

## Slide 1

Presentation title: Promoting Youth Transition: Using Data-driven Practices to Expand the Evidence Base

Slide text: Presenters: Purvi Sevak and Todd Honeycutt, Presentation at NCRE Fall Conference, Alexandria, VA, October 27, 2018

Slide image 1: RRTC logo

Slide image 2: Mathematica 50<sup>th</sup> Anniversary logo

## Slide 2

Slide title: Funding

Slide text:

- Ongoing funding: National Institute on Disability, Independent Living, and Rehabilitation Research's Rehabilitation Research & Training Center on Vocational Rehabilitation (VR) Practices for Youth and Young Adults (90RT5034)
- Initial development: Rehabilitative Services Administration (H235LI00004)
  - Mathematica designed the Coach as part of the Substantial Gainful Activity Project Demonstration, in partnership with the Institute for Community Inclusion at the University of Massachusetts

## Slide 3

Slide title: What We'll Cover

Slide text:

- Why is evaluating VR services and programs important?
- What are the steps to program evaluation?
- What is the VR Program Evaluation Coach?
- What is the value of the VR Coach to VR agencies and rehabilitation educators?
- What's next?

## Slide 4

Slide title: Why Is Evaluating VR Programs and Services Important?

Slide text:

- VR staff face rising pressure to:
  - Show that their programs and services work
  - Apply effective, evidence-based practices
- But with recent increases in reporting requirements, there is little time left for evaluation

## Slide 5

Slide title: What Are the Steps to Program Evaluation?

Slide text:

- Program evaluation is an important part of the performance management cycle

Slide image: This figure provides a high-level overview of a cycle of performance management processes that can help VR staff implement evidence-based decision making. First, VR staff conceptualize a new or existing problem or research question. Second, they prepare existing data or collect new data. Third, they conduct analyses to answer the question or address the problem. Fourth, they review the results of their analyses and share their findings with others. Fifth, they use their findings to make decisions, change behaviors, and improve outcomes. The cycle then restarts with VR staff using the results of the changes to behaviors and outcomes to conceptualize new questions or problems.

## Slide 6

Slide title: A Framework for Program Evaluation Priorities

Slide image: A framework for performance management. This figure displays a framework to help VR staff organize competing priorities and assess whether they can use performance management tools to address them. The framework organizes priorities across two dimensions: (1) processes or outcomes (shown as rows), and (2) VR stakeholder types, which are offices or geographies, counselors or providers, and clients (shown as columns). This framework can help VR staff work through steps 1 and 2 of the performance management cycle in Figure 1.

## Slide 7

Slide title: Analytic Options for VR Staff

Slide text:

- Descriptive analysis uses data to describe processes and outcomes
- Predictive analytics build models using historical data to predict future events
- Process or formative evaluation examines agencies' internal processes to improve efficiency
- Cost effectiveness studies may calculate the return on investment across different programs
- Impact or outcomes evaluation estimates the relationship between programs and outcomes such as skill gains or employment
- Rapid-cycle evaluation (RCE) provides feedback in as close to real time as possible

## Slide 8

Slide title: Case Example Using the Program Evaluation Cycle with RCE

Slide text:

1. Implement a work-based learning experience program at select schools (other schools used for comparison)
2. Collect quantitative data on service delivery and work experiences
3. Examine data on previously identified measures to assess implementation success and early outcomes as soon as possible

- a. Receipt of key services, time between enrollment and work experience or other key services, completion of work experiences, paid employment after work experiences, case closure with employment
4. Review results with agency staff, partner organizations, and school officials
5. Adjust or redesign program, or expand program to additional schools

## Slide 9

Slide title: What Is the VR Program Evaluation Coach?

Slide text:

- A tool to help you securely and efficiently evaluate changes in agency's policies, programs, and services
- Originally designed to help schools with RCE
- Identify effective practices and inform program and policy changes
- Accessible for free online at [www.VREvalCoach.com](http://www.VREvalCoach.com)

## Slide 10

Slide title: VR Program Evaluation Coach website

Slide image: This slide shows an image of the VR Program Evaluation Coach home page, <https://vrealcoach.com> (The site is accessible using screen readers)

## Slide 11

Slide title: How Does the VR Coach Help?

Slide text:

- Helps staff conduct rigorous evaluations to assess the impacts of services
  - Could be any service, program, or policy
- Guides users through the program evaluation process
  - Developing an evaluation question
  - Identifying a comparison group
  - Conducting statistical analysis
  - Reporting
- Includes guides, tips, and examples

## Slide 12

Slide title: Things to Consider

Slide image: This slide shows an image of one illustrative guide as an example of the training guides available (and accessible using screen readers) on the VR Program Evaluation Coach website. This one is on how to design a successful pilot. There is a two by two box for whether a technology is found to be effective in the columns whether an agency should adopt it in the rows. A smiley face is in the column for effective technology and the row for the agency deciding to adopt it, indicating a correct decision. A second smiley face is in the column for ineffective technology and the row for the agency deciding NOT to adopt it, also indicating a correct decision. There are frowning

faces in the boxes for incorrect decisions: adopting an ineffective technology and failing to adopt an effective technology. Below there are five images with text below each, for each of the steps for maximizing the likelihood you make the right decision.

### Slide 13

Slide title: Things to Consider

Slide image: This slide shows an image of one illustrative guide as an example of the training guides available (and accessible using screen readers) on the VR Program Evaluation Coach website. This one is on considerations when choosing a comparison group. There is an image with a person in the middle and five circles with images surrounding them, each representing an observable or unobservable characteristic that may be important to consider, in this evaluation example. These include the observed characteristics of receiving free or reduced price lunch, past performance, and being an English language learner, and the unobservable characteristics of motivation and enthusiasm.

### Slide 14

Slide title: Five Steps of the VR Coach

Slide text:

1. Frame the question
2. Create an evaluation plan
3. Prepare your data
4. Analyze your data
5. Summarize and share your findings

### Slide 15

Slide title: 1. Frame the Question

Slide text:

- What program or service do you want to test, and why?
- What is the outcome of the program?
  - Employment, service, skills, other
  - Can be short- or long-term outcomes, or VR processes
- Whom does the program target?
  - Clients, providers, VR staff, others

### Slide 16

Slide title: The Basics

Slide image: This slide is a screenshot of the “Basics” page of the VR Coach website. It asks the user ‘Have you decided on a change in services that you would like to test?’ and has a drop down menu where this user has selected “Yes.” Below that it asks “What is the name of the service(s) or programs you are testing” and the user has typed in “Workbased Learning Experiences.” A box on the bottom right has examples:

Training in motivational interviewing, enhanced job placement services, program on self-advocacy instruction, and financial planning tool.

### Slide 17

Slide title: 2. Create an Evaluation Plan (1)

Slide text:

- Evaluation compares clients who received a service to a comparison group of clients who did not
- Comparison group needed to show that it is the service—not other factors—that causes the observed outcomes
  - Challenge is that both groups of clients may differ in other important ways

### Slide 18

Slide title: 2. Create an Evaluation Plan (2)

Slide text:

VR Coach supports two approaches to constructing comparison groups

1. Random assignment (the gold standard)
2. Matched comparison group
  - a. Statistical tools to identify subsets of clients who did and did not receive a service but otherwise have similar characteristics
  - b. Characteristics can include age, sex, type of disability, school or referral source, or any measure that is in the case management system

### Slide 19

Slide title: 3. Prepare Your Data

Slide text:

- You can use data from your agency's case management system
- Clear instructions guide you through formatting and preparing the data
- Upload a Microsoft Excel file with data to the VR Coach through a secure web interface

### Slide 20

Slide Title: VR Coach Data Security

Slide text:

- VR Coach uses Amazon Web Services GovCloud
- Uploaded data are encrypted and stored in a temporary cache
  - Cleared within 15 minutes of uploading
- Data must be re-uploaded for each analysis
- See our privacy and data handling policy page for more information
  - <https://vrealcoach.com/PrivacyPolicy>

## Slide 21

Slide title: 4. Analyze Your Data

Slide text:

- The Coach conducts two sets of statistical analyses to:
  - Construct a well-matched comparison group
  - Generate regression-adjusted estimates of program impacts

## Slide 22

Slide title: 5. Summarize and Share Your Findings

Slide text:

- The Coach produces two completed evaluation reports:
  - a. Easy-to-share report that summarizes findings in plain language
  - b. Technical appendix with methods
- Reports are populated using answers to questions that users provided in previous steps

## Slide 23

Slide title: Summary of Results

Slide image: This slide is a screenshot of the “Summary of Results” page of the VR Coach website. It has findings from the example evaluation. At the top it states “Workbased learning experiences had the intended effect on employment. It then states the program evaluation question: Does workbased learning experiences lead to an increase in employment among youth VR clients that received workbased learning experiences as compared with other youth VR clients?” Below that it states “For this program evaluation we would be comfortable answering yes to our program evaluation question if, based on our data, there was a greater than 75% probability that workbased learning experiences increased employment by at least 5 percentage points.” Below this, it states “Findings.” In a table the first column states that the program is meeting the user’s goal, the second column has a bar that shows there is a 99% probability that workbased learning experiences increased employment by 5 percentage points or more, the third column states the estimated size of the increase is 21 percentage points, the fourth states the comparison group’s employment rate was 44%, the fifth and sixth columns state that there were 126 cases in the treatment and comparison groups, respectively.

## Slide 24

Slide title: Technical Results

Slide image: This slide is a screen shot of more technical results. At the top is a graph that shows a probability distribution, shaped like a bell curve. The x-axis ranges from 0.00 to 0.40. The area below the curve and above 0.05 is shaded green and marked 99.3% to illustrate that is the probability that Workbased Learning Experiences increased employment by at least 5 percentage points. A bullet below the image states

that the point estimate or best guess of the effect of Workbased Learning Experiences on employment is 0.21.

## Slide 25

Slide title: What Kinds of Evaluations Can I Do?

Slide text:

- Rapid-cycle evaluation to quickly assess program and service changes
  - Small changes in counselor practices
  - Behavioral “nudges”
- Can estimate impacts on outcomes:
  - Short-term: closures outcomes
  - Long-term: earnings, cost reimbursement from the Social Security Administration
- Can also estimate impacts on VR processes:
  - Time to individualized plan for employment (IPE)
  - Service receipt and costs

## Slide 26

Slide title: Case Example 1: Blended Services

Slide text:

- Problem: Does dual enrollment in VR and Wagner Peyser have an effect on timing and success?
- Examined multiple years of administrative data closures to consider time to employment (number of days from IPE date to closure date)

## Slide 27

Slide title: Case Example 1: Program Evaluation Question

Slide text:

- Does dual enrollment in VR and Wagner Peyser lead to a decreased time from IPE to employment among those dually enrolled in Wagner Peyser and VR compared with VR consumers with an IPE and an employment date who are not dually enrolled in Wagner Peyser?
- Service being tested
- Outcome
- Treatment group
- Comparison group

## Slide 28

Slide title: Case Example 1: Comparison Method

Slide text:

- Matched comparison group
- 41 treatment clients matched to 41 clients in comparison group (of 312 clients)

- Matched on age, race, and sex

## Slide 29

Slide title: Case Example 1: Results

Slide text: The results from the evaluation of dual enrollment in VR and Wagner Peyser are inconclusive

Slide image: This slide has a screen shot of some results from a case example. In a table the first column states that the program is not meeting the user's goal, the second column has a bar that shows there is a 57% probability that dual enrollment in VR and Wagner Peyser decreased time from IPE to employment by 30 days or more, the third column states the estimated size of the decrease is -44.51, the fourth states the comparison group's average was 474.76, the fifth and sixth columns state that there were 41 cases in the treatment and comparison groups, respectively.

## Slide 30

Slide title: Case Example 2: High School Summer Program

Slide text:

- Problem: What is the effect of an existing high school summer work experience program?
- Examined multiple years of administrative data to look at successful engagement (either exited with employment or still receiving services)

## Slide 31

Slide title: Case Example 2 Program Evaluation Question

Slide text:

- Do summer youth work experiences lead to an increase in successful engagement among high school students with assigned IPE receiving summer youth-work experience compared with other high school students who had a signed IPE?
- Service being tested
- Outcome
- Treatment group
- Comparison group

## Slide 32

Slide title: Case Example 2: Comparison Method

Slide text:

- Matched comparison group
- 3,851 treatment clients matched to 3,851 clients in comparison group (of 8,452 clients)
- Matched on age, sex, impairment type, application year, race, referral from school, referral from intellectual and developmental disabilities agency, and



## Supplemental Security Income receipt

### Slide 33

Slide title: Case Example 2: Comparison Method

Slide image: This slide has a screen shot of an image illustrating how well the treatment and comparison groups were both before matching and after. On the left is a list of variables. On the bottom is an axis with numbers ranging from -0.50 on the left to 0.50 on the right with a dotted line at 0 in the middle. Above the axis and to the right of the list of variables is a plot, which is shaded white in the middle where the axis ranges from -0.05 to 0.05., to denote great balance, light grey on both sides of that, where the axis ranges from -0.25 to -.05 and from 0.05 to 0.25 to denote good balance, and dark grey on both sides of that to the ends of the plot, where the axis ranges from -0.50 to -0.25 and from 0.25 to 0.50 to denote unbalanced. In the plotting space, each of the variables has a light blue dot showing the size of the difference in that variable between treatment and comparison groups before matching and a dark blue dot showing the difference after matching. The image illustrates that the difference between treatment and comparison groups was smaller after matching than before.

### Slide 34

Slide title: Case Example 2: Results

Slide text: Summer youth work experience had the intended effect on successful engagement

Slide image: This slide has a screen shot of some results from a case example. In a table the first column states that the program is meeting the user's goal, the second column has a bar that shows there is a 100% probability that Summer Youth Work Experience increased successful engagement by 5 percentage points or more, the third column states the estimated size of the decrease is 0.11, the fourth states the comparison group's average was 0.7, the fifth and sixth columns state that there were 3851 cases in the treatment and comparison groups, respectively.

### Slide 35

Slide title: What Is the Value of the VR Coach to VR Agencies?

Slide text:

- Helps staff conduct rigorous evaluations to assess the impacts of services
  - Could be any service, program, or policy
  - Process, impact, and RCE analyses
- Guides users through the program evaluation process
  - Developing an evaluation question
  - Identifying a comparison group
  - Conducting statistical analysis
  - Reporting

## Slide 36

Slide title: Challenges to Using the VR Coach

Slide text:

- Identifying a comparison group
- Organizing data
- Setting aside time to learning how to use the tool

## Slide 37

Slide title: What's Next?

Slide text:

- We can provide technical assistance to agency staff using the Coach to test transition services
  - Identifying services to evaluate
  - Preparing data
  - Making sense of evaluation findings

## Slide 38

Slide title: Lessons for Educators

Slide text:

- VR counselors and staff are poised to conduct their own evaluations and put evidence into action
  - They know which questions are most pressing and actionable and the gaps in their knowledge
- Train counselors to enter the field ready to leverage data and evidence
  - Our guides and briefs can help
  - Make use of RSAs TA centers

## Slide 38

Slide title: For More Information

Slide text:

- Please contact Purvi Sevak and Todd Honeycutt
  - PSevak@mathematica-mpr.com
  - THoneycutt@mathematica-mpr.com
- Make an appointment at <https://TAforVREvalCoach.as.me/>
- Recorded webinar on VR Program Evaluation Coach - [www.peqatac.org](http://www.peqatac.org)
- The RRTC on VR Practices and Youth <http://vrpracticesandyouth.org/>