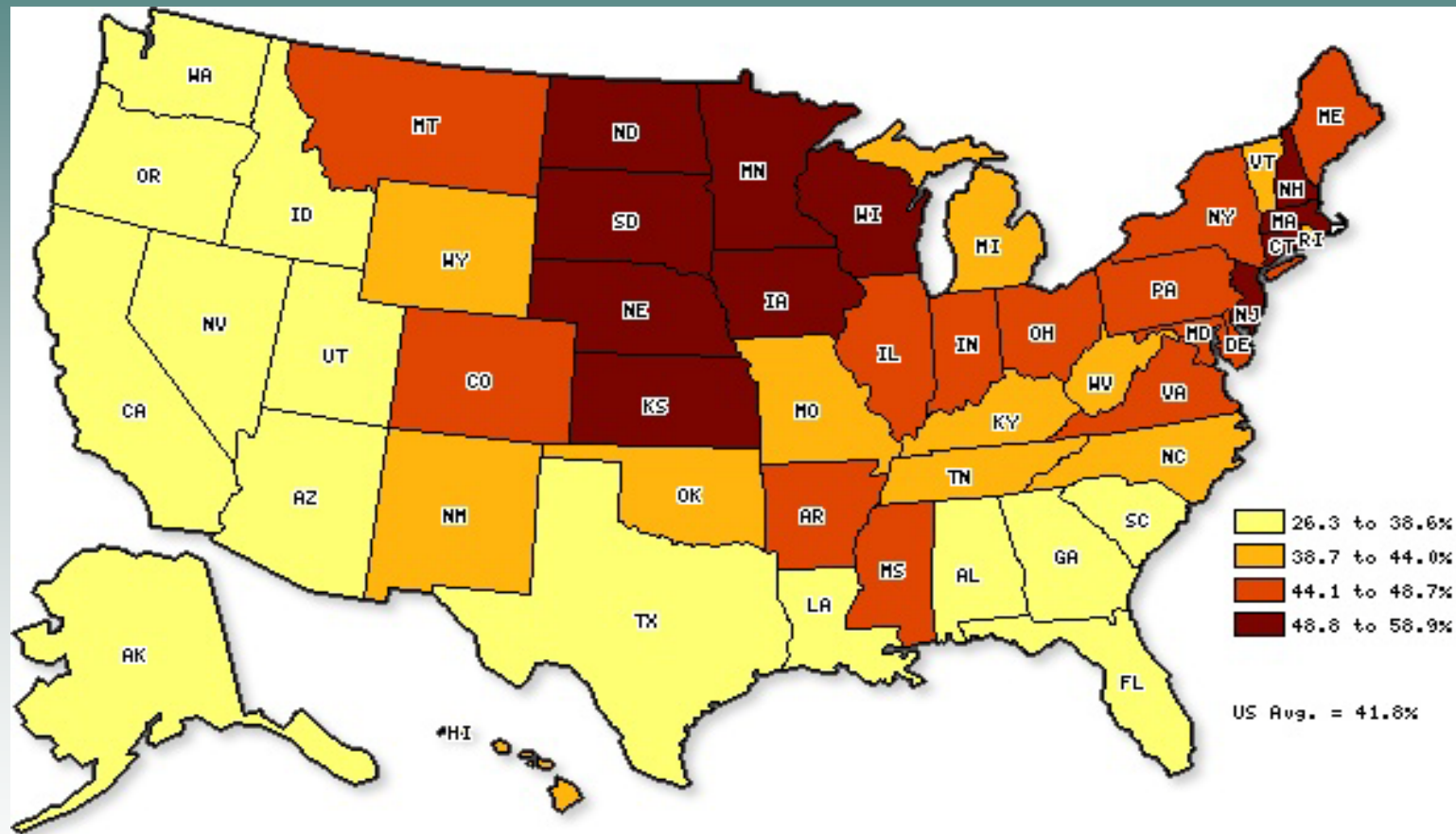
- Challenges to high school completion and attainment
- Challenges to transition from high school to college
- Challenges to persistence and success in college

# Public HS Graduation Rates 2008



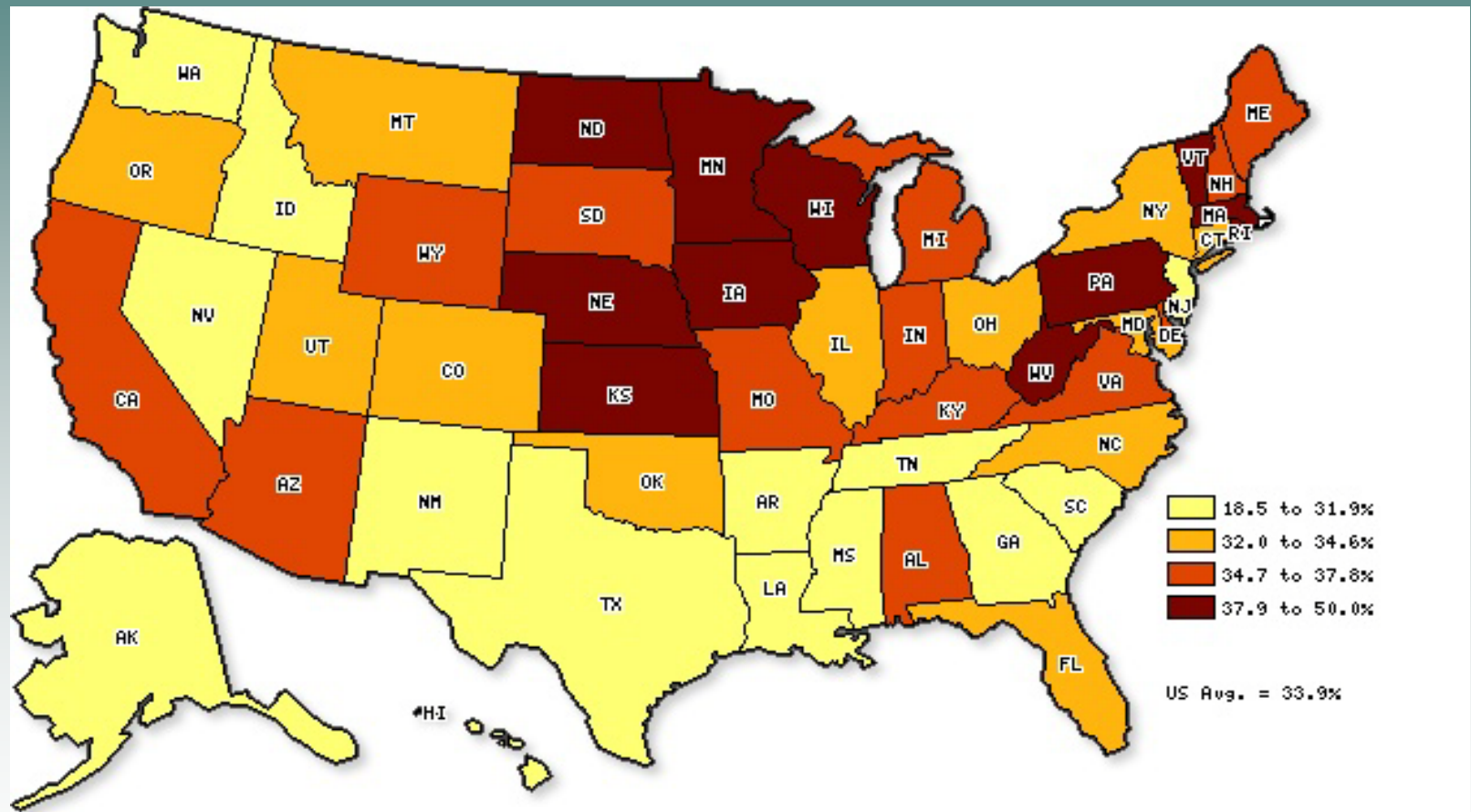
Source: Tom Mortenson, Postsecondary Opportunity

# 9th Graders' Chance for College by Age 19 (2006)



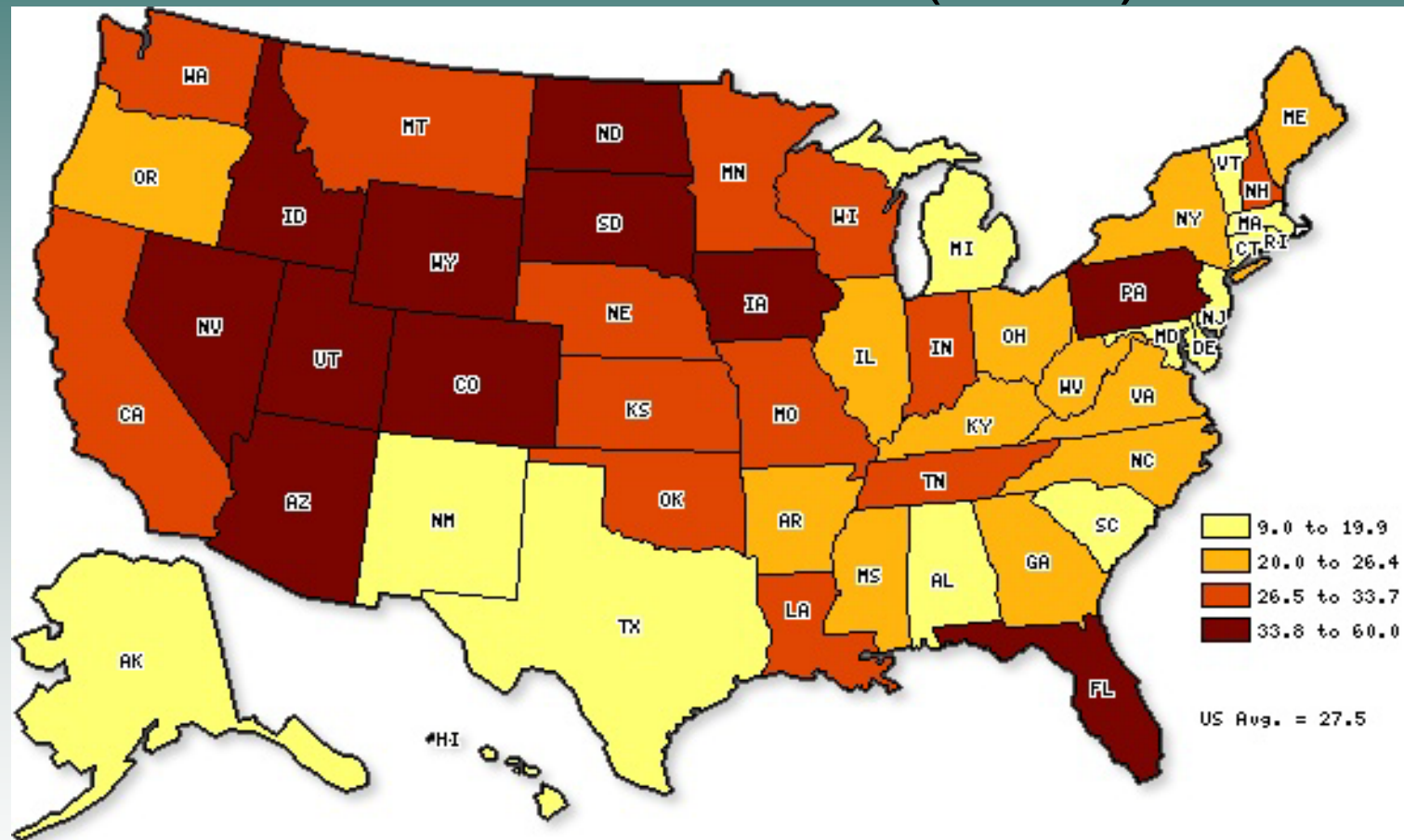
Source: Tom Mortenson, Postsecondary Opportunity

# Percent of 18 to 24 Year Olds Enrolled in College (2007)



Source: NCES, IPEDS 2007 Fall Enrollment Survey; U.S. Census Bureau, 2007 Population Estimates

# Three-Year Associate Degree Graduation Rates (2007)



Source: NCES, IPEDS Graduation Rate Survey

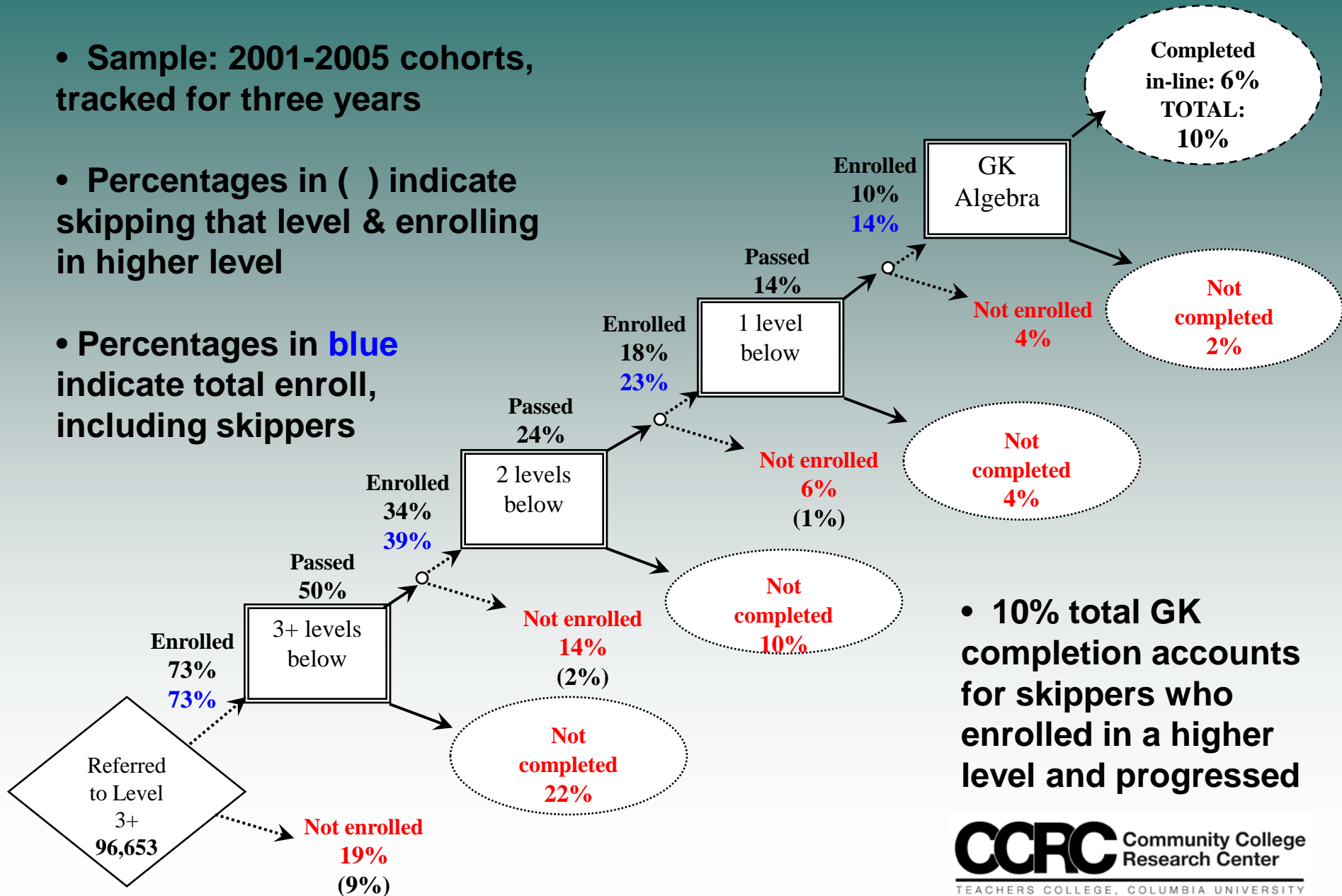
# Well-Known Challenges

- U.S. youth are not completing HS, entering college, persisting in college, and attaining credentials at rates we need them to
- One of the main problems is the lack of alignment of HS and college content and standards, which results in high numbers of new college students being placed into developmental education
  - More than 60% of CC students and 25% of 4-year students are referred to dev ed; they are less likely to earn a credential
- Non-academic factors also need to be addressed



# In-Order Completion and Enrollment: GK

- Sample: 2001-2005 cohorts, tracked for three years
- Percentages in ( ) indicate skipping that level & enrolling in higher level
- Percentages in blue indicate total enroll, including skippers



- 10% total GK completion accounts for skippers who enrolled in a higher level and progressed

The problem can be addressed at multiple points:

1. Before college enrollment, goal should be developmental education avoidance
2. As students enroll, need improved assessment and placement
3. Need to improve dev ed's format/structure, curriculum/content, and pedagogy

# How to Avoid Dev Ed?

- Alignment of HS exit standards with college entrance standards
- Interventions such as:
  - dual enrollment
  - summer bridge programs
  - diagnostic early assessments with tailored interventions

- Transition Curriculum – reshaping the HS senior year with material co-developed by HS and college faculty
  - Florida College Success Academies combine remediation and dual enrollment
    - e.g., one semester of co-developed math content followed by an introductory college math course
    - students simultaneously take a college orientation course
    - students earn high school and college credits

# Assessment and Placement

- Incoming community college students are assessed
- States and colleges use different assessments and different “college-ready” cutoffs
- The instruments aren’t very predictive of success in college
- They do not provide adequate diagnostic information
- Students are confused about the process and are not well advised

# Assessment and Placement Reform

- Reforms to matriculation process (e.g., review/preparation for placement test, educating students about assessment process)
- Reforms to assessment (e.g., use of multiple measures, diagnostic tools, and non-cognitive assessments)

# How to Reform Dev Ed?

- Approaches to reform:
  - format/structure (re-packaging or re-organizing)
  - curriculum/content (what content do students really need to know? Algebra vs. Statistics)
  - pedagogy (change in teaching strategies)

# Structural Reforms

- Focus on reorganization of instructional time and content
  - Designed to re-package instructional delivery
  - Facilitates the break down of content into units that can be delivered in non-traditional ways
  - Students take only the units they need
  - Scheduling and other logistics as well as availability of flexible instructional materials can present challenges
- Examples: acceleration, modularization, mainstreaming



# Curricular Reforms

- Focus on rationalizing or refining content
  - Intended to deliver a more relevant and meaningful curriculum
  - Explicitly prepares students for subsequent coursework
  - May require course development processes and significant revisions to instructional materials
- Example: Statpath

# Pedagogical Reforms

- Focus on changes to teaching
  - Encourages use of instructional practices explicitly intended to enhance student learning
  - Requires ongoing diagnosis of students' needs and progress
  - Involves experimentation and continuous improvement approach
  - Hardest reform to enact, mandate, and study

# Structural/Curricular/Pedagogical: Virginia Math Dev Ed Re-Design

- New, customized diagnostic assessments that report areas of weakness
- Dev math curriculum restructured into nine 1-credit units
- Different units required for different majors:
  - STEM: units 1-9
  - Liberal Arts: units 1-5
  - Career/technical: depends on degree and major
- Colleges can deliver 9 units any way they want:
  - Can develop online modules for each unit
  - Can bundle units together into a traditional course

# For more information:

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<http://ccrc.tc.columbia.edu>,

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