Stacking Educational Credentials in Ohio

Statewide Findings and Opportunities for Improvement

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RAND EDUCATION AND LABOR

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Acknowledgments

Overview of the discussion

- **Study background**
- Statewide findings from 2005-2015
  - Who was stacking credentials?
  - What types of credentials?
  - How did students progress as they stacked credentials?
  - Key takeaways and areas for improvement
- A four-step process for improving stackable credential pipelines at the institutional level

Ohio is interested in ensuring a strong system of stackable credentials

The state has an interest in supporting workforce development in key fields with middle skills job opportunities

The state established policies and initiatives supporting stackable credentials, such as:
- 2009: Stackable credentials legislation
- 2010-2014: Federal funding to support stackable programs (TAAACT grants)
- 2013-today: Statewide transfer initiatives

Stackable credentials can potentially offer benefits to students and employers

More flexible pathways for students where long-term continuous degree enrollment is a challenge
- Students who aren't interested in or able to complete a degree can still get credit for postsecondary coursework
- Students with technical certificates have the opportunity to apply that credit toward a degree
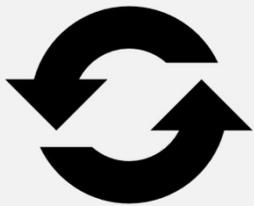
A more intentional and effective mix of classroom learning and on-the-job experience in applied fields

But little is known about what is happening in terms of the stacking of credentials

- Very few research studies
  - Large literature looking at economic returns to certificates
  - One national study classifying different types of stacking
  - Several different reports on stacking in California community colleges
- Many unanswered questions
  - Who is stacking credentials in Ohio?
  - What types of educational credentials are being stacked?
  - How are students progressing through credentials?
  - How is employment related to educational participation?

Understanding how stackable credentials are working can help to identify areas for improvement

ODHE and RAND partnered to examine stacking and stackable programs in Ohio

Study timeline	December 2018-June 2021
Key study activities	• Analysis of stackable program offerings • Analysis of individual-level data to track progression and outcomes in education, employment • Interviews with institutions to learn about stackable credential programs
Deliverables	• 2 descriptive RAND reports • 2 journal articles • Toolkit and 2 webinars for institutions • Presentations to state and national audiences
Funders	ECMC Foundation and U.S. Department of Education

Our first report focused on three aspects of the stackable credential pipeline

2) Which types of credentials are students completing?
- Which levels of credentials?
- Which types of programs?

3rd Credential (Certificate or Degree)

Job
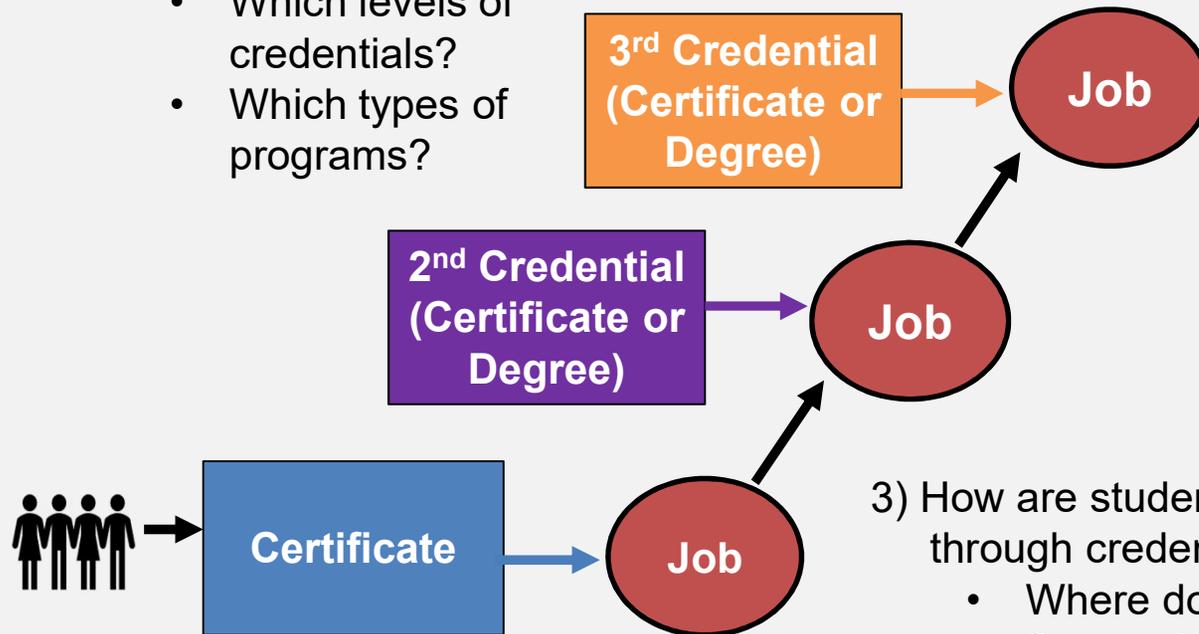
4) How is employment related to stacking credentials?
- Are employed students less likely to stack?
- Are strong labor market conditions related to more stacking?

2nd Credential (Certificate or Degree)

Job

Certificate

Job

1) Who is completing stackable credentials?
- Has completion of certificates and stacking increased over time?
- What types of students complete certificates and stackable credentials?

3) How are students progressing through credentials?
- Where do students earn their first credential?
- Do students earn additional credentials at the same institution?
- Do stackers have excess credit hours and more terms of enrollment?
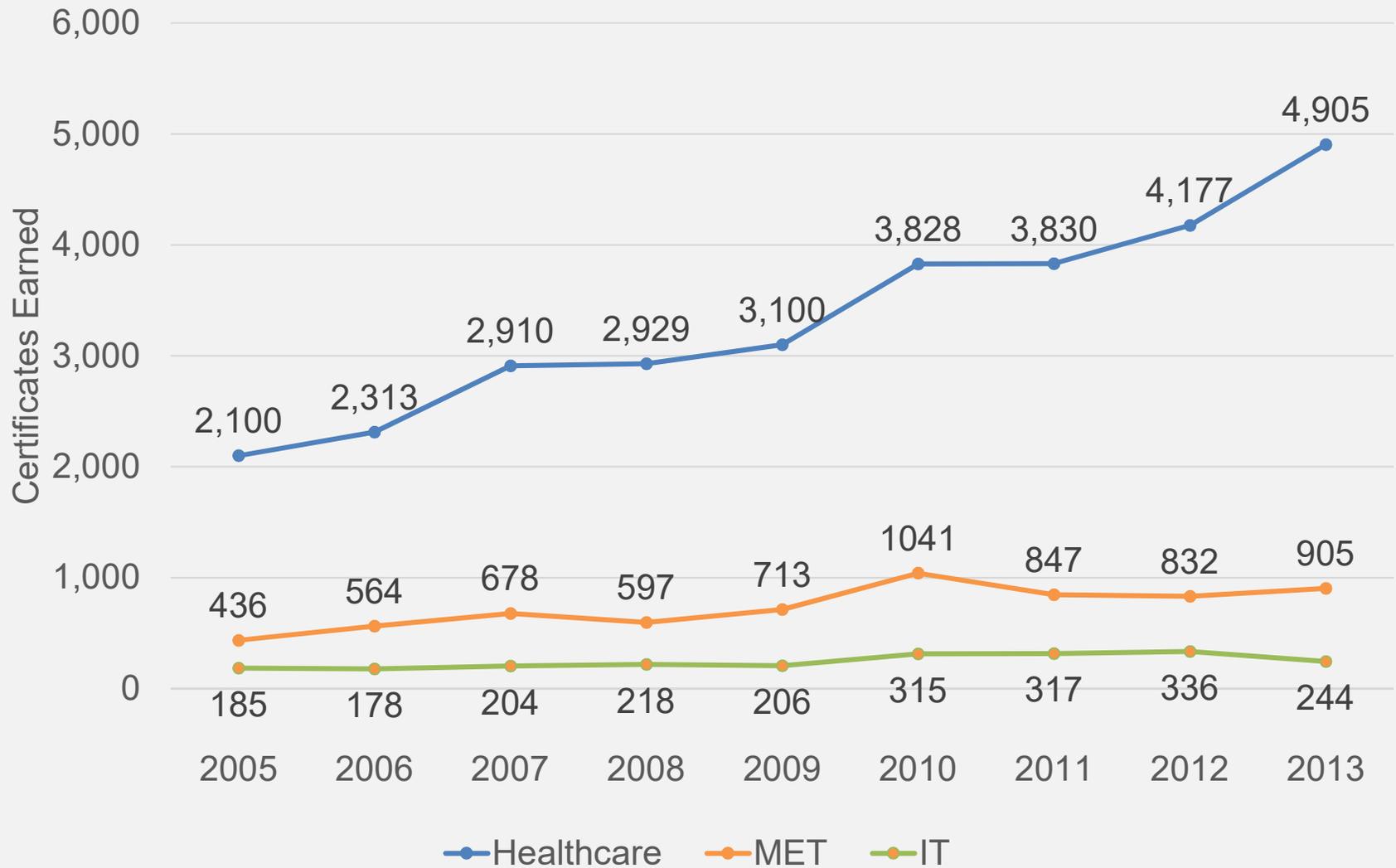
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Overview of the discussion

- Study background

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  - Who was stacking credentials?
  - What types of credentials?
  - How did students progress as they stacked credentials?
  - Key takeaways and areas for improvement

- A four-step process for improving stackable credential pipelines at the institutional level

# First we examined which students were stacking credentials
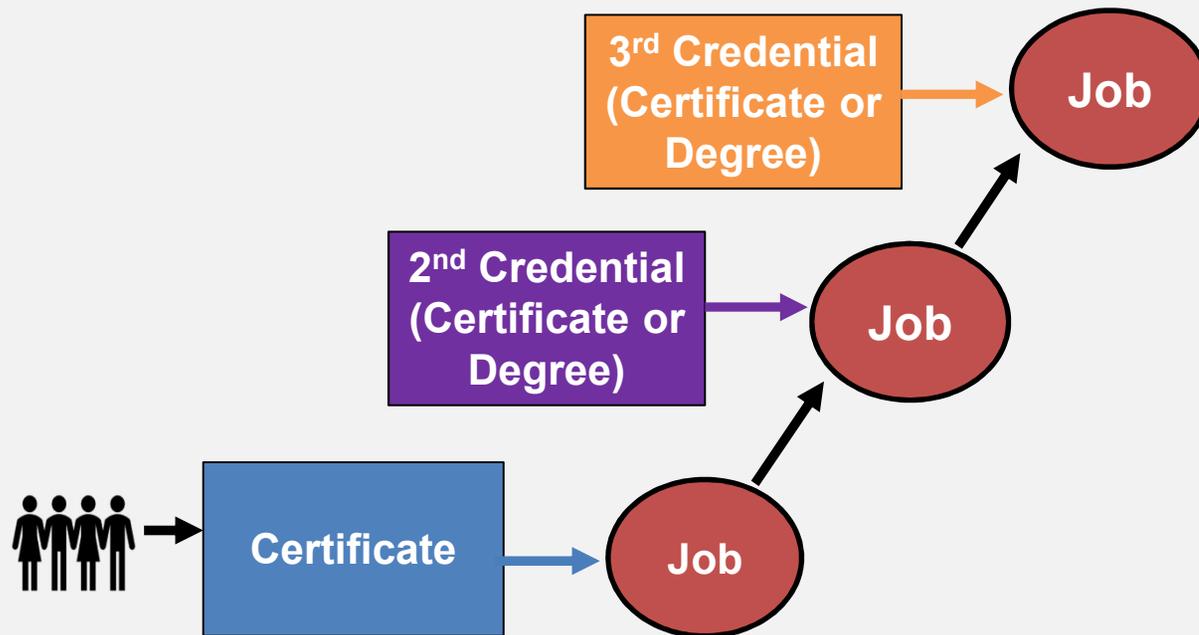
1) Who is completing stackable credentials?
- Has completion of certificates and stacking increased over time?
- What types of students complete certificates and stackable credentials?

Certificates earned increased over time in some fields

Certificates Earned

|	2005	2006	2007	2008	2009	2010	2011	2012	2013
Healthcare	2,100	2,313	2,910	2,929	3,100	3,828	3,830	4,177	4,905
MET	436	564	678	597	713	1041	847	832	905
IT	185	178	204	218	206	315	317	336	244

Healthcare — MET — IT

The percentage of certificate-earners stacking credentials over time in healthcare increased
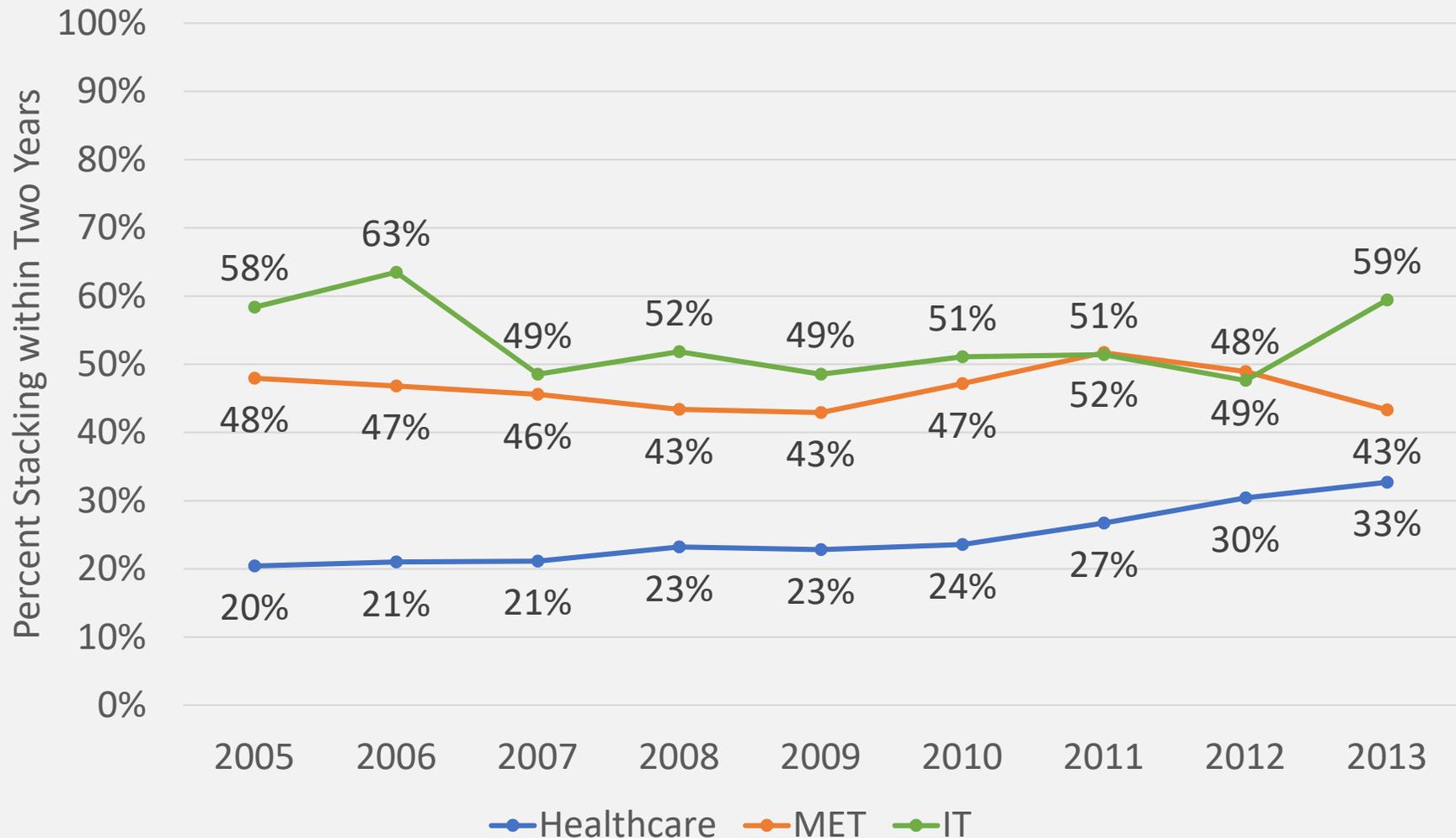

Note: This figure represents the percentage of certificate-earners who went on to stack within two years. Calculations were based on the numbers of certificate-earners by year and field listed in the figure on the previous slide.

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# Certificate programs were relatively popular among traditionally underserved populations
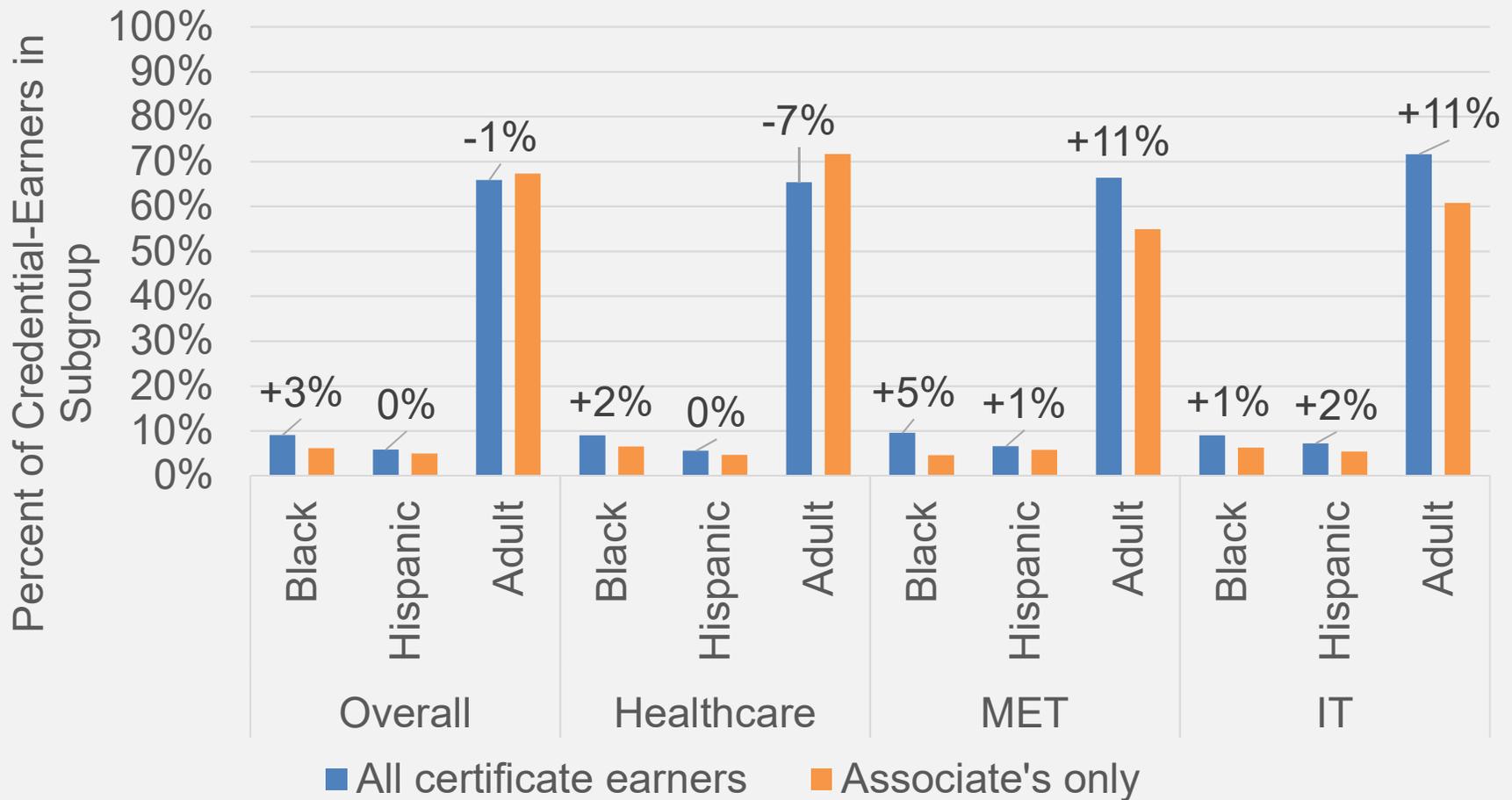
Note: Certificate calculations were based on the following numbers of certificate-earners by field: 30,092 (health care), 6,613 (MET), and 2,203 (IT). Degree calculations are based on the following numbers of individuals earning associate's degrees by field: 62,958 (health care), 17,561 (MET), and 8,042 (IT).

Yet black certificate-earners were less likely to go on to stack additional credentials
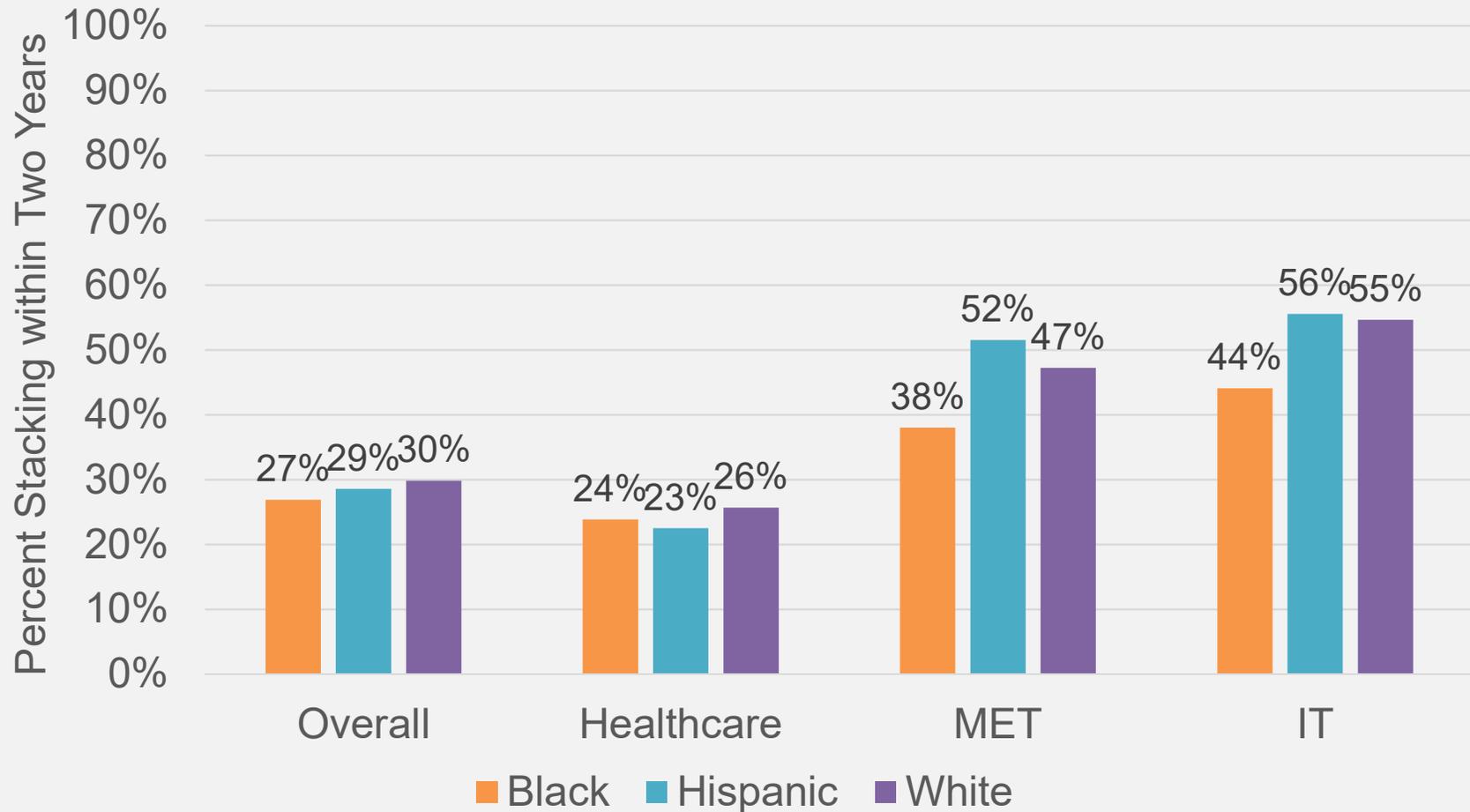
Note: Calculations were based on the following numbers of certificate-earners by race/ethnicity and field: 2,604 (black, health care), 605 (black, MET), 186 (black, IT), 551 (Hispanic, health care), 130 (Hispanic, MET), 36 (Hispanic, IT), 23,424 (white, health care), 5,030 (white, MET), and 1,616 (white, IT).

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Adult learners who earned certificates were also less likely to go on to stack additional credentials
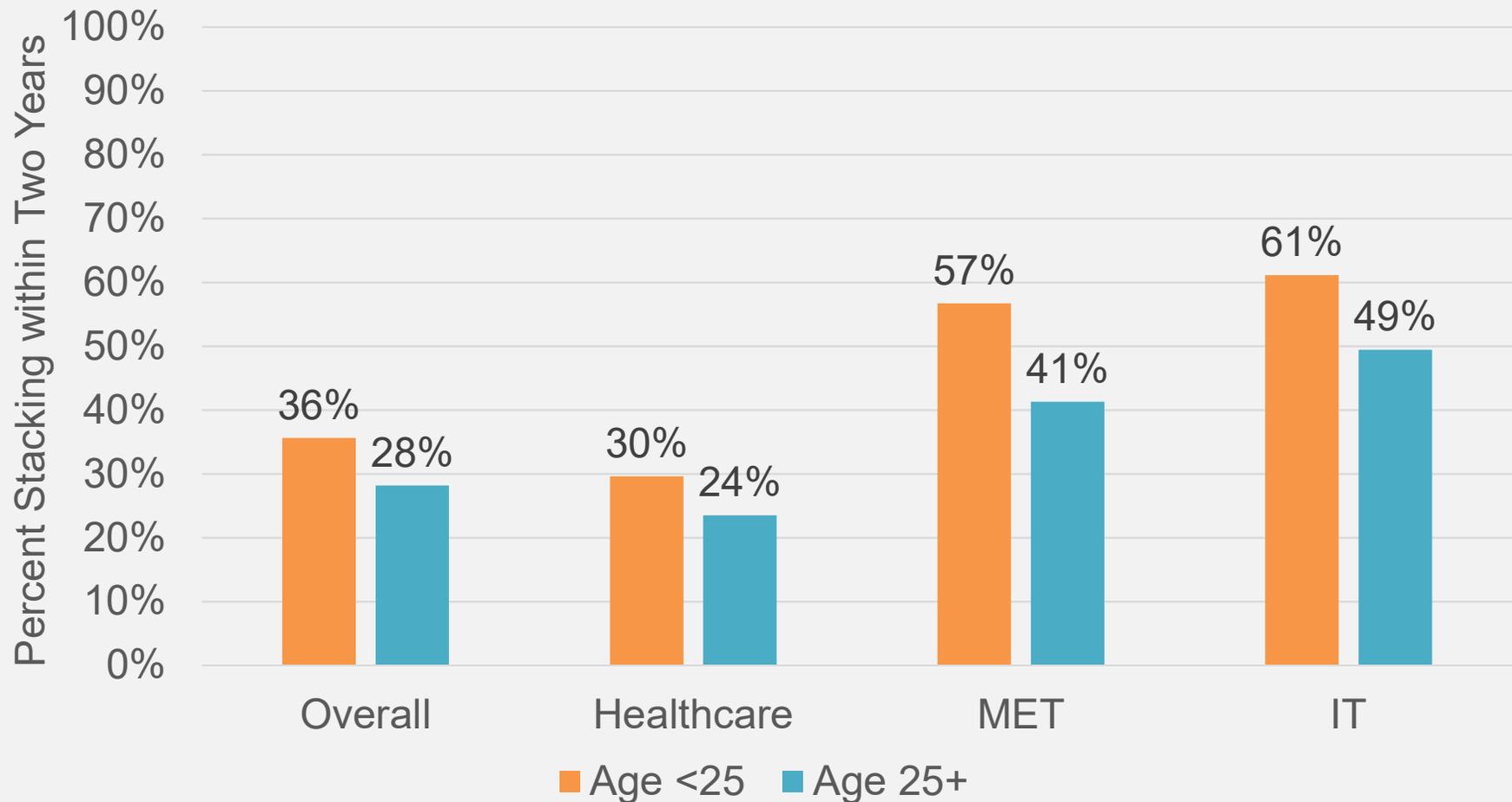
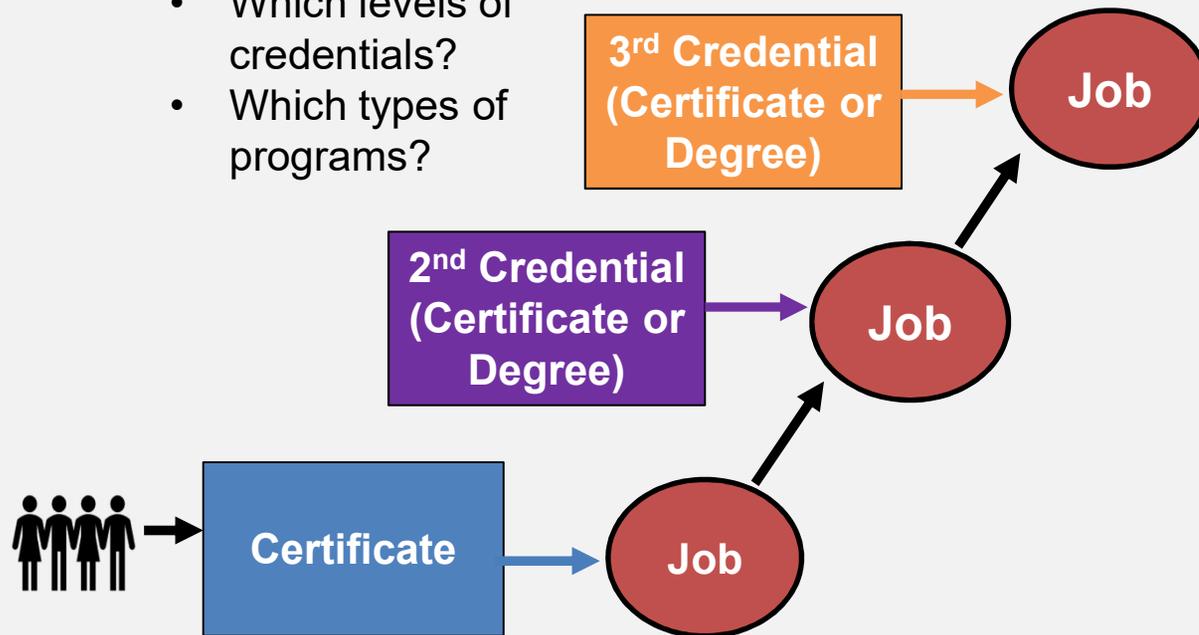Note: Calculations were based on the following numbers of certificate-earners by age group and field: 19,671 (age 25+, health care, 4,390 (age 25+, MET), 1,578 (age 25+, IT), 10,421 (age <25, health care), 2,223 (age <25, MET), and 625 (age<25, IT).

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Next we examined the types of credentials that students stacked

2) Which types of credentials are students completing?
- Which levels of credentials?
- Which types of programs?

Within four years of earning a certificate, most students who had stacked had earned a degree
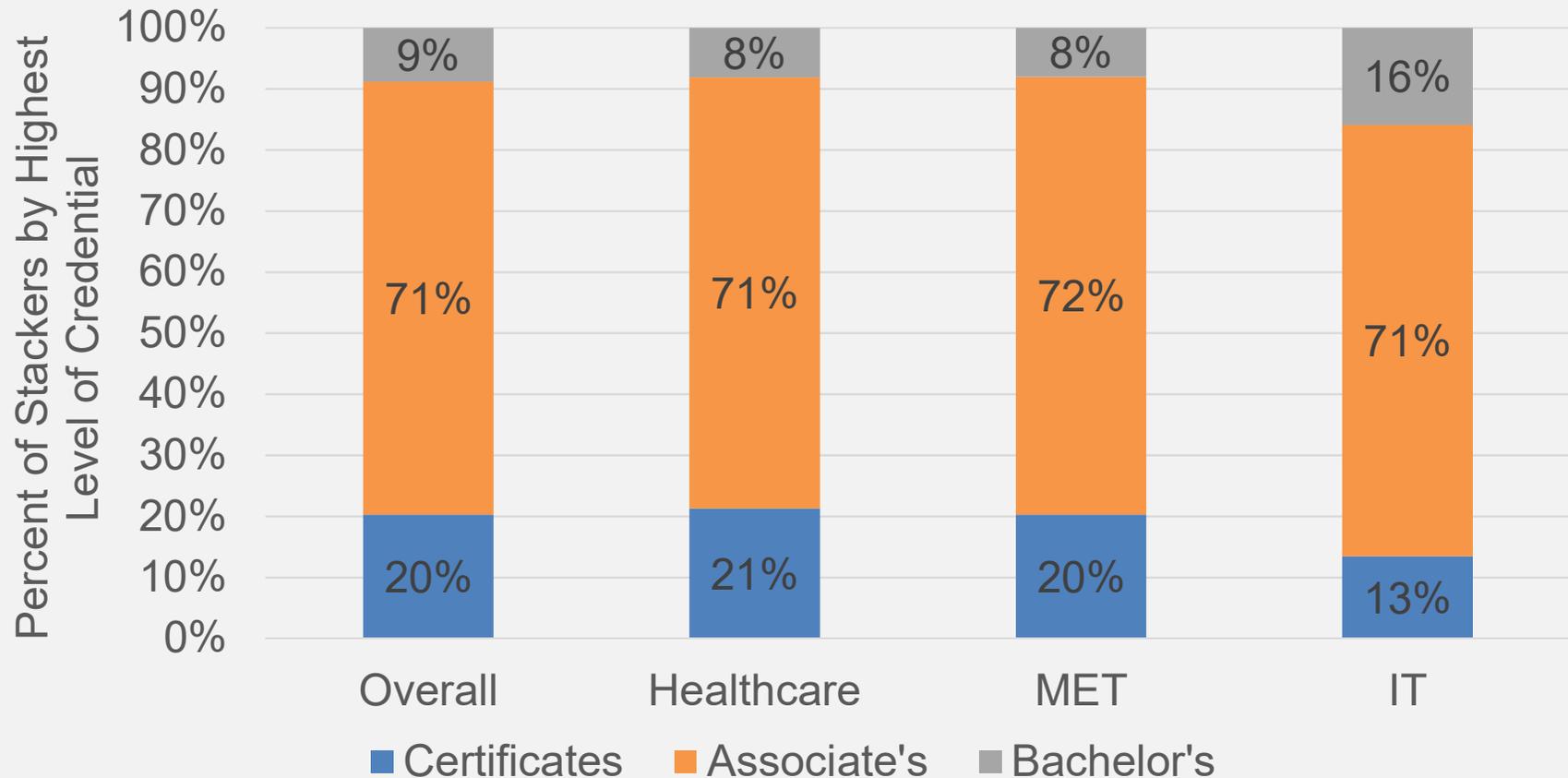
Note: Calculations were based on the following numbers of certificate-earners by field: 6,412 (health care), 2,444 (MET), and 937 (IT).

One in four students stacked credentials outside of their certificate field
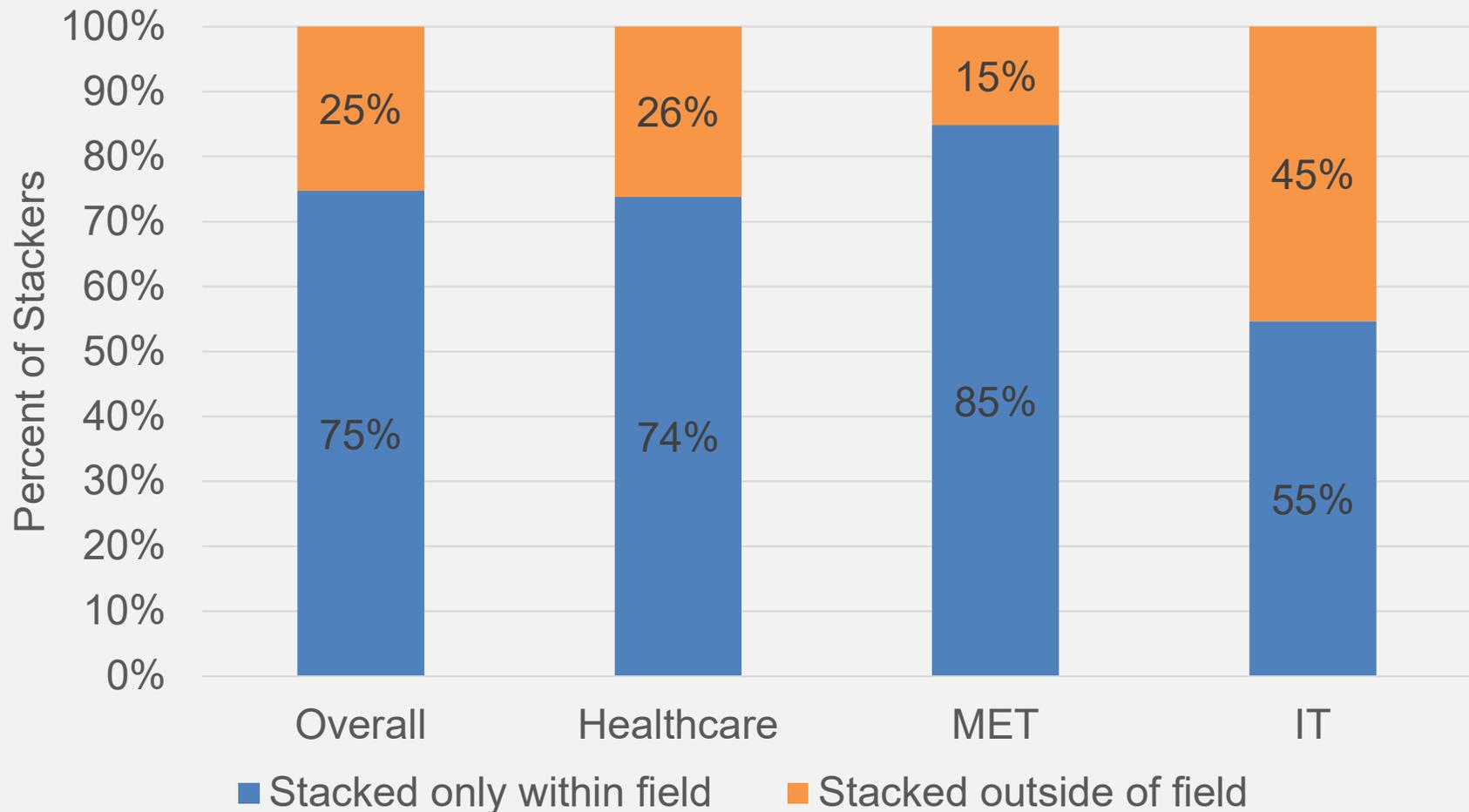
Note: Calculations were based on the following numbers of certificate-earners who went on to earn additional credentials within four years by field: 6,412 (health care), 2,444 (MET), and 937 (IT).

Then we examined student progression through credentials
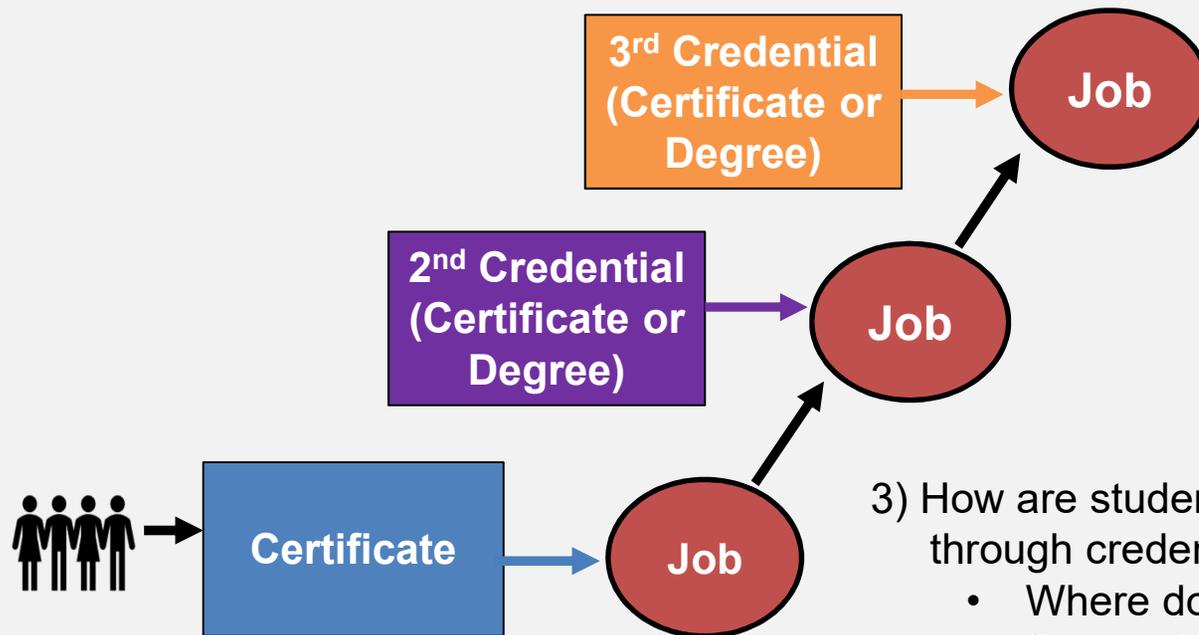
3rd Credential (Certificate or Degree) → **Job**

2nd Credential (Certificate or Degree) → **Job**

Certificate → **Job**

3) How are students progressing through credentials?
- Where do students earn their first credential?
- Do students earn additional credentials at the same institution?
- Do stackers have excess credit hours and more terms of enrollment?

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Most certificates in Ohio were earned at community colleges
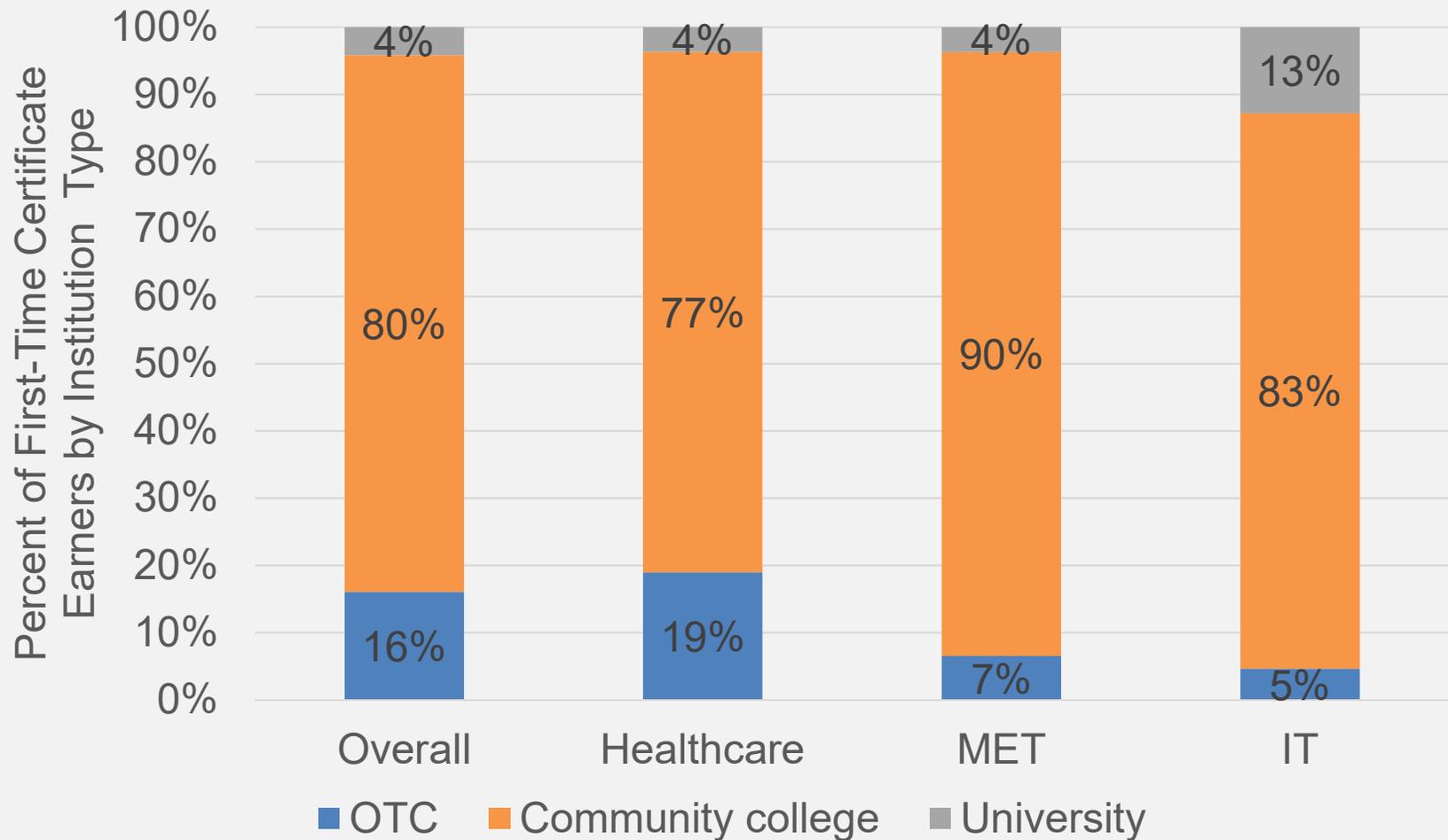
Note: Calculations were based on the following numbers of first-time certificate-earners by field: 30,092 (health care), 6,613 (MET), and 2,203 (IT).

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Rates of stacking varied depending on where a first certificate was earned
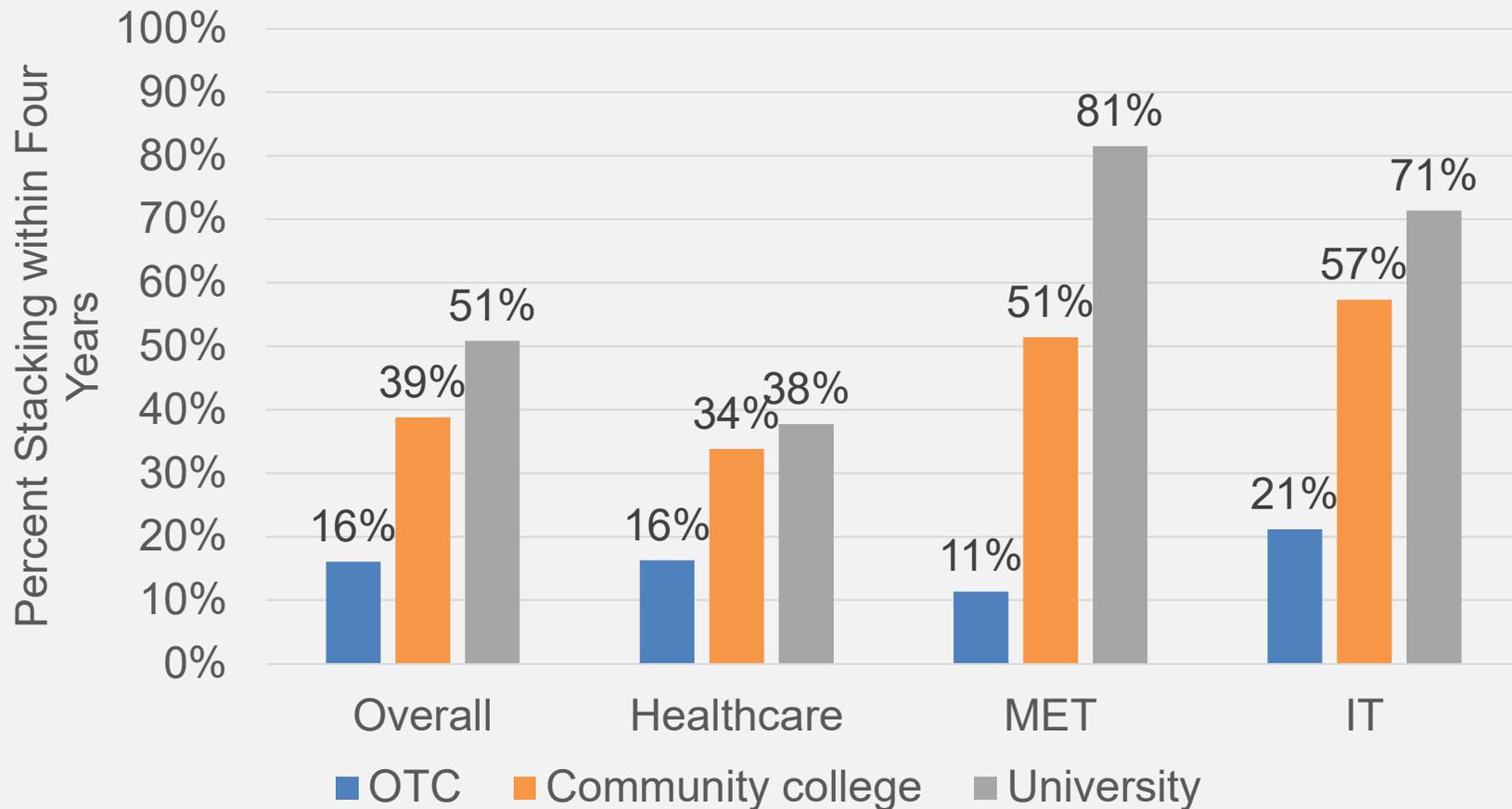
Note: Calculations were based on the following numbers of certificate-earners by institution type and field: 4,086 (OTC, health care), 274 (OTC, MET), and 71 (OTC, IT), 16,179 (community college, health care), 4,440 (community college, MET), and 1,318 (community college, IT), 745 (university, health care), 162 (university, MET), and 234 (university, IT).

Students who stacked accumulated more credits than those going straight to the AA

	Credits			
	Single Inst. Associates stacker	Mult. Inst. Associates stacker	Associates only	*Average Difference*
By field				
Overall	102.2	118.8	86.9	17.1
Healthcare	107.7	119.8	89.0	20.9
MET	93.3	121.7	82.1	12.1
IT	93.8	83.9	81.1	13.3
By race/ethnicity				
White	103.5	116.5	88.1	17.2
non-White	97.1	132.4	89.7	17.6
By adult/non-adult learner				
Adult learner	97.4	115.8	83.5	15.9
Non-adult learner	109.6	121.9	93.9	17.3

Note: Ns for these calculations are presented in a back-up slide.

Overall, we found evidence that aligns with Ohio efforts to encourage stacking

- Increased numbers of certificate-earners, especially in healthcare and MET fields

- Increased rate of stacking among healthcare certificate-earners over time

- Participation of traditionally underserved populations in stackable programs

- Stacking of credentials happening across institution types

We also identified possible areas for improvement in the pipeline

- Limited growth in stacking in IT and manufacturing and engineering technology during this time period

- Black students and adult learners who earned certificates were less likely to go on to earn additional credentials

- Students who started at OTCs stacked at lower rates

- Stacking across institutions was infrequent

- Stackers earned additional credit hours and had more terms of enrollment

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State-level research findings are insufficient for driving on-the-ground improvement

- Unclear if historical patterns represent current ones, or whether statewide issues are also problematic at your institution

- Findings don't point to what institutional practices, policies, or program components are driving the patterns in the data and how these "root causes" can be addressed

- Institutions need a way to assess improvements as they are made

We recommend a four-step continuous improvement process.

# Step 1: Collect and assess evidence at your institution

Types of Questions Institutions Might Examine	Types of Data Used to Examine Questions
Do patterns in the data from our institution look similar to patterns in data from the state? How do we compare to other institutions?	Administrative data
How do programs, policies and practices within the institution or broader educational system contribute to the issue?	Admin data, surveys, focus groups, documents, observations,
To what degree are issues identified in one program or classroom present across classrooms, programs, student subgroups and/or campuses across the institution?	Administrative data, surveys
What do key stakeholders (e.g., faculty, advisors, students) see as the biggest barriers that might prevent students from stacking credentials? Where can improvements be made to better support students and/or staff?	Surveys, focus groups, interviews
Where does the institution have leverage to make changes to programs, policies and/or practices within the institution or broader system? What are the pros and cons of making adjustments?	Surveys, focus groups, interviews, document review

Step 2: Identify a "root cause" (or problem of practice) you'd like to address

Assemble a team of stakeholders representing the full range of individuals who play a role in the stackable credential pipeline, which may include administrators, faculty, other school staff, students and/or external stakeholders

Step 2: Use a fishbone diagram to map out "root causes"

Driver 1:

Driver 2:

Issue: Lower rates of stacking among adult learners

Driver 3:

Driver 4:
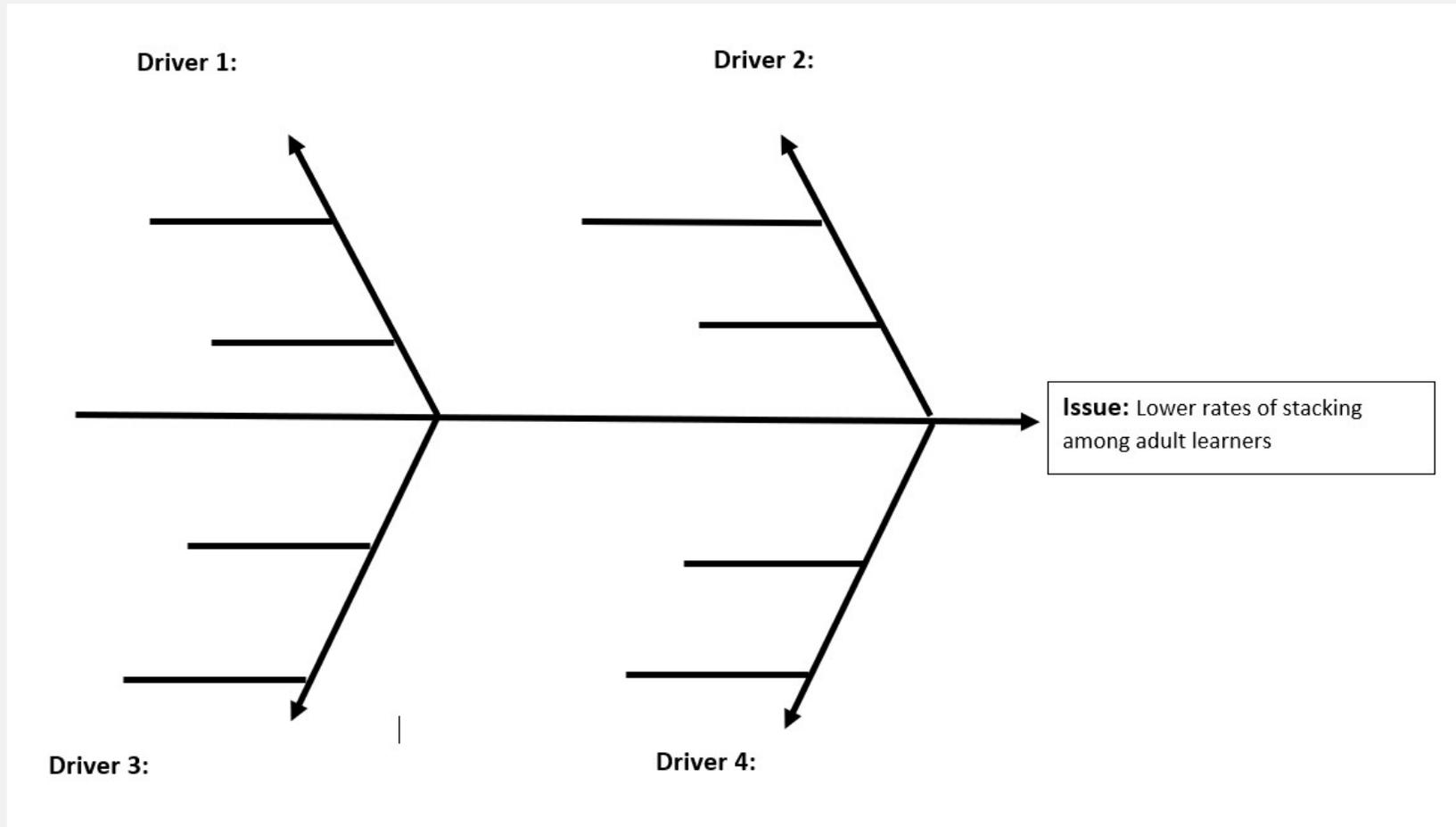
Fill in the stackable credentials issue at the mouth of the fish.

Step 2: Use a fishbone diagram to map out "root causes"
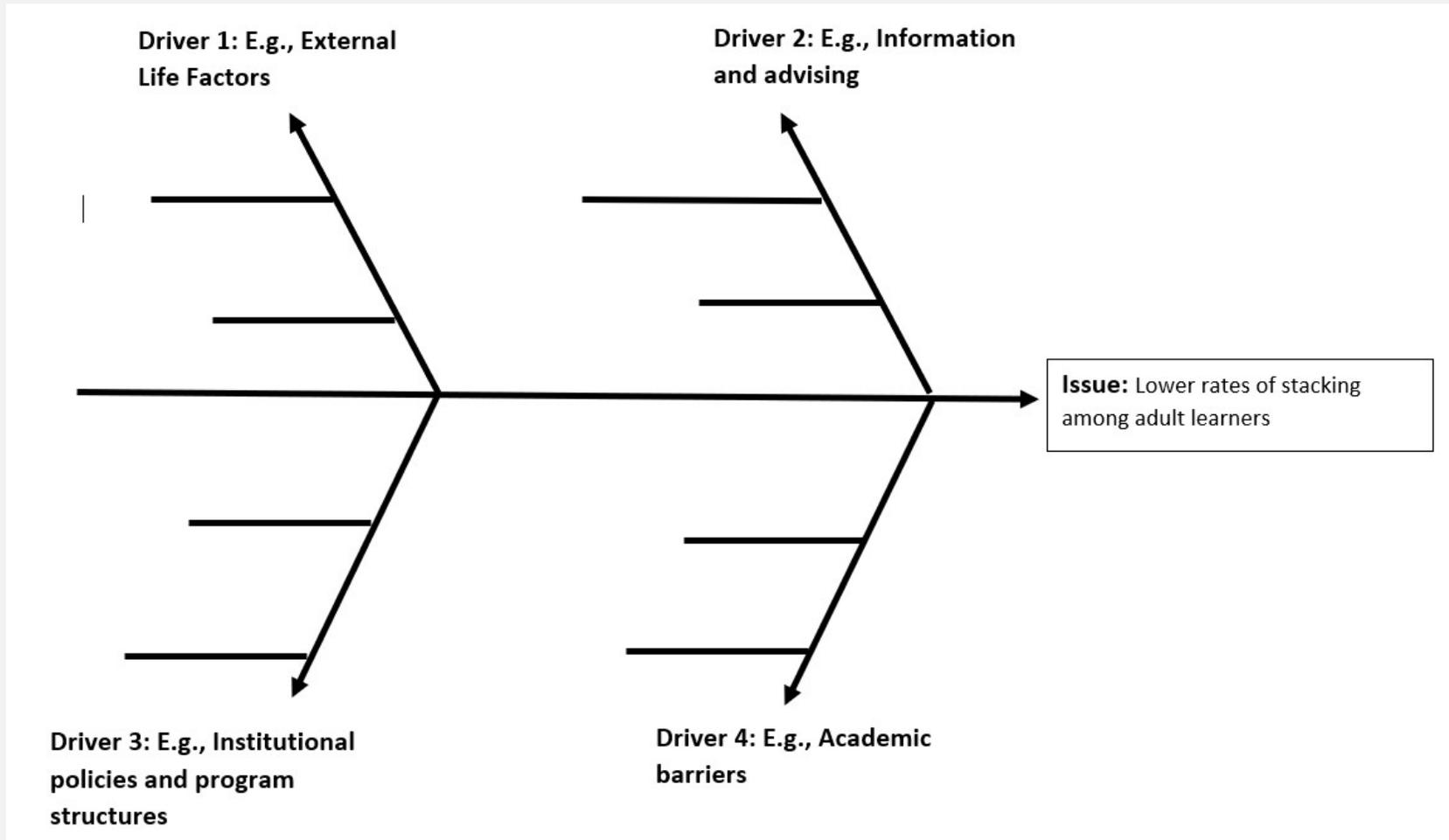
With the full team's input, define the different categories of things that might cause that issue (e.g., academic barriers, institutional policies).

Step 2: Use a fishbone diagram to map out "root causes"
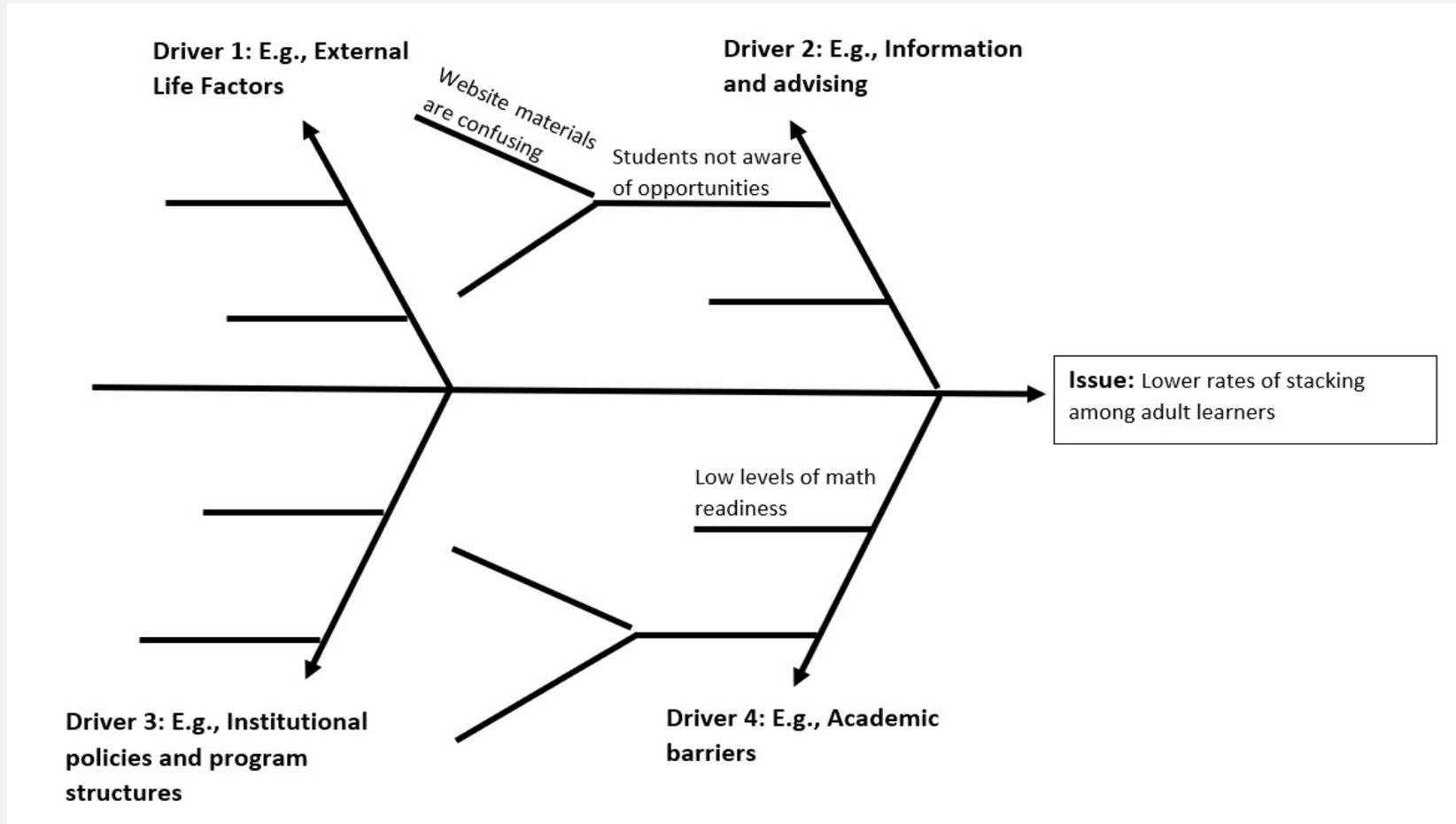
Ask "Why does this happen?" to identify different causes of the problem, and record these causes on the "bones" of the fish

Step 2: Identify a "root cause" you'd like to address

Factors Outside of College

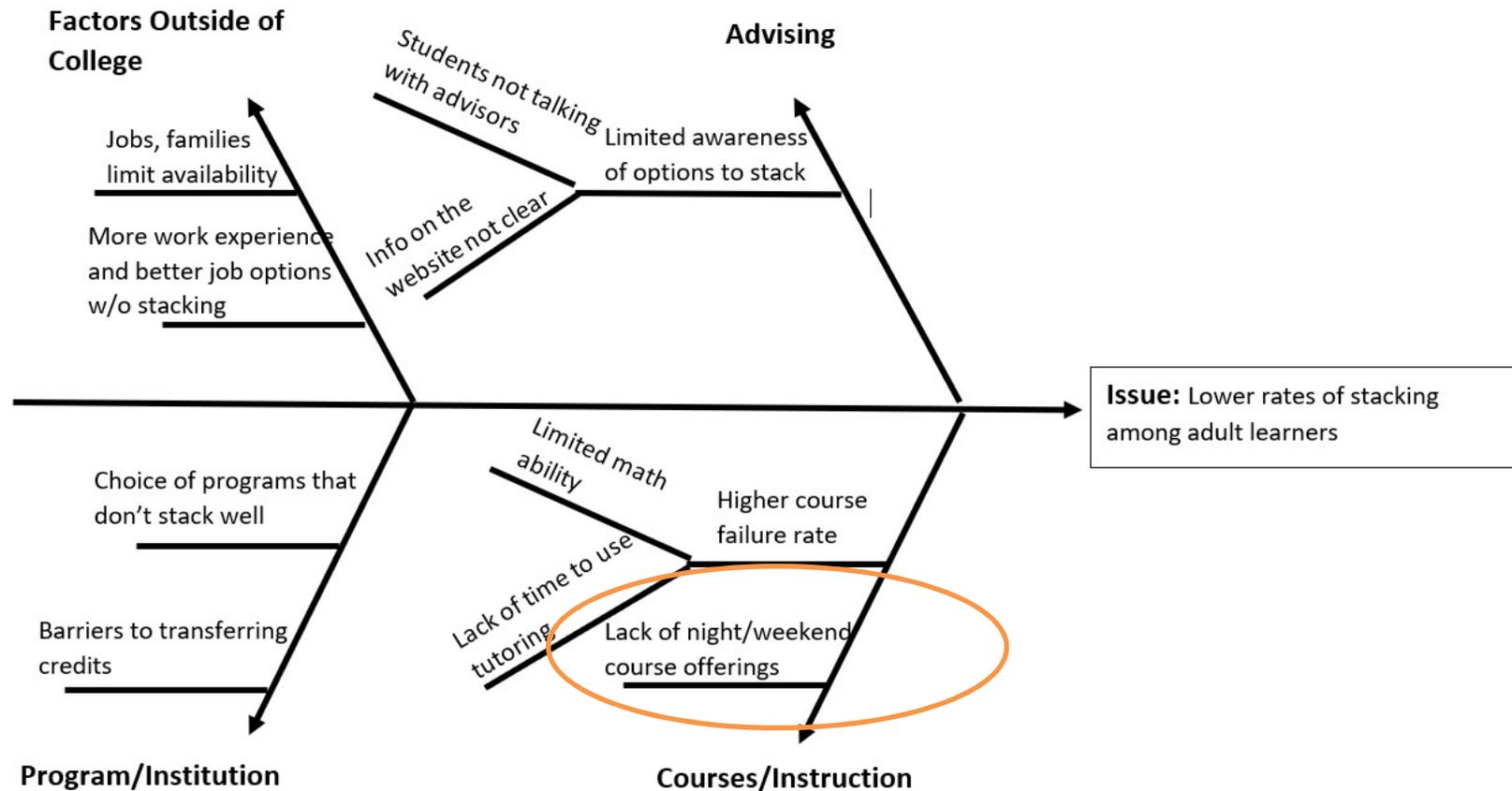- Jobs, families limit availability
- More work experience and better job options w/o stacking

Advising

- Students not talking with advisors
- Limited awareness of options to stack
- Info on the website not clear

Issue: Lower rates of stacking among adult learners

Program/Institution

- Choice of programs that don't stack well
- Barriers to transferring credits

Courses/Instruction

- Limited math ability
- Higher course failure rate
- Lack of time to use tutoring
- Lack of night/weekend course offerings

Choose an area to focus improvement efforts based on (1) which "root causes" are the most critical to driving the issue and (2) where the institution has leverage to make changes.

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Step 3: Determine what to change and how to measure improvement

Aim: What are you trying to accomplish?	Set a specific goal for what you'd like to achieve with regard to the problem of practice, including numbers and timelines.
Measures: How will you know that a change is an improvement?	Identify key measures that tell you whether the change is being rolled out properly and whether it is driving improvement related to the "root causes" identified in Step 2.
Changes: What changes will you make that will result in improvement?	What change(s) does the team want to test out in a Plan-Do-Study-Act cycle(s) to make improvements?

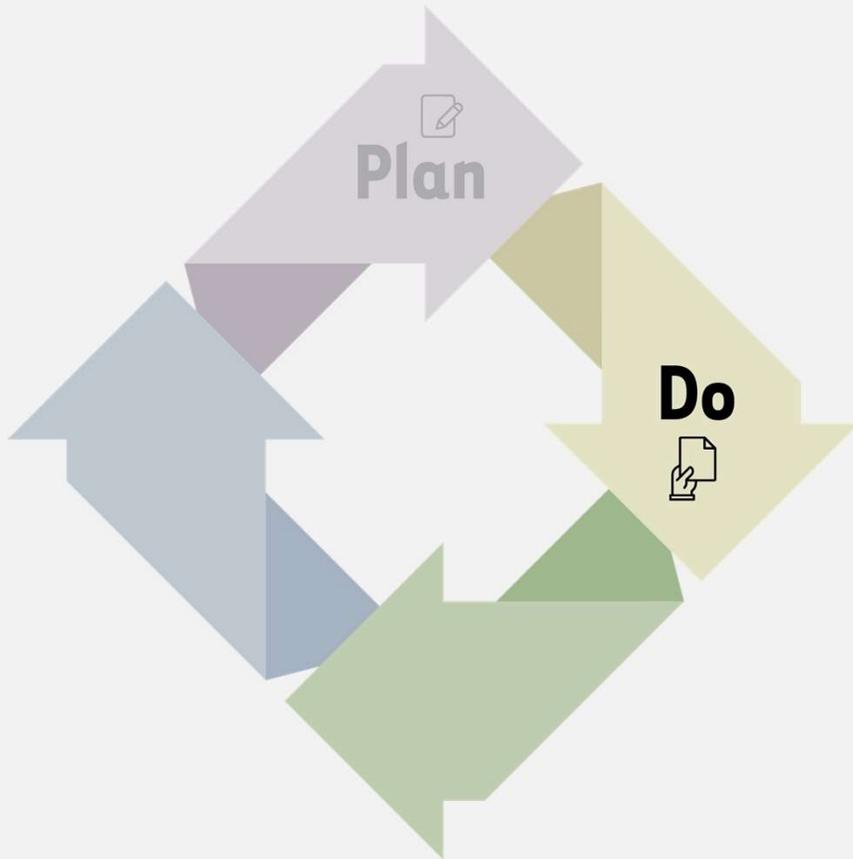# Step 4: Conduct a Plan-Do-Study-Act cycle
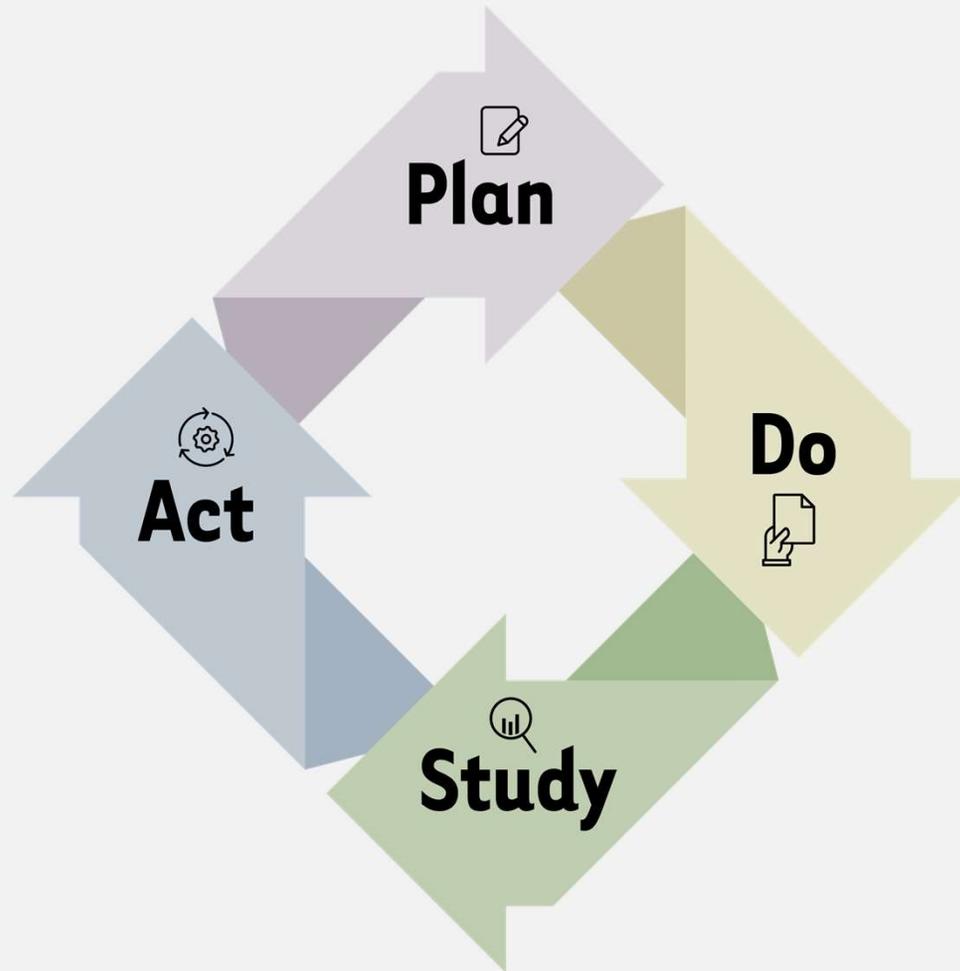
PDSA cycles: Key activities in the Plan stage

Plan
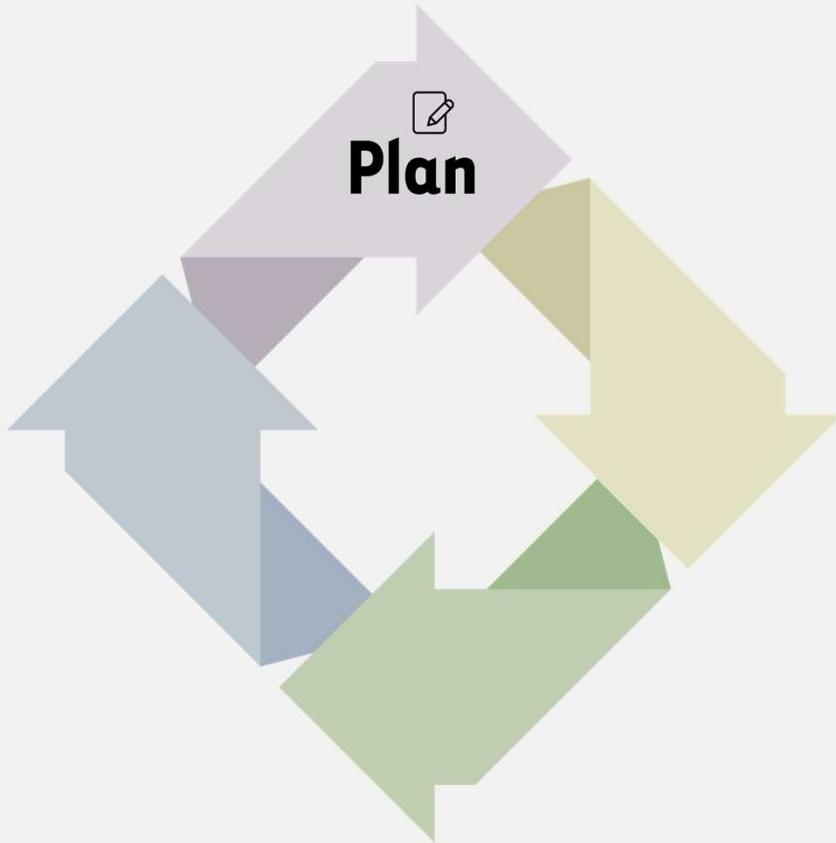
- Determine how you will track measures (which data?), make predictions
- Define key activities
- Assign roles and responsibilities
- Develop a timeline

PDSA cycles: Key activities in the Do stage

- Test out a new improvement

- Provide clear guidance and ongoing support around how the improvement is implemented

- Collect data that informs improvement

PDSA cycles: Key activities in the Study stage
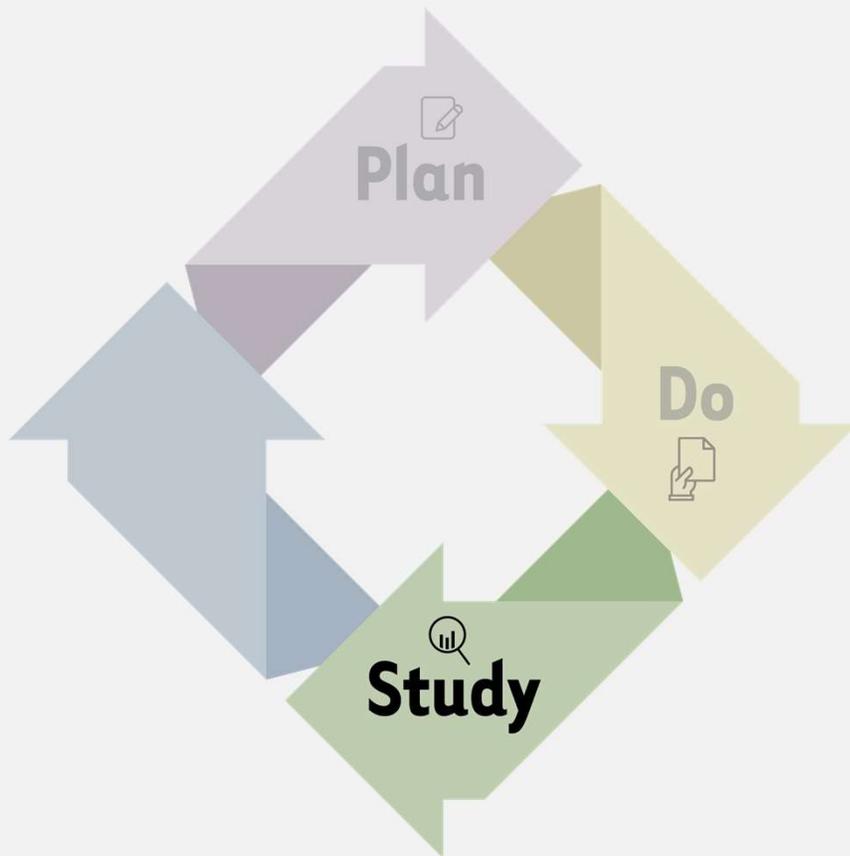
- Assess the data
- Reflect on findings with broad group of stakeholders
- Document what was learned

PDSA cycles: Key activities in the Act stage
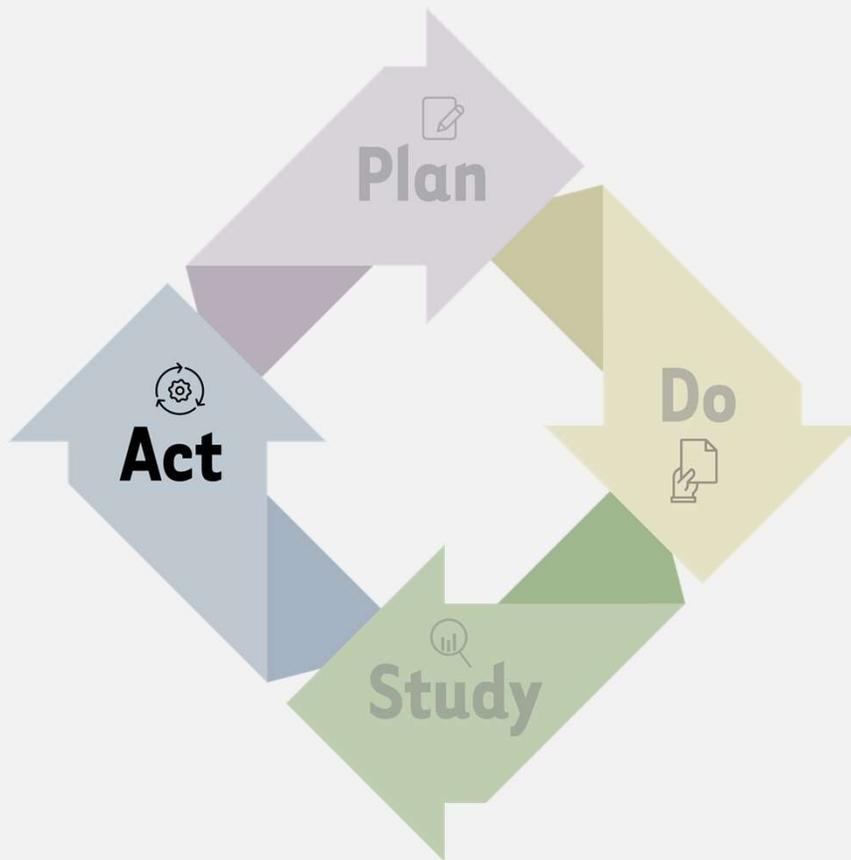
- Determine what actions you will take
- Share findings and improvement plans broadly
- Identify questions that require further study

An example: An institution considers rates of stacking among lack students

Step 1: The institution collects evidence to assess the issue in its own context
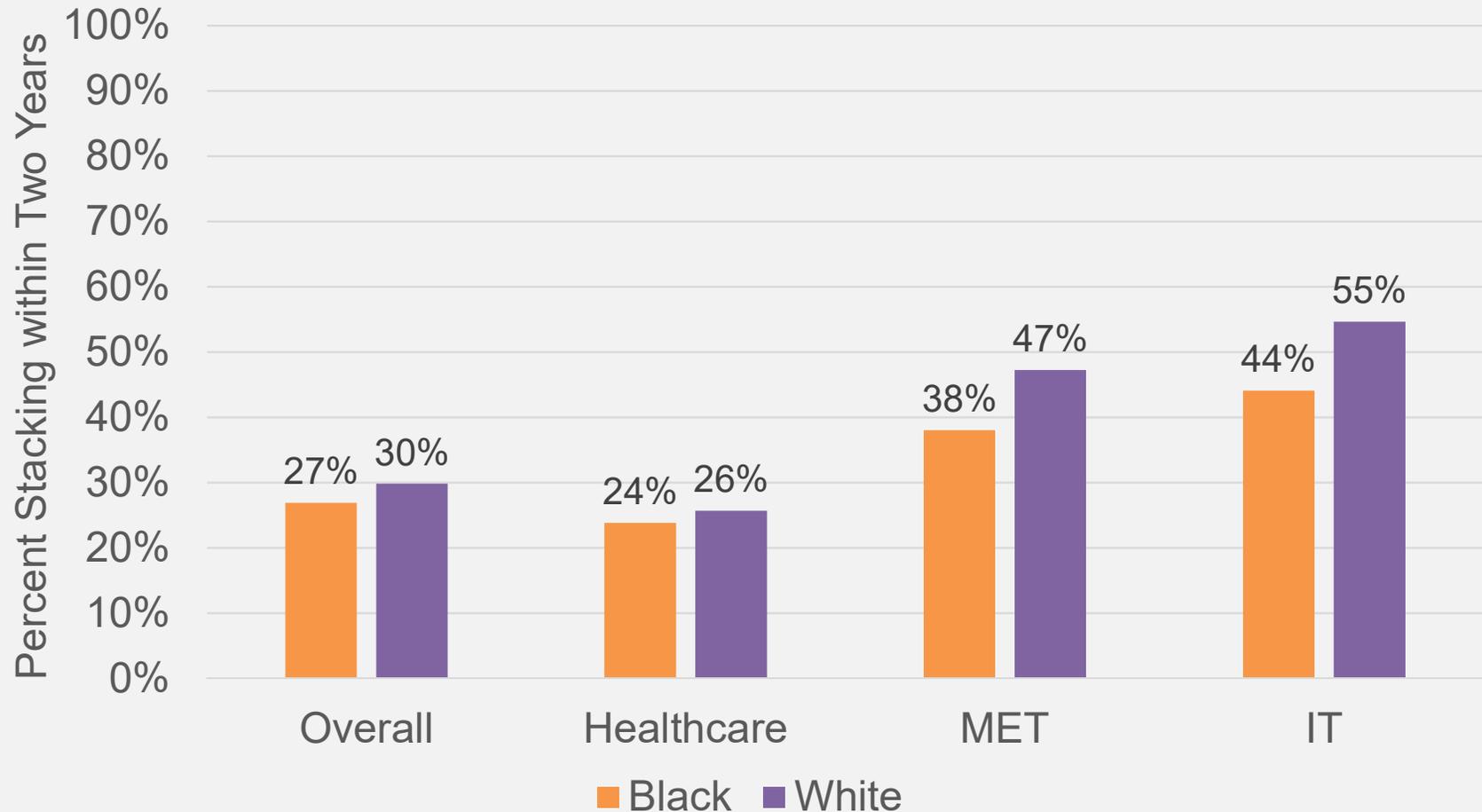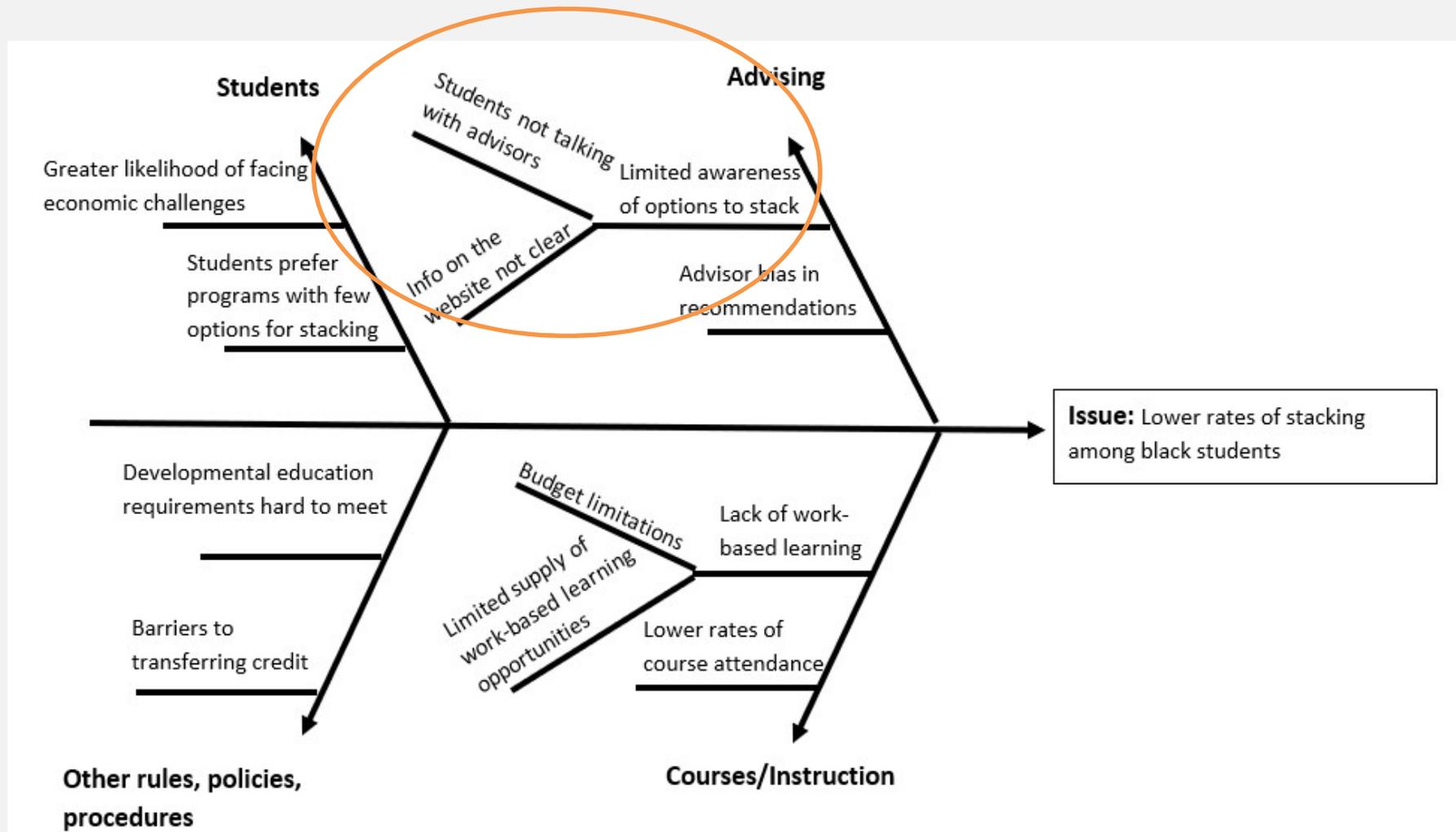
Questions You'd Like to Answer	Data Source(s) Used to Address Questions
How do the rates of credential-stacking vary by race/ethnicity among students who complete certificates in various fields?	Administrative data
Are Black students more or less likely to pursue fields where there are opportunities for stacking credentials?	Administrative data
To what degree are students aware of their opportunities to stack credentials, and how does this vary by race/ethnicity?	Student survey
Does the proportion of certificate-earners who plan to return to earn additional credentials at some point vary by race/ethnicity?	Student survey
What are the biggest barriers to returning to stack credentials? Do these barriers vary by race/ethnicity?	Focus groups with students, faculty, and advisors

Step 2: The institution identifies an issue they'd like to address

Step 3: The institution determines what to change, how to measure improvement

Aim: What are you trying to accomplish?	We would like to eliminate racial/ethnic differences in awareness of stackable credential opportunities within 18 months.
Measures: How will you know that a change is an improvement?	• Student awareness of follow-on opportunities • Student plans to continue to earn additional credentials • Student satisfaction with the information and advising received • Student engagement with advisors, the website, and other informational resources
Changes: What changes will you make that will result in improvement?	1) Mandatory advising sessions in the last month before completing certificate programs to inform students about stackable credential opportunities in their field. 2) Improvements to the website to more prominently display program and career maps.

Step 4, Plan: The institution lays out activities, assigns roles and responsibilities

	Faculty	Advisors	Deans, VP	Inst Research	Students
Develop advising strategy	X	X	X		
Train advisors		X	X		
Assign students to advising sessions		X		X	
Conduct advising sessions		X			X
Administer survey, collect advising data	X	X		X	
Assess and reflect on data	X	X	X	X	X
Create and act on plan for improvement	X	X	X	X	X

Step 4, Plan: The institution lays out a timeline

JUN 2019
Start planning team, activities, timeline

AUG–NOV 2019
Implement new strategy, collect data

FEB 2020
Findings finalized, shared

APR 2020
Determine course of action for 2020

AUG 2020
Scale improvements

Step 4, Do/Check: The institution rolls out the change, collects and assesses the data

- The majority of students attend the sessions (participation rates similar for Black and White students)

- Awareness and plans to re-enroll into follow-on programs was higher among students who attended sessions

- Fewer than 75% of sessions touched on stackable credential programs

Step 4, Act: The institution acts on the evidence

- **Scale improvements?** Yes

- **Continue to refine?** Yes, provide more guidance to advisors on what to discuss.

- **Conduct additional PDSA cycles?** Yes, continue to assess advising requirement as it is modified and scaled.

- **Additional questions to address?** No

Resources

Report on stackable credentials:

https://www.rand.org/pubs/research_reports/RRA136-1.html

Toolkit (to be released in late September, email to come):

https://www.rand.org/pubs/research_reports/TLA136-1.html

Questions?

For additional information on the study, please contact:

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Cheryl Rice (ODHE), CRice@highered.ohio.gov