SRI Education

Adoption of Effective Practices to Support the Transition to Postsecondary Education: Developing a Systematic Program Review Protocol

Virginia College Access Network (VCAN) Conference, Norfolk, VA

December 2018

REL APPALACHIA
Regional Educational Laboratory At SRI International

Welcome!

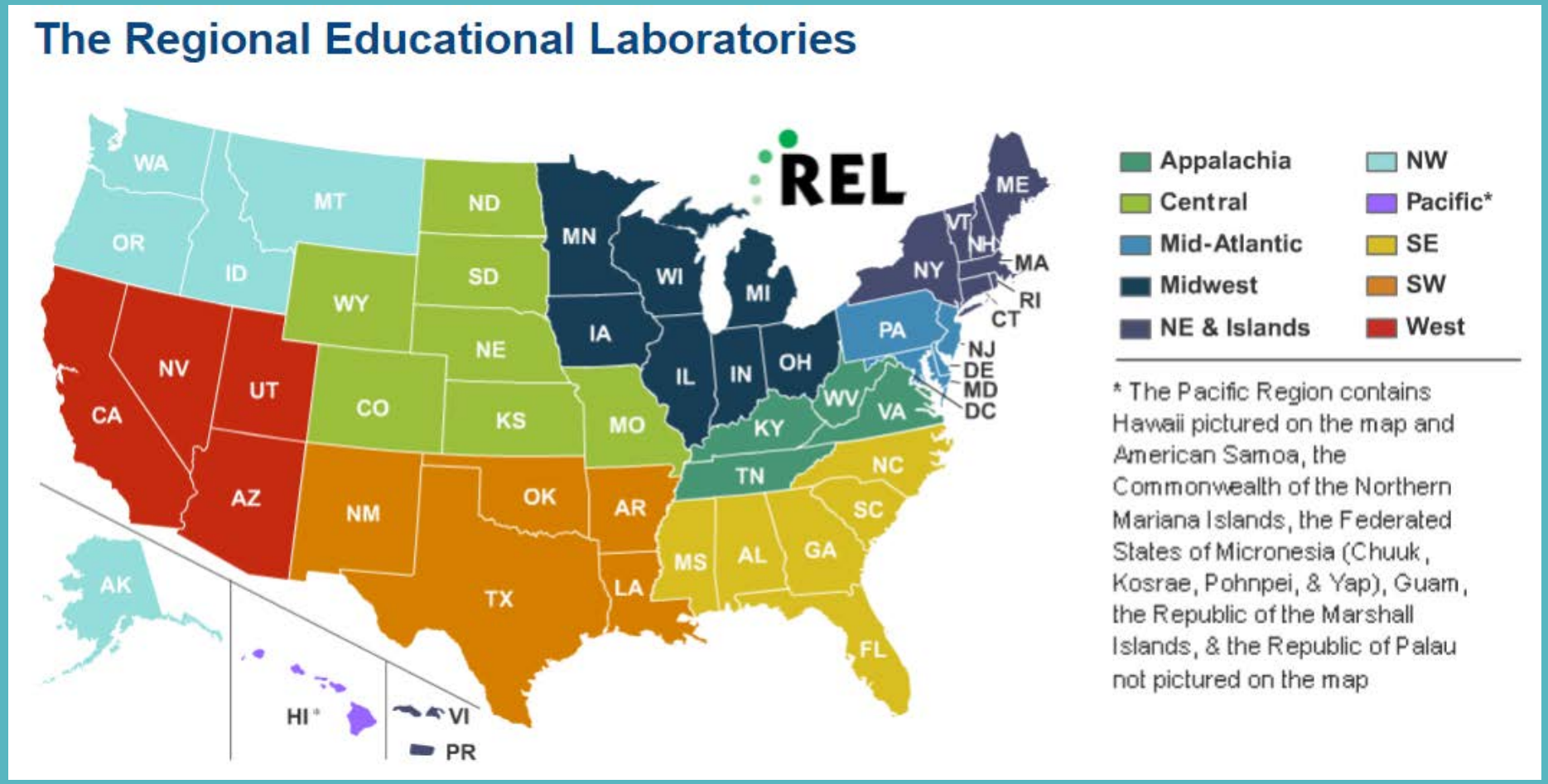
Jessica Mislevy, Ph.D.

REL Appalachia Partnership Lead

SRI International

Session agenda
Introduction to REL Appalachia and our work on the transition to postsecondary
Overview and application of ESSA levels of evidence
Orientation to program review project and feedback on design plan
Next steps

Introduction to REL Appalachia



The 10 Regional Educational Laboratories (RELs) work in partnership with stakeholders to conduct applied research and trainings.

The REL mission is to support a more evidence-based education system.

Virginia Improving Postsecondary Transitions Partnership

Leads: Jessica Mislevy & Deborah Jonas

Goal:

- To identify, develop, and support the use of **effective practices that strengthen high school graduates' transition** to college and careers, with an emphasis on traditionally underserved students.

Partners:

- Virginia Department of Education (VDOE)
- Virginia Community College System (VCCS)
- State Council of Higher Education for Virginia (SCHEV) representatives

Focus on the transition to postsecondary

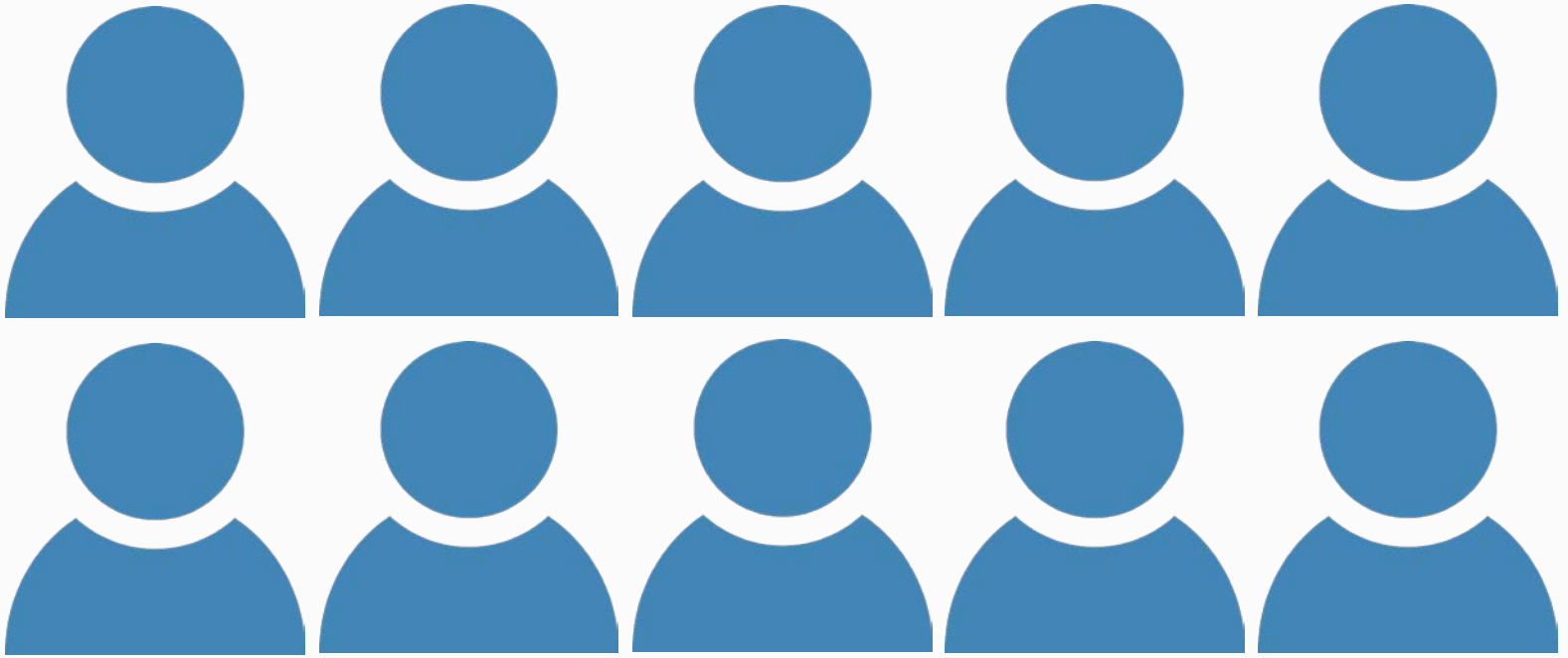
Why focus on postsecondary?

By 2020, 67% of jobs in Virginia will require postsecondary education or training.

- 30% of jobs in Virginia will require some college, an associate's degree, or a postsecondary vocational certificate.
- 23% of jobs in Virginia will require a bachelor's degree.
- 13% of jobs in Virginia will require a master's degree or more.

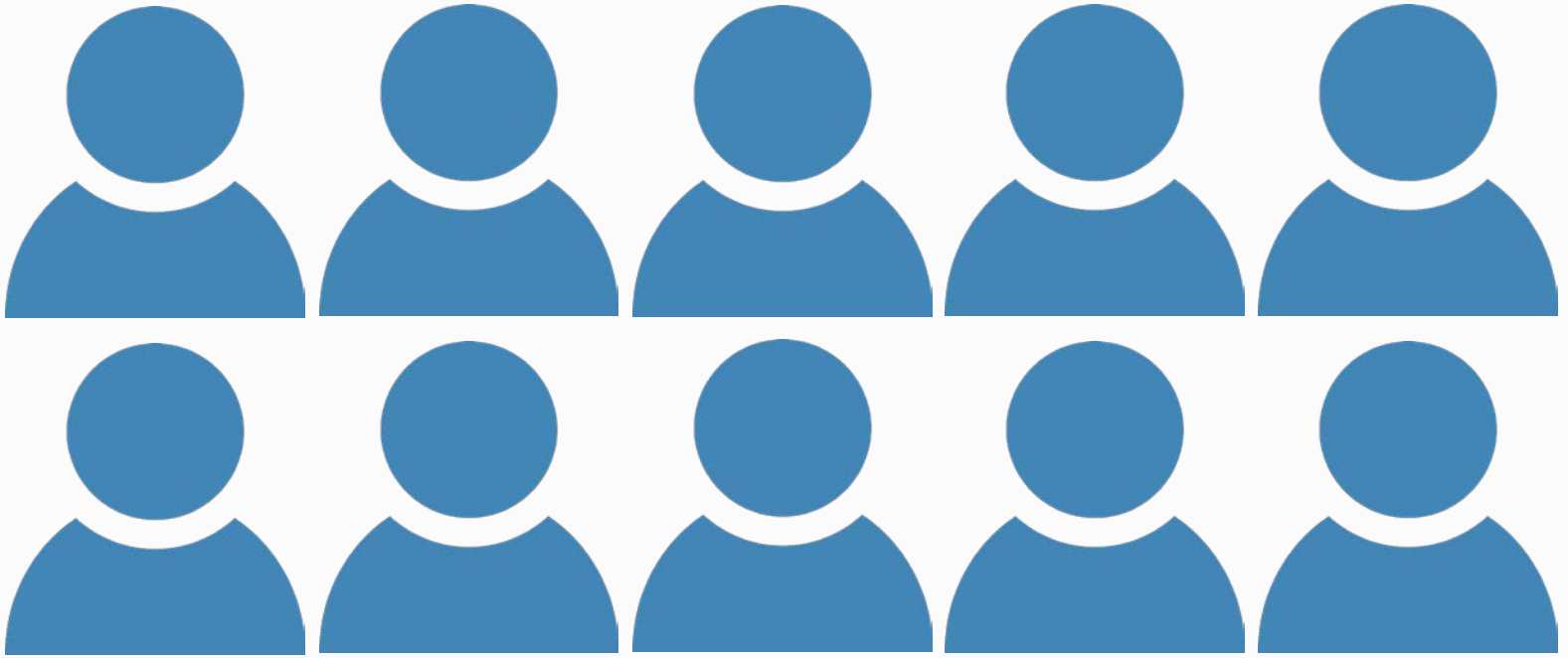
Carnevale, A. P., Smith, N., & Stroll, J. (2013). *Recovery: Projections of jobs and education requirements through 2020.* State report. Washington, DC: Georgetown University, Georgetown Public Policy Institute, Center on Education and the Workforce. Retrieved from https://cew.georgetown.edu/wp-content/uploads/2014/11/Recovery2020.SR_.Web_.pdf

Between 10 and 40% of accepted students *do not show up to campus* in the fall.



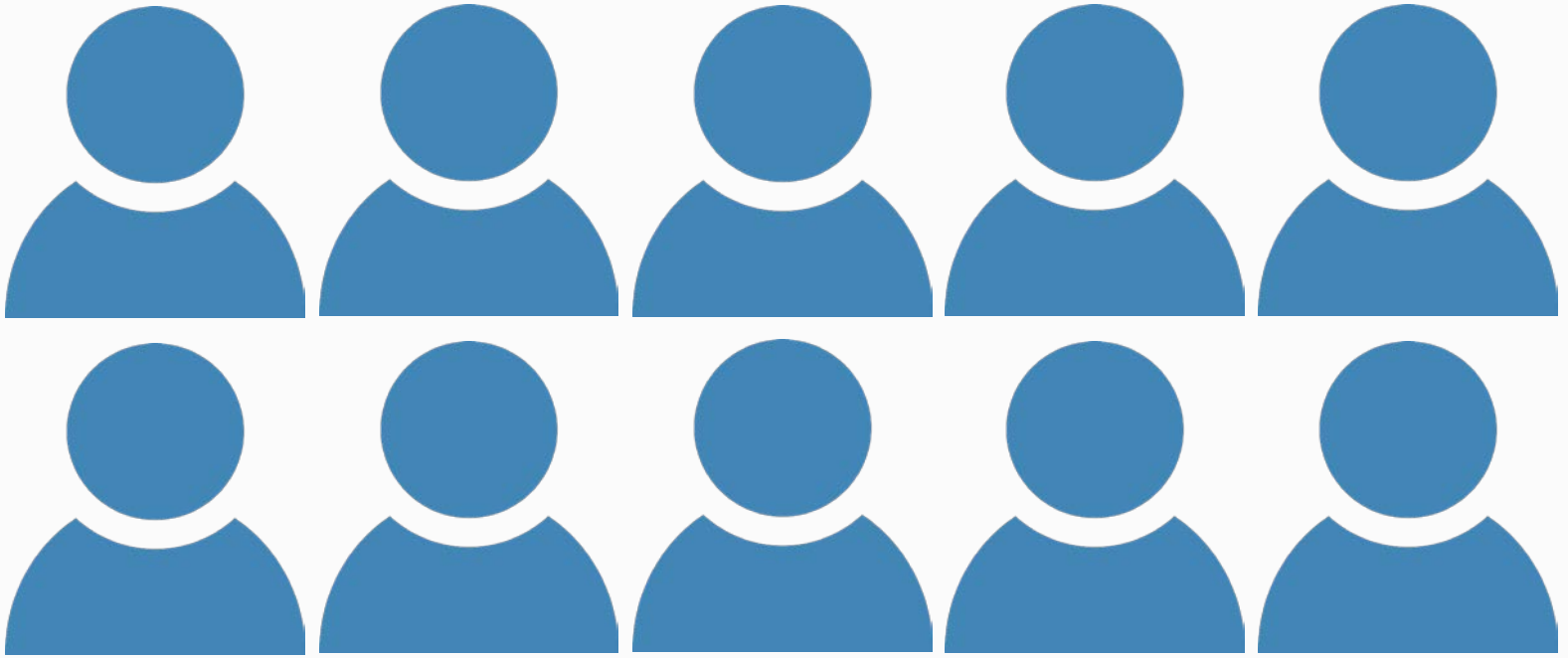
Castleman, B. L., & Page, L. C. (2014). A trickle or a torrent? Understanding the extent of summer "melt" among college-intending high school graduates. *Social Science Quarterly, 95*(1), 202-220. Retrieved from https://onlinelibrary.wiley.com/doi/pdf/10.1111/ssqu.12032

Only about half of students *earn a degree within six years*.



Page, L. C., & Scott-Clayton, J. (2016). Improving college access in the United States: Barriers and policy responses. *Economics of Education Review, 51*, 4–22. Retrieved from https://doi.org/10.1016/j.econedurev.2016.02.009

Only 20% of first-generation students earn a *bachelor's degree by age 25*.



Redford, J. & Hoyer, K.M. (2017). *First-generation and continuing-generation college students: A comparison of high school and postsecondary experiences*. Washington, DC: U.S. Department of Education. National Center for Education Statistics. Retrieved from https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2018009

Many factors can be barriers for students.

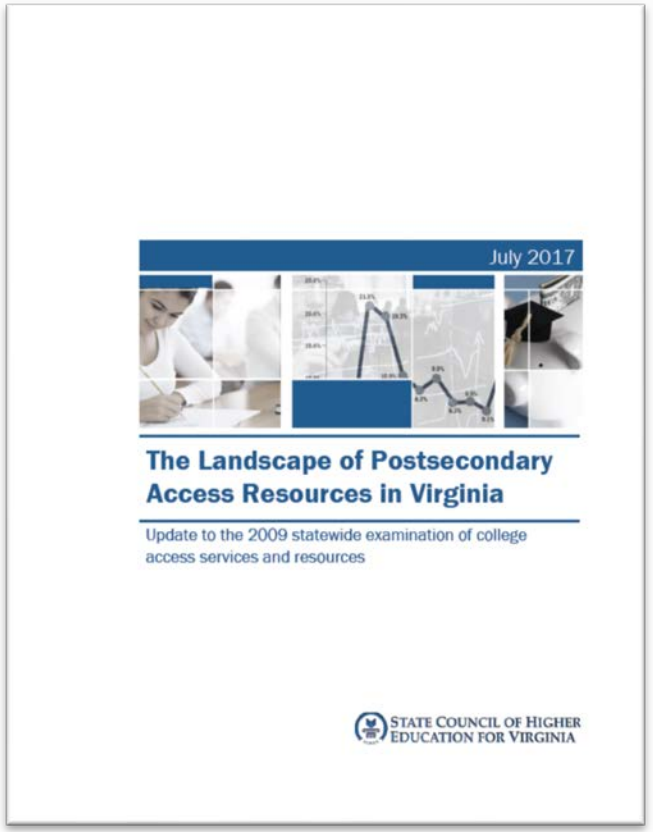
- Insufficient academic preparation
  - Curriculum and preparatory pathways lacking rigor
- Limited financial resources
  - Missed aid deadlines
- Lack of college knowledge
  - Unaware of requirements, expectations, norms, etc.
- Navigating social and emotional aspects of the transition
  - More responsibility
  - New community
  - Potentially being away from home

Barnett, E. (2016). *Building student momentum from high school into college. Ready or not: It's time to rethink the 12th grade.* Boston, MA: Jobs For the Future. Retrieved from https://eric.ed.gov/?id=ED564836

Offering support: VA college access providers

In a 2017 SCHEV-commissioned study, the Metropolitan Educational Research Consortium (MERC) analyzed data on the **services and resources available** to help students across the state enter postsecondary education.

Altogether, **over 750 instances** in which an organization or group provided access services to a division were identified.



Corning, A., Rolander, K. D., & Senechal, J. (2017). *The landscape of postsecondary access resources in Virginia*. Richmond, VA: The State Council of Higher Education for Virginia.

Questions driving the project

Our partners at VDOE, VCCS, and SCHEV seek to understand:

- To what extent are providers using **evidence-based practices** to increase access to and success in postsecondary education and training programs?
- To what extent are providers **evaluating** new and innovative programs to determine **effectiveness**?

This information can help access providers strengthen their practices and identify new and innovative strategies that merit further study.

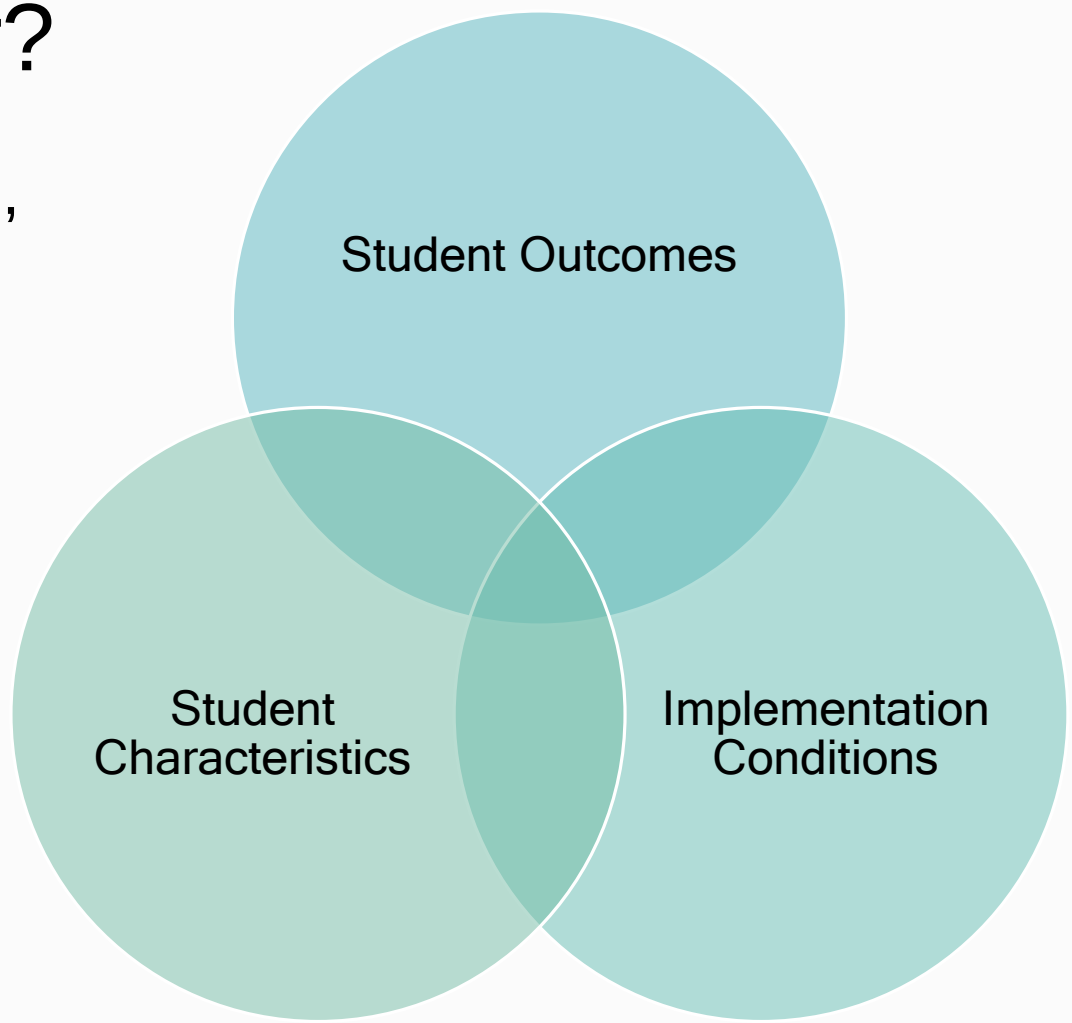
Planned project

- With its partners at SCHEV, VCCS, and VDOE, REL AP is planning a project to **help agencies target support** for such activities as:
  - Selecting interventions
  - Designing and carrying out evaluations
  - Sponsoring/identifying funding for evaluations
- We will develop and pilot a **systematic review protocol** to examine providers' adoption of evidence-based strategies, rigor of evaluation practices, and evidence of program effectiveness.

Overview of ESSA levels of evidence

Why does evidence matter?

Before you adopt a program or practice, you want to know whether it works, for whom, and under what conditions.



Four levels of evidence in ESSA

Strong	• At least one well-designed and implemented experimental study
Moderate	• At least one well-designed and implemented quasi-experimental study
Promising	• At least one well-designed and implemented correlational study • Includes controls for statistical bias
Demonstrates a Rationale	• Well-specified logic model or theory of action • Includes ongoing efforts to collect evidence

Adapted from Hughes, J., & Foorman, B. (n.d.). *Understanding ESSA levels of evidence. Retrieved* from http://fcrr.fsu.edu/documents/rel/Understanding_ESSA_Levels_of_Evidence_presentation.

ies WHAT WORKS CLEARINGHOUSE (WWC)

- WWC is a useful resource for finding and evaluating studies. https://ies.ed.gov/ncee/wwc
- Nonregulatory guidance on ESSA draws from WWC standards.
- WWC rates studies as:
  - Meets standards without reservations → can provide strong evidence.
  - Meets standards with reservations → can provide moderate evidence.
  - Does not meet standards → can provide promising evidence or demonstrate a rationale.

Strong evidence

A well-designed and implemented experimental study

- Experiments require:
  - An intervention or treatment
  - Subjects who receive the treatment and ones who do not
  - Subjects assigned randomly
- What is a “well-designed and implemented” experiment as defined by the WWC?
  - Appropriate randomization
  - Valid and reliable measures
  - Low attrition
  - No confounds
- These types of studies can meet WWC standards *without* reservations

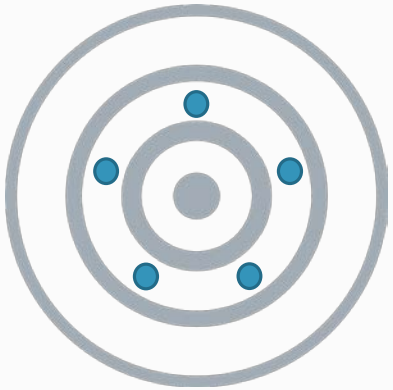
Strong evidence: Requires randomization

- Randomization is critical.
  - Random assignment ensures the treatment and control groups are as similar as possible.
  - Without randomization, unobserved characteristics may interfere.
- Random is defined as entirely by chance, and every subject has a chance to be in either group.
- Assignment occurs before the intervention.

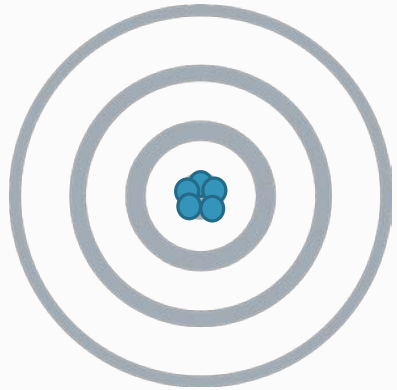
Measures must be valid and reliable

- Researchers need to demonstrate that their outcome measures work.
- Two key criteria for evaluating measures are:
  - Reliability: degree to which a measure produces stable and consistent results
  - Validity: extent to which scores from a measure represent what it intends to
- WWC standards assume standardized (state) tests have face validity and are reliable.

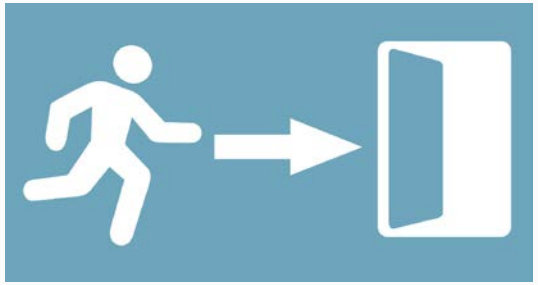
Reliable but not valid



Valid but not reliable



Valid and reliable



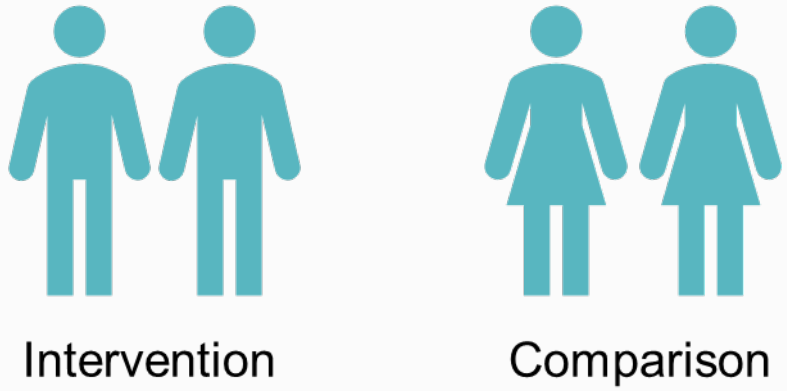
Strong evidence: Attrition matters

- Attrition is the loss of subjects from the study.
- Attrition is common, but when it is high, it compromises the outcome of random assignment.
- Two types of attrition
  - Overall: attrition for all study participants
  - Differential: difference in attrition between intervention and comparison groups
- WWC offers guidance on attrition standards,* but at a minimum always look at how many subjects dropped out of a study.

* https://ies.ed.gov/ncee/wwc/Docs/referenceresources/wwc_brief_attrition_080715.pdf

Strong evidence: Confounds matter, too

- Confounds are aspects of the experiment completely aligned to one group.
  - Ex. One classroom delivers the intervention, and one delivers the treatment.
  - Ex. Intervention studies all English learners (ELs), but treatment group has no ELs.
  - Ex. Intervention is part of a larger package.
- Confounds introduce an additional factor that compromises randomization.



Moderate evidence

A well-designed and implemented quasi-experimental (QED) study

- QEDs lack randomization.
- Instead, they leverage some natural change to create groups.
  - Ex. Comparing before and after a policy change.
- ESSA does not define well-designed or implemented.
- However, generally a well-designed QED has the following:
  - Strong break or forcing factor
  - Valid and reliable measures
  - Baseline equivalence
- These types of studies can meet WWC standards *with* reservations

Moderate evidence: Baseline equivalence

- Baseline equivalence means that the intervention and comparison groups are similar on key characteristics.
- Without random assignment, the groups could differ.
- Researchers must take steps to demonstrate that the groups were equivalent before the intervention (i.e., at baseline).
- Baseline should be established on a characteristic similar to the outcome or correlated with it.
  - Ex. Prior year test score or a pretest.

Moderate evidence: Baseline equivalence (cont'd)

According to nonregulatory guidance,*

- If equivalence can be established, the study can be considered moderate evidence.
- If the baseline differences are small, statistical controls can be used.
- If the baseline differences are large, the study is not well designed and implemented.

* https://www2.ed.gov/policy/elsec/leg/essa/guidanceuseseinvestment.pdf

Promising evidence

At least one well-designed and implemented correlational study that includes controls for statistical bias

- Correlational means the study looks at associations, not impacts.
- Such a study typically has one group and examines predictors of an outcome.
- Controls are other key variables related to the outcome but are not part of the research question.
- These types of studies cannot meet WWC standards.

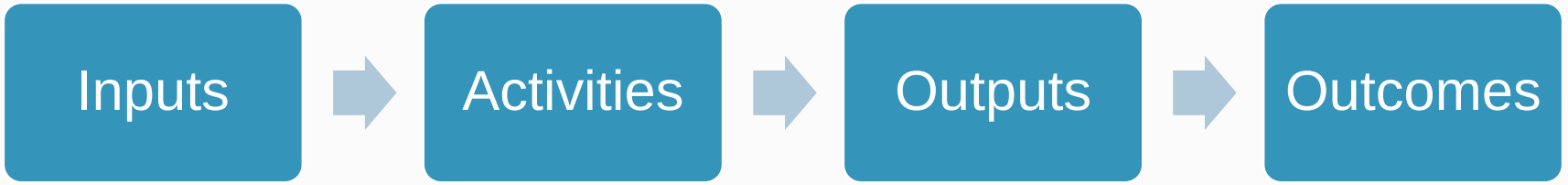
Promising evidence (cont'd)

- Correlational studies cannot measure impacts.
  - No random assignment
  - No comparison groups
  - No ability to establish baseline equivalence
- Ex. Study shows students who report reading more books score higher on end-of-year test.
  - Controls for prior test scores, race, gender, and economic status.
  - But measures only the association between reading and scores.
  - Cannot conclude that assigning more books to read would increase scores.

Demonstrates a rationale

Well-specified logic model or theory of action

- Well-specified logic model or theory of action
  - What features of the intervention seem likely to result in improved outcomes?
  - What is the connection between the intervention and outcome?
- Includes ongoing efforts to collect evidence
  - How will you evaluate the results?



Does it work? Interpreting study findings

- Look for
  - **Positive direction:** favors the intervention group
  - **Statistical significance:** the likelihood that the difference between groups is due to chance is less than 5% ($p < .05$).
  - **Substantive importance:** has an effect size—a standardized measure of the magnitude of an effect—of 0.25 or greater, regardless of statistical significance.

Study findings: What to look for

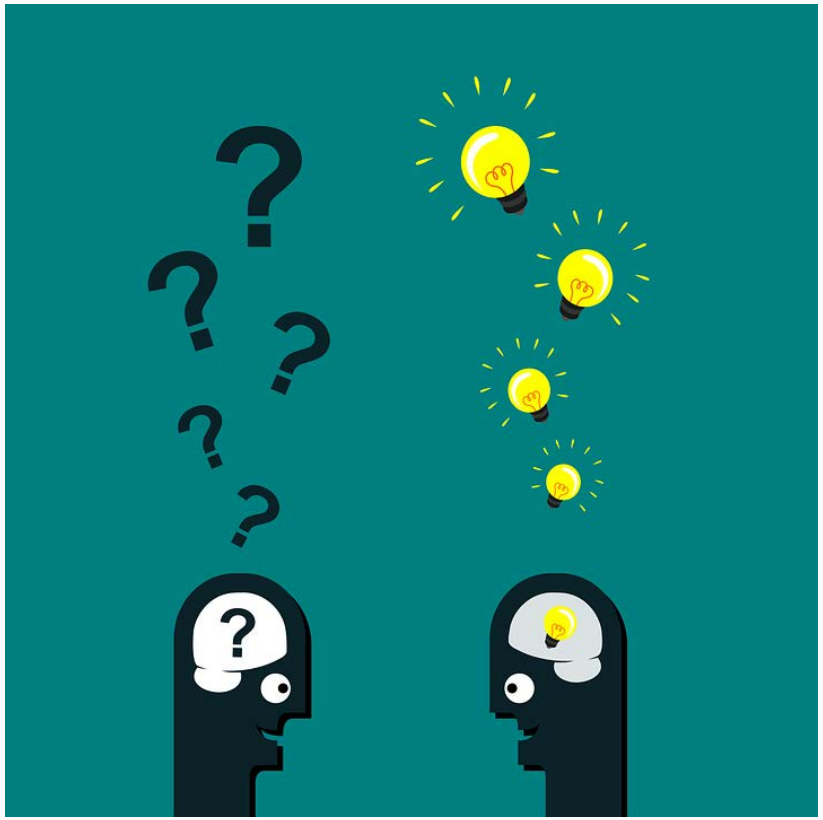
Outcome measure	Study sample	Sample size	Mean (standard deviation)		WWC calculations			*p*-value
			Intervention group	Comparison group	Mean difference	Effect size	Improvement index	
Castleman et al., 2014[a]								
Continuous first-year enrollment (%)	Full sample	1,397 students	82.4 (na)	78.5 (na)	3.9	0.15	+6	< .05

Direction

Magnitude

Statistical Significance

Questions?



Application of ESSA evidence levels

Applying the ESSA evidence levels

- Let’s work together to test our knowledge!
- Review the research summary handouts.
- Discuss the questions on the template.

Reviewing your responses

- Let’s share and discuss our answers.

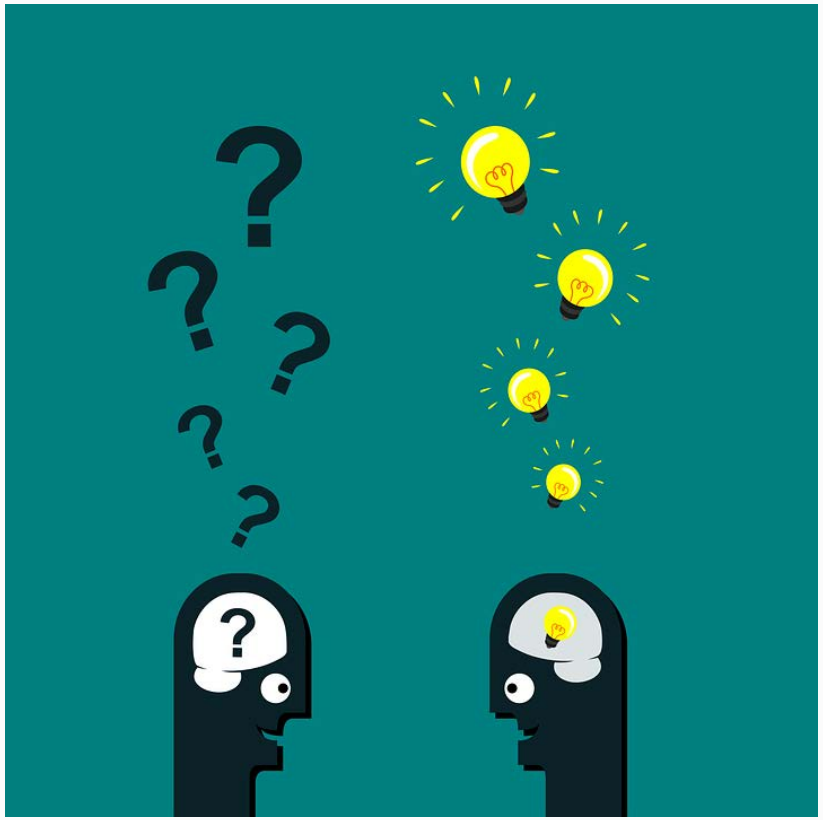
Reviewing your responses – Summer Bridge Study

Question	Response options
Were students randomly assigned?	b) No
Is equivalence established at baseline for the participants (or groups)?	a) Yes
What type of study design was used?	b) Quasi-experimental (QED)
What else do you need to know to determine the level-of-evidence rating?	Discuss and write responses.
Did the study have positive findings?	a) Yes
What other information would you want to know before deciding to adopt this program or practice?	Discuss and write responses.
What is the highest WWC rating this study is potentially eligible for based on the information you have?	b) Meets WWC standards with reservations
What is the highest ESSA evidence level rating this study is potentially eligible for based on the information you have?	B) Moderate

Reviewing your responses – School Counseling Study

Question	Response options
Were students randomly assigned?	a) Yes
Is equivalence established at baseline for the participants (or groups)?	b) No
What type of study design was used?	a) Experimental
What else do you need to know to determine the level of evidence rating?	Discuss and write responses. Attrition. Confounds.
Did the study have positive findings?	a) Yes
What other information would you want to know before deciding to adopt this program or practice?	Discuss and write responses.
What is the highest WWC rating this study is potentially eligible for based on the information you have?	a) Meets WWC standards without reservations
What is the highest ESSA evidence level rating this study is potentially eligible for based on the information you have?	A) Strong

Questions?



Program review project plan

As one step toward supporting programs' continuous improvement efforts, the REL AP project will supplement the MERC study by...

digging deeper on **programs' adoption of evidence-based strategies** to support postsecondary transitions and their **evidence of effectiveness**.

Why these topics?

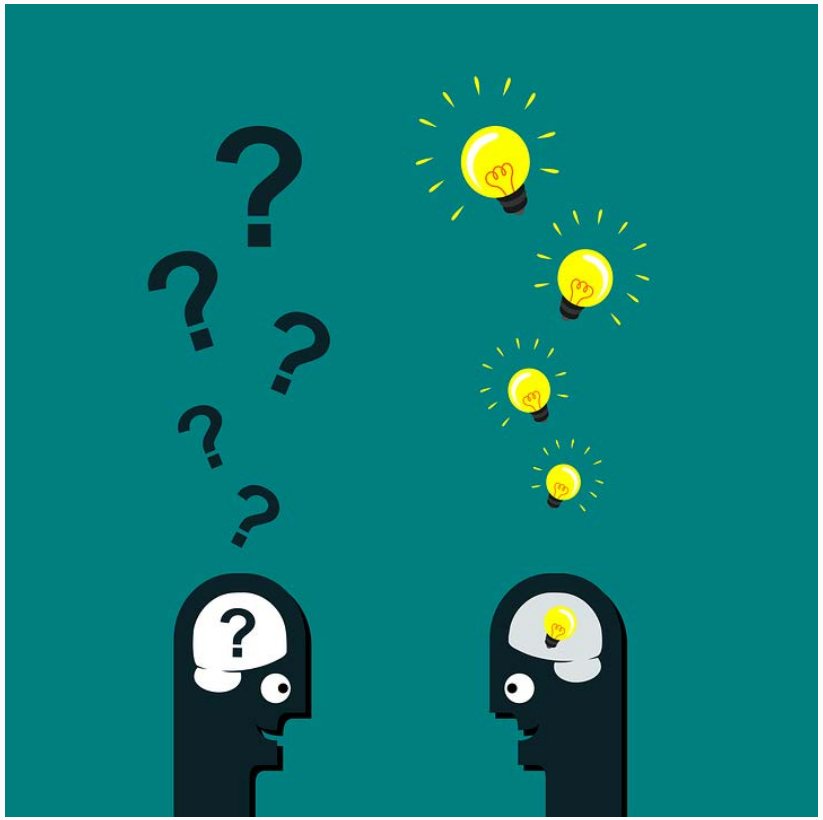
- Learn the extent to which programs access providers offer are using evidence-based practices
- Understand the extent to which access providers are evaluating their programs in rigorous ways
- Suggest directions for future research and evaluation efforts
  - Evaluate the effectiveness of multiple programs using a similar evidence-based strategy
  - Identify new and innovative strategies access providers use that merit further study

Products of the work

Immediate and follow-on

- A program **review protocol** that could be used for collecting data on programs across the state/regions and/or by access providers as a self-assessment
- A **dataset** with details about programs, including:
  - Regional presence
  - Grade levels served
  - Focal student populations
  - Evidence-based services provided and current evidence level
  - Rigor of evaluation design and quality of implementation
  - Evaluation findings and evidence of effectiveness
- **Summary of services** offered and alignment with domains of support and evidence base, gaps (as known), and next steps to answer the research questions
- Infographics or other **resources to support dissemination**

Questions before we get into the details of the study design?



What is a postsecondary transition program?

An intervention for middle and high school students explicitly oriented toward increasing college readiness, increasing college access, or smoothing the transition to postsecondary education

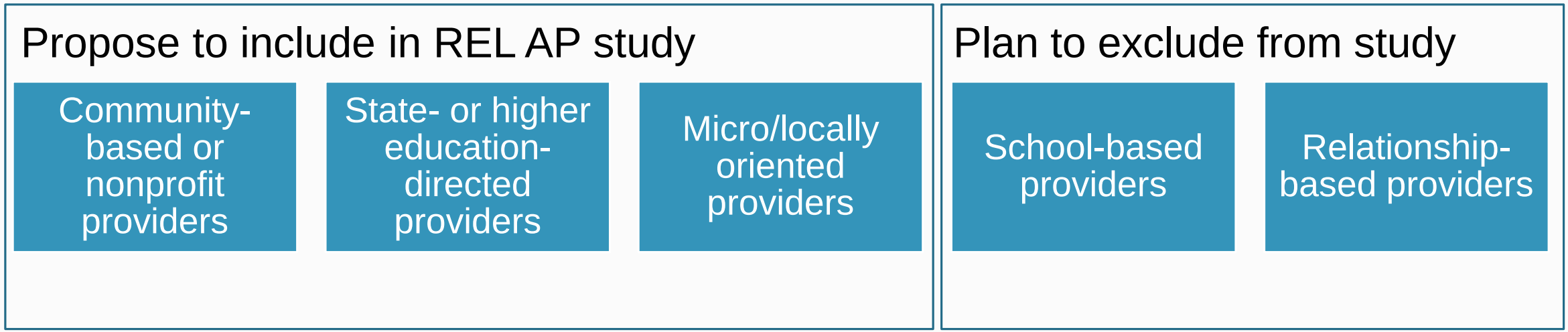
Relevant strategies include:

- Interventions to increase the proportion of students who complete the steps necessary to be eligible and ready for college
- Interventions to increase knowledge about college
- Dual enrollment and Advanced Placement programs
- Immediate enrollment programs

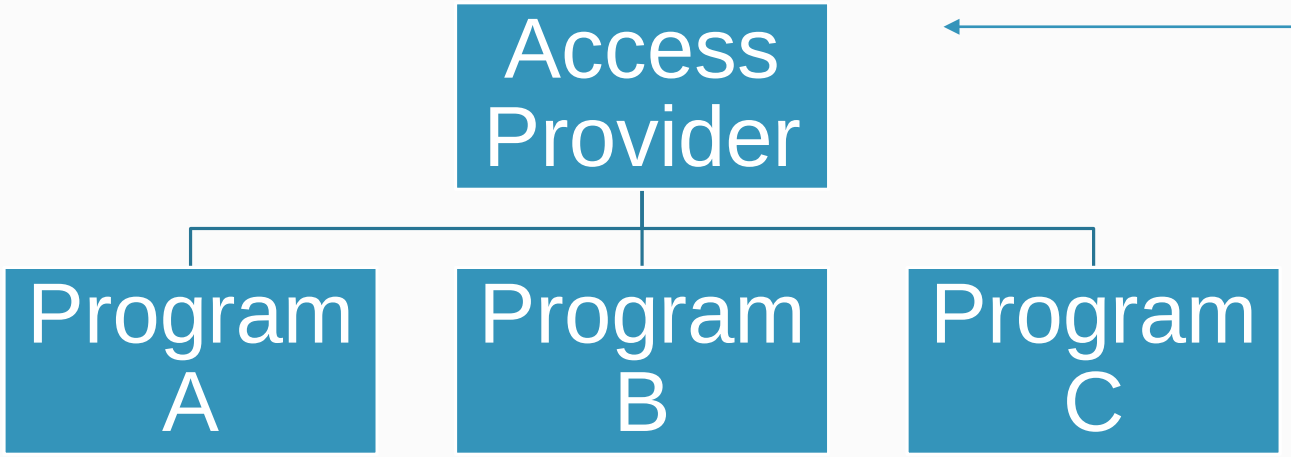
What Works Clearinghouse, Institute of Education Sciences, U.S. Department of Education. (2016, June). Review protocol for studies of interventions to support the transition to college version 3.2. Retrieved from https://ies.ed.gov/ncee/wwc/Document/257

Types of access providers

As defined in MERC study



Unit of analysis



The MERC study was a landscape scan of access providers.

REL AP project plans to look within access providers at the program(s) they offer.

Data collection approach (draft)

Phase I

Review **research and publicly available information** (such as websites and documents) to inform protocol development

Phase II

Collect data from **a small number of providers** to pilot and further validate protocol and sample dataset

Phase III*

* Beyond scope of current proposed REL AP project.

Collect data from **target providers** to develop a more comprehensive dataset

Data quality and quantity increase over time.

For example…digging deeper into program evaluation

- Public program evaluation report
- Conducted internally or by external party
- For formative and/or summative purposes
- Outcome domain(s) examined
  - Access and enrollment, credit accumulation, degree attainment
- Evaluation design employed
  - Experimental, quasi-experimental, single group with pre- and post-test, qualitative or descriptive
- Data collection activities
  - Extant data analysis, participant surveys, interviews, artifact review
- Findings and evidence of effectiveness

For example…digging deeper into adoption of evidence-based interventions

- Summer counseling[1]
  - Providing college-intending individuals with information about tasks required for college enrollment
  - Providing assistance in overcoming unanticipated financial, informational, and socioemotional barriers that prevent college entry
- Dual enrollment programs
  - Allowing high school students to take college courses and earn college credits while still attending high school
- Summer bridge programs
  - Occur in the summer bridge period between high school and college
  - Etc.

[1] What Works Clearinghouse, Institute of Education Sciences, U.S. Department of Education. (2018, March). *Transition to College intervention report: Summer counseling*. Retrieved from https://whatworks.ed.gov

Seeking your input and feedback

1. How could you envision using this information about programs?
2. What is the best way to collect accurate, complete, and up-to-date information on your college access programs?
3. What kinds of guidance or documentation would be helpful for divisions or communities to collect their own program data?
4. Are there supports that you think would be helpful for stakeholders to make decisions based on the program data?
5. Other questions, comments, inspired thoughts, or helpful feedback?

Next steps

- REL AP and our partners at SCHEV, VCCS, and VDOE plan to kick off the program review project in early 2019.
- We anticipate inviting access providers to help us pilot the protocol in spring/summer 2019.
- Stay tuned for updates and access to the program review protocol late next year!

Contact REL Appalachia

Thank you!

General inquiries:

RELAppalachia@sri.com

Questions related to improving postsecondary transitions in Virginia:

Jessica.Mislevy@sri.com