



## **The Value of Vocational Rehabilitation Services**

**LifeTracks Request #16-013**

**July 2018**

## REQUESTS:

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The Office of Vocational Rehabilitation (VR) and the Office of Vocational Rehabilitation for the Blind (VRB) at the Mississippi Department of Rehabilitation Services (MDRS) requested an update to the LifeTracks study titled *The Value of Vocational Rehabilitation Services*. This study, commissioned in 2013, examined the return on state and federal investment in MDRS client VR/VRB services. MDRS requested that the approach of this study be used to examine the cohort of MDRS trainees from federal fiscal year October 1, 2012 – September 30, 2013.

## HIGHLIGHTS:

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- MDRS clients receiving VR/VRB services are **2.2** times more likely to gain employment than their counterparts who do not receive services.
- On average, MDRS clients receiving VR/VRB services earn, annually, **\$1,188** more and, over a working lifetime, **\$47,510** more than those who do not receive services.
- To the state economy, VR/VRB contributes a total of **\$275,225,430**, the net income earned by MDRS clients receiving VR/VRB services over a working lifetime.
- The individual return on investment (ROI) is **6.0**. That is, for every state dollar invested in an individual who receives VR/VRB services, an estimated additional \$5.00 is returned to the state in the form of tax gains and public assistance savings.
- The state ROI is **2.8**. That is, for every state dollar invested in VR/VRB, an estimated additional \$1.80 is returned to the state in the form of state tax gains and public assistance savings. The state total net benefit is estimated to be **\$30,991,739**, including **\$23,669,387** in state tax gains and **\$7,322,352** in public assistance savings.
- The federal ROI is 1.3. That is, for every federal dollar invested in VR/VRB, an estimated additional \$0.30 is returned to the federal government in the form of federal tax gains. The federal total net benefit is estimated to be **\$62,338,560**.

## METHODOLOGY:

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The methodology used for the report *The Value of Vocational Rehabilitation Services* has been replicated for this request. Specifically, the analysis was updated to examine a 2012-2013 cohort of MDRS vocational trainees.

### SAMPLE SELECTION

This study implements a quasi-experimental design with two groups:

- 1) Program group
- 2) Comparison (control) group

The program group includes individuals who participated in a VR/VRB plan and/or received VR/VRB services. The control group includes individuals who were deemed eligible to receive services during an initial meeting with a VR/VRB counselor but closed the application prior to entering a plan or receiving services. Individuals for

both groups were selected from 9,057 closed cases in federal fiscal year 2012-2013. Of the 9,057 closed cases, 1,806 were not eligible to receive services; these cases were not included in the study. Of the 7,251 individuals eligible to receive services, 5,793 received VR/VRB services. These individuals comprised the program group. The remaining 1,458 who did not receive services comprised the control group.

## DATA

The data came from two sources: (1) Mississippi VR/VRB data maintained as required by the U.S. Department of Education's Rehabilitation Services Administration (RSA) for regulatory and federal reporting purposes and (2) three years of quarterly wage records before case closure and three years of quarterly wage records after case closure from the Mississippi Department of Employment Security's unemployment insurance system database. The RSA data were used to generate information on an individual's background and services received from MDRS, while the quarterly wage records were used to create an individual's earnings record. The two datasets were concatenated to generate an individual's quarterly records. This procedure was done to assess earnings changes and the likelihood of employment in the short and long term.

## ANALYTICAL STRATEGY

The analytical strategy was first to examine the differences in wages between individuals in the program group and individuals in the control group one quarter after closure of the individuals' cases. Next, we used several mixed-fixed effect models to estimate the quarterly wages of the program and control groups 12 quarters after closure, adjusting for other factors such as individual background and type of disability. In doing so, we were able to control for any differences between the program and control groups and, therefore, minimize the threat to the validity and reliability of the study. We also estimated a set of logistic regression models to determine differences in likelihood of employment between the program and control groups while controlling for several factors (e.g., individual background, type of service, type of disability, etc.).

## RESULTS:

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### NET BENEFITS

The data show that one quarter after case closure, individuals in the program group earn, on average, \$1,188 more than their counterparts in the control group. The data also show that individuals in the program group are 2.2 times more likely to gain employment than those in the control group. In the long run, the benefits of employment and increased earnings are realized in two ways: (1) increased state tax revenue and reduction in public assistance costs and (2) increased federal tax revenue.

First, the state experiences a significant tax gain. Since the average age of individuals in the study is 38, we assume they will continue to work 28 years beyond case closure. Over a working lifetime, an individual who receives VR/VRB services makes \$47,510 more, on average, than those who do not receive services. Through this net income, VR/VRB contributes \$275,225,430 ( $\$47,510 \times 5,793$  program participants) to the state economy. State tax gains from net income are then calculated based on the amount of (1) state income tax, (2) local income and sales tax, and (3) average property tax estimated to be collected from the average net earnings of program participants who received services. According to 2018 statistics from the Bureau of Economic Analysis and the U.S. Census Bureau, the average tax burden for fiscal year 2012-2013 in Mississippi was 8.6 percent. By applying this tax burden rate to the estimated earnings, the average state tax gain per individual is estimated to be \$4,086. Employment and increase of income also lead to a reduction of public assistance. The results show that an individual receiving VR/VRB services is expected to save an average of \$1,264 in public assistance payments. Thus, the net benefit from a program participant's tax gains and reduction in public assistance is estimated to be \$5,350. The state total net benefit is estimated to be \$30,991,739. Tax gains account for

\$23,669,387 of the total, while reduction in public assistance accounts for \$7,322,352 of the total.

Second, the federal government experiences a significant tax gain. Federal tax gains from net earnings are calculated based on the amount of (1) federal income tax, (2) Social Security tax, and (3) Medicare tax estimated to be collected from the average net earnings of participants who received services. According to 2013 data from the Internal Revenue Service, the federal tax rate for the income bracket of the average program participant (single filer earning between \$8,926 and \$36,250) was 15 percent, and Social Security and Medicare taxes added an additional 6.2 percent and 1.45 percent, respectively. These figures add up to 22.65 percent in federal income taxes. By applying this tax burden rate to the estimated average net earnings from program participants receiving services (\$47,510), the average federal tax gain per individual is estimated to be \$10,761. The federal total net benefit is estimated to be \$62,338,560.

## RETURN ON INVESTMENT (ROI)

The ROI is calculated as the net benefits-to-cost ratio. The average cost for a participant in fiscal year 2012-2013 was \$4,217. Federal funding for VR/VRB requires approximately a 21.3 percent state match. Therefore, the state component of this cost was \$898 per participant. For fiscal year 2012-2013, the total VR/VRB state appropriation was \$11,148,082, and the total federal appropriation was \$49,517,177.

**Participant ROI = \$5,350/\$898 = 6.0.** That is, for every dollar invested in a program participant, an estimated additional \$5.00 is returned to the state in the form of tax gains and public assistance savings.

**State ROI = \$30,991,739/\$11,148,082 = 2.8.** That is, for every state dollar invested in MDRS for VR/VRB services, an estimated additional \$1.80 is returned to the state in the form of tax gains and public assistance savings.

**Federal ROI = \$62,338,560/\$49,517,177 = 1.3.** That is, for every federal dollar invested in MDRS for VR/VRB services, an estimated additional \$0.30 is returned to the federal government in the form of tax gains.