



# A Prescription for Healthcare Training in Tennessee (RxTN) Program Evaluation Final Report

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## Executive Summary

This final evaluation report describes key findings related to *A Prescription for Healthcare Training in Tennessee* (RxTN) program’s formative evaluation component (through which the program’s implementation processes and program delivery are being evaluated) and its summative component (through which RxTN outcomes and impacts are being evaluated). The report was generated to apprise the U.S. Department of Labor (DOL) about progress made toward key program evaluation benchmarks and outcome indicators attributable to the RxTN project from April 2013 through August 2016. This report also may be instructive to the RxTN primary grantee at Roane State Community College (Roane State) and the RxTN co-grantee institutions.

### RxTN Program Introduction

In September 2012, Roane State received a Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant funded through DOL. Designed to strengthen pathways into high needs healthcare employment, the RxTN program implementation period ended in June 2016, with additional student outcomes assessed through August 2016.

In 2012, Tennessee had 13 local workforce investment areas (LWIAs), 12 of which identified ambulatory healthcare and hospital industries as a high priority that were expected to show the most growth at nearly 3 percent (TDOL, 2012). In addition, all regions of Tennessee were identified as having occupational gaps in healthcare fields (WIN Strategic Compass, 2012). The RxTN grant-writing team identified critical gaps that included the lack of or limited availability of healthcare training in multiple regions, clinical sites, and simulation opportunities in labs. The consortium also identified gaps within its programs, categorized as core elements, which the grant would alleviate through the funds provided to the grantees (RSCC, 2012). The elements within the consortium identified by the gap analyses included evidence-based design, stacked credentials, online enabled learning, transferability articulation, strategic alignment, and student support.

In response to these challenges, the RxTN leadership team from Roane State led a consortium of 13 co-grantee Tennessee community colleges and 27 Tennessee Centers of Applied Technology (TCATs) to implement two, integrated main interventions: Student Support Prescriptions, which consisted of an arrangement of career advising, completion coaching, and other supports for students; and Training Prescriptions, which provided access to nine healthcare training programs. The development of the RxTN program, and the courses offered to training and technical assistance-eligible and other high-need workers, were designed to provide support, relevant training, and job opportunities throughout a given program through completion coach support, clinics in local healthcare settings, and employer guidance to address these needs.

### Evaluation Design

The purpose of the RxTN evaluation was to collect, analyze and interpret data pertaining to RxTN that would lead to continuous program improvement and determine the extent to which the various program components were associated with positive outcomes and impacts in the lives of program participants. The RxTN program evaluation consisted of a formative evaluation component, where the program implementation process and program delivery were evaluated, and a summative evaluation component, where program outcomes and impacts were evaluated.

The implementation evaluation of the RxTN program helped develop an understanding of the extent to which project activities such as student support

#### Box 1. Implementation Evaluation Questions

- 1) What process was used/is being used to plan the various program components, including student services?
- 2) What can be done to improve the program components during planning?
- 3) What actions can be taken toward continuous improvement during implementation?
- 4) What factors contribute to partners’ level of involvement in the whole program and program components?
- 5) Which contributions from partners are most critical to the success of the grant?
- 6) Which contributions from partners are less critical to the success of the grant?
- 7) Were program activities and outputs consistent with what was planned, and to what extent did consistency occur across institutions?

prescriptions were being implemented as intended by the grant. The implementation evaluation addressed seven core research questions (see Box 1).

The outcomes and impacts evaluation of the RxTN program determined the extent to which the program accomplished its goals. Specifically, the outcomes and impact evaluation addressed nine core research questions about students' academic performance and employment outcomes (see Box 2).

### Box 2. Outcome Evaluation Questions

- 1) To what extent were the self-paced competency curricula associated with higher COMPASS test scores?
- 2) To what extent (and in what ways) were Student Support Services associated with graduation and retention rates at participating institutions?
- 3) How many program participants completed a TAACCCT-funded program of study? How many participants entered but did not complete a TAACCCT-funded program of study?
- 4) To what extent did program participants achieve mastery of key program outcomes?
- 5) How many participants earned degrees and certificates in the various grant-funded programs of study?
- 6) How many participants who completed a grant-funded program of study entered employment in the quarter after the quarter of program exit (3 months after program completion)?
- 7) How many participants who completed a grant-funded program of study entered employment (in the quarter following the quarter of program exit) retained employment (into the second and third quarters after program exit) (six and nine months after program completion)?
- 8) What are the average earnings for participants attaining employment?
- 9) How many participants who completed a grant-funded program of study continued onto one of the participating consortium four-year institutions with articulation agreements?

Using a mixed methods evaluation design, the evaluation team drew from the following kinds of evidence: (1) student tracking data from each participating co-grantee institution, (2) student baseline and completion surveys, (3) extant program documents and other secondary data, (4) meeting summaries, (5) interviews with key RxTN stakeholders (leadership, staff, students, faculty, and employers), and (6) data from comparison students who were enrolled in healthcare training programs prior to the implementation of RxTN. Through analyses of these data, the program evaluation provided pertinent descriptions and indicators about RxTN's implementation (i.e., the extent to which Student Support Services and Training Prescriptions have been implemented as intended by the program design) as well as the program's effects on outcomes for enrolled participants and those who have completed their program of study.

## Implementation Findings

### *Program Planning and Start-Up*

Although program components were delivered at local campuses, RxTN operated as a unified, statewide program with oversight from the RxTN leadership team at Roane State.

- **Conceptualization and projections.** Roane State facilitated planning with partner institutions to establish RxTN program goals and targets. Although institutions had varying levels of representation in this process (i.e., a mix of administrative leadership, staff, and faculty participated), the process resulted in articulation of staff roles, employment needs, training demand, projections of total enrollment, and measurable project goals for each co-grantee institution.
- **Variation in target-setting method.** Co-grantee institutions used a range of methods to anticipate target enrollment numbers and other program targets (i.e., some institutions consulted local employers or workforce investment boards, some used current enrollment in similar programs, and some seemed to have arbitrarily set enrollment projections). The accuracy of the methods may have later affected the extent to which each college's projections were obtainable.

- Hiring of the RxTN leadership team.** In January 2013, the RxTN Project Director and Assistant Director (the RxTN leadership team) began managing RxTN's implementation from Roane State as the lead institution. The Project Director was responsible for overall project management, and for coordination with co-grantee institutions and leading reporting efforts. The RxTN Assistant Director's responsibilities revolved around the grant's Student Support Service program marketing and outreach, in addition to supporting the Project Director. During startup, the RxTN leadership team worked with the grant writers to clarify program elements and establish management procedures. The RxTN leadership team used the grant proposal as a program map to offer support, leadership, and continuous improvement throughout the program's implementation.

#### *Implementation Support, Leadership, and Continuous Improvement*

Throughout the grant's implementation, the RxTN leadership team developed, delivered, and refined coordinated program supports while also striving to build and maintain relationships with multiple stakeholders at co-grantee institutions. All co-grantee institutions participated regularly in these activities.

- RxTN staff training.** The RxTN leadership team designed and delivered annual training sessions for RxTN staff in 2013, 2014, and 2015. The training events helped familiarize participants with RxTN structures (e.g., Desire2Learn® online learning management system), approaches (e.g., appreciative advising), external supports (e.g., program evaluation), and reporting methods (e.g., budget handling). Materials and topics presented in training were used actively throughout RxTN's delivery.
- RxTN routine group communication.** The RxTN leadership team used regularly scheduled Adobe Connect meetings as the primary form of communication. The meetings served as a mechanism for discussing and resolving implementation challenges; preparing RxTN staff to execute all of the grant components; providing opportunities to share new ideas; and training staff on student support elements, various software programs, and data collection and management tools.
- Individualized support.** The RxTN leadership team offered guidance and support by providing individual assistance to co-grantee institution staff. These meetings prepared RxTN staff to execute all components of the program; provided them an opportunity to present best practices and discuss challenges; and equipped them with targeted professional learning in various areas, including Student Support Prescription tools, software programs, and data collection and management tools.
- Planning and monitoring visits at co-grantee institutions.** The RxTN leadership team led annual planning sessions with stakeholders at co-grantee institutions. The meetings were instrumental in getting all key personnel on the same page, developing institution-specific plans, building a monitoring process, and garnering institutional commitment.
- Communication with co-grantee college administrators.** The RxTN leadership team created relationships with co-grantee institution leadership. With the attention of administrators, the RxTN leadership team equipped co-grantee RxTN staff with targets and benchmarks, which resulted in both comprehensive plans and tactics for reaching enrollment targets. The RxTN leadership team was also able to influence administrative leadership at several co-grantee institutions to better support RxTN programs and to protect its resources.
- Efficacy of supports and leadership.** Although the development and rollout of training programs and Student Support Services proceeded according to proposed specification, each curriculum and support service had to be defined prior to design and implementation. This step led to a longer-than-anticipated planning and development period for many of these resources and workshops. In response to delayed development, the RxTN leadership team worked with co-grantee institutions to encourage use of additional institution-based resources and to clarify the intent of the RxTN student supports. With the exception of the Emergency Medical Dispatcher program that was replaced with Intravenous Therapy, all training prescriptions were developed.
- Evaluation use.** The RxTN leadership team made regular improvements to the program's implementation and products. The RxTN leadership team was regularly actively engaged in the program evaluation—providing feedback on instrumentation, procedures, and reports; and helping evaluators gain access to data (e.g., survey responses). The RxTN leadership team also participated in debriefings of evaluation reports, using many of the formative findings to augment or adjust existing implementation supports and structures. The RxTN leadership team also created bidirectional avenues for evaluators to share directly with co-grantee stakeholders at training sessions, through stakeholder briefs, and via data collection visits.

### *Variation in Program Implementation*

Differences existed in co-grantee institutions' capacity to develop and implement RxTN. Although the RxTN program plan anticipated institutional variation, initial levels of involvement in the program varied more substantially across co-grantee institutions than expected. The RxTN leadership team employed the supports and mechanisms described above to increase co-grantee institution participation in the RxTN program to great avail. The structures resulted in normalized communication pathways and facilitated the development of a virtual learning community. Periodic site visits, compliance checks, and monitoring audits enhanced the quality and thoroughness of fiscal documentation and student records. Institutional factors, such as co-grantee institution leadership changes and RxTN staff turnover, also contributed to the level of individual and collective success of the grant.

- **Student support delivery.** Overall, completion coaches greatly exceeded the anticipated number of students served, with variation across co-grantee institutions. Considerable variation also occurred in each co-grantee institution's selection and use of student supports, which may be explained in part by each college's and each program's specific needs. In addition, although some co-grantee institutions targeted RxTN students, others targeted either non-RxTN students or both of these subgroups for Student Support Services.
- **Support service delivery.** Staff turnover among completion coaches affected service receipt among students. For example, Columbia State experienced turnover in its completion coach role and ultimately failed to reach its service goal. And, although completion coaches at Roane State far exceeded their projected totals, the institution served just 19 percent of enrolled RxTN students in contrast to the initial program design, potentially indicating a miscommunication about this role.
- **Curriculum delivery.** Curriculum delivery also varied across co-grantee institutions. For instance, instructors, available technology, and local infrastructure appeared to have largely determined whether hybrid course delivery was adopted.

### **Program Impacts and Outcomes**

Overall, the RxTN program enrolled 2,399 students into nine degree and certificate programs across 13 co-grantee institutions and served a total 7,458 students with Student Support Services for a total of 8,183 students impacted by this program. The institutions met 189 percent of the program's goal for Student Support Services and 117 percent of the program's enrollment target (see Table A). Program impacts and outcomes are organized by key theme. Relevant research questions described above are labeled where appropriate:

- **Mastery of training programs.** Students enrolled in credit programs earned an average grade point average (GPA) of 2.91, with students in the Occupational Therapy Assistant and Surgical Technology programs earning the highest GPAs, with average GPAs at 3.41 and 3.42, respectively.
- **Program completion and graduation.** A total of 1,562 students completed a noncredit certification program or earned a degree in an RxTN program, or 104 percent of the program's target (see Table A). Among students enrolled in noncredit certification programs, 934 (72 percent) had earned at least industry-recognized certification, with all students earning a total of 1,385 industry-recognized certifications. The result was a total of 2,014 earned credentials across all RxTN students. In addition, 13 percent of students were retained in their programs upon the completion of grant funding, and 22 percent of students had not completed their program of study. These groups included 199 students who successfully completed their noncredit course but did not take or failed to pass their certification exam.
- **Impact of program structure on program completion.** Students enrolled in "stacked" or "bundled" noncredit certification programs and those enrolled in hybrid noncredit courses were both statistically more likely to complete their program of study and pass their certification exam, compared with students enrolled at institutions with stand-alone noncredit programs or offering only traditional classroom courses.
- **Impact of Student Support Services on academic outcomes.** Six in 10 RxTN students (61 percent) accessed at least one of the Student Support Services provided through this grant, with the greater numbers of students meeting with a completion coach and participating in the creation of an academic plan. Relatively few students took advantage of the diagnostic skills assessment, limiting the potential correlation between that service and COMPASS® test scores. However, participating in the diagnostic skills assessment was positively correlated with both student retention and graduation. In addition, digital literacy training was positively correlated with program

completion among all students. Among credit students only, participating in the academic plan preparation, the boot camp, or the prior learning assessment positively correlated with either retention or graduation outcomes.

- **Student satisfaction and engagement.** Upon program completion, 82 percent of students surveyed reported they were satisfied with their overall program of study, and 95 percent reported they would recommend their program of study to others. In addition, 78 percent of students believed that their classes prepared them for what they want to do in life, with 81 percent reporting that what they learned in their classes was relevant to their future career success. Students also reported a high level of engagement with staff and faculty. More than three-fourths of students indicated that they had been able to meet with a staff member, academic advisor, or completion coach to figure out their course schedule, create a plan for achieving their academic goals, and/or receive information about financial assistance.

**TABLE A: DOL TAACCCT GRANT OUTCOME MEASURES FOR RXTN PROGRAM**

DOL Outcome Measures	Goal	Current Through June 2016 <sup>‡</sup>	Percentage of Goal Achieved
1. Unique students receiving services under the <i>Student Support Prescription</i> or <i>Training Prescription</i>	3,939	8,183	207%
1a. Students served by <i>Student Support Services</i>	3,939	7,458	189%
1b. Students enrolled in a <i>Training Prescription</i>	2,039	2,399	117%
2. Students who have completed a grant-funded program of study	1,500	1,562	104%
3. Students retained in grant-funded programs of study	458	305	67%
4. Total number of students completing credit hours	1,019*	1,028	101%
5. Total number of earned credentials	2,296	2,014	89%
6. Total number of students enrolled in further education after completion	100	144	144%
7. Students who become employed one quarter after program completion	1,300	197	15%
8. Students who remain employed three quarters after exiting the program	1,170	120	10%
9. Students employed at program enrollment who receive a wage increase	49	424	865%

Source: Student Tracking Data—Program Coordinators and Completion Coaches, through Spring 2016. <sup>‡</sup> Outcome measure 1a was assessed in March 2016 and outcome measures 6-9 were assessed in August 2016. \*NOTE: Initial projections reported that the goal for outcome measure 4 was 1,835. However, this total included noncredit students. The number has been changed to reflect credit students only.

- **Students' employment outcomes.** By August 2016, 65 percent of all program completers reported being employed three months (one quarter) after program completion. The majority of those who reported employment were incumbent workers—51 percent of RxTN program completers were employed at program enrollment and retained that employment one quarter after program completion. However, the majority (52 percent) of these incumbent workers reported receiving a wage increase following program completion, which was more than eight times greater than the program's target (see Table A). Just 12 percent of RxTN graduates reported finding new work in the first quarter after graduation. However, these students remained in these positions in high percentages—95 percent retained that employment two quarters after graduation, and 87 percent retained that employment three quarters after graduation.
- **Impact of program type and structure on employment outcomes.** Students enrolled in credit programs were statistically more likely to both retain existing employment and to find work three months after program graduation and keep that new work six and nine months after graduation. Noncredit students who had participated in “bundled” or “stacked” certificate programs were statistically more likely to report finding new work after program completion and to report receiving a wage increase if they were already employed. In addition, noncredit students as a whole were more likely than credit students to report enrolling in further education following program completion. Students enrolled in noncredit hybrid programs were more likely to receive a wage increase following program completion, compared with those in traditional noncredit programs. However, between those enrolled in hybrid and traditional noncredit programs, no differences were noted in obtaining new employment or continuing in current employment.
- **Students' continuing education outcomes.** Nine percent of program completers reported enrolling in continuing education after program completion between those enrolled in hybrid and traditional noncredit programs—144 percent of the program's target (see Table A). This figure does not include the 317 students who completed one certification program and subsequently enrolled in another certification program within the grant period.



- **Impact of Student Support Services on employment outcomes.** Four support services were significantly positively correlated with retaining employment: Prior Learning Assessment, Boot Camp, Supplemental Instruction/Tutoring, and Coaching or Retention Services provided by a completion coach. In addition, five Student Support Services were positively correlated with a wage increase. These were Diagnostic Skills Assessment, Prior Learning Assessment, Boot Camp, Instructional Learning Supports, and Supplemental Instruction/Tutoring. Only Digital Literacy Training was negatively correlated with receiving a wage increase.

## Conclusion

The RxTN program was delivered according to its original plan and has yielded indications of positive impact. The RxTN leadership team's development of program supports such as routine staff training, formalized group communication, a facilitated virtual learning community, and individualized support promoted consistent program implementation across the 13 co-grantee institutions. Institutional factors, such as co-grantee institution leadership changes and RxTN staff turnover, also contributed to the level of individual and collective success of the grant. By the end of the grant period, more than 1,500 students completed a noncredit certification program or earned a degree in an RxTN program, resulting in 2,104 earned credentials. Altogether, the RxTN program met its enrollment goals and contributed to student academic and employment success. Students completing the program agreed: Upon program completion, 95 percent of students surveyed reported that they would recommend their program of study to others. This evaluation of the RxTN program found that specific programmatic features including "stacked" or "bundled" certification programs and hybrid delivery contributed to student success among students enrolled in noncredit programs. And although only a limited number of Student Support Services had a positive impact on students' program completion, six support services were positively correlated with employment outcomes, suggesting that Student Support Services may impact student employment more so than program completion. Future workforce and education research should continue to examine the impact of program design and program implementation on student outcomes as well as to build evaluation designs that measure delayed program benefits among participants entering the workforce.

## Introduction

**Program Overview.** In September 2012, Roane State Community College (Roane State) received a four-year Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant funded through the U.S. Department of Labor (DOL). A *Prescription for Healthcare Training in Tennessee* (RxTN) program implementation period ended in June 2016, with additional student outcomes assessed through August 2016. This program sought to promote student academic achievement and to help strengthen pathways into healthcare employment. The grant team from Roane State led a consortium of 13 co-grantee Tennessee community colleges and 27 Tennessee Centers of Applied Technology (TCATs) to implement two main interventions. The first one, Student Support Prescriptions, included an arrangement of advising and other support options. The second, Training Prescriptions, provided access to curricula oriented to address needs in the healthcare industry.

**Report Purpose.** The purpose of this report is to provide information to DOL and the RxTN leadership team about full program implementation and progress made toward key evaluation benchmarks, as aligned to the RxTN evaluation questions and nine DOL outcome measures. This report summarizes findings from all data collected through evaluation activities conducted between April 2013 and August 2016.

**RxTN Program Evaluation Description.** Roane State hired ICF International and Dr. Keith M. Sturges to serve as the third-party evaluator to design and conduct the RxTN program evaluation. The program evaluation consisted of a formative evaluation component through which the program implementation processes and program delivery were evaluated as well as a summative evaluation component through which program outcomes and impacts were evaluated. Findings drew upon qualitative and quantitative sources that detailed implementation progress and consistency with grant requirements as well as data on program effects for enrolled participants and those who have completed their program of study during across the four years of the grant program (Fall 2013 through Spring 2016). Specifically, the evaluation examined the extent to which program activities provided through the Training Prescriptions and the Student Support Prescriptions were implemented as intended by the program design and the extent to which these elements had the intended impact. Wherever possible, the evaluation team analyzed data from multiple sources to produce an in-depth assessment of the implementation of RxTN.

**Data Sources.** To write this report, the evaluation team drew from the multiple data sources that make up the evaluation database. The four primary sources are: (1) RxTN student tracking data collected by program coordinators and completion coaches at each co-grantee institution; (2) baseline and completion surveys administered to students enrolled in the RxTN program; (3) qualitative data collected through interviews from the RxTN leadership team, RxTN staff, students, and program instructors; and (4) data from program documents, including the RxTN grant proposal, ongoing Adobe Connect meetings, monitoring site visits, program syllabi, and staff training events. In addition, this report uses data from comparison students who were enrolled in healthcare programs prior to implementation of the RxTN program. A complete catalogue and description of data sources is included as Appendix A.

**Report Organization.** This report is organized by evaluation component, beginning with a summary of findings from the outcomes and impact evaluation and moving into the program implementation study. Each section is organized around the relevant evaluation questions (presented on the following page). The first half of this final report addresses the nine outcomes and impacts evaluation questions. This section begins with a description of training prescriptions, then support services, and finally employment outcomes after program completion. The report summarizes program implementation, beginning with conceptualization and development, followed by program implementation of training prescriptions and support services. The section ends by examining efforts to make continuous improvement and sustain training and student support prescriptions. The report concludes with final recommendations based on implementation fidelity and student outcomes.

## Section 1. Impacts and Outcomes Evaluation

The summative evaluation focused on program outcomes and impacts to determine the extent to which the RxTN program accomplished its goals. The impacts and outcomes evaluation was guided by nine research questions that use multiple data sources to assess the overall impact of the program (see Table 1.1). A full description of the evaluation data sources is included in Appendix A.

**TABLE 1.1: OUTCOME EVALUATION RESEARCH QUESTIONS, SOURCES, AND METHODS**

Research Questions	Data Sources	Data Collection Methods
<b>1. To what extent were the self-paced competency curricula associated with higher COMPASS® test scores?</b>	Treatment and Comparison Participants	Extant Data – COMPASS® test scores
	Completion Coaches	Interviews
<b>2. To what extent (and in what ways) were Student Support Services associated with graduation and retention rates at participating institutions?</b>	Treatment and Comparison Participants	Extant Student Data (e.g., BANNER)
	Program Coordinators	Interviews
	Treatment Participants: enrolled and dropped-out, users	Student Surveys
<b>3. How many program participants completed a TAACCCT-funded program of study? How many participants entered but did not complete a TAACCCT-funded program of study?</b>	Treatment and Comparison Participants	Extant Student Data (e.g., BANNER)
<b>4. To what extent did program participants achieve mastery of key program outcomes?</b>	Treatment and Comparison Participants, Employers	Student Surveys
	Program Coordinators, Completion Coaches	Interviews
<b>5. How many participants earned degrees and certificates in the various grant-funded programs of study?</b>	Treatment and Comparison Participants	Extant Data—Licensure and Certification Exam Scores or Pass Rates
<b>6. How many participants who completed a grant-funded program of study entered employment in the quarter after the quarter of program exit (three months after program completion)?</b>		
<b>7. How many participants who completed a grant-funded program of study entered employment (in the quarter following the quarter of program exit) retained employment (into the second and third quarters after program exit) (six and nine months after program completion)?</b>	Treatment and Comparison Participant Graduates	Student Survey
<b>8. What are the average earnings for participants attaining employment?</b>		
<b>9. How many participants who completed a grant-funded program of study continue onto one of four-year participating consortium institutions with articulation agreements?</b>	Treatment and Comparison Participants	Extant Student Data (e.g., BANNER)

## Section 1.1 Training Prescription Participation and Completion

- Q4. To what extent did program participants achieve mastery of key program outcomes?  
 Q3. How many program participants completed a TAACCCT-funded program of study? How many participants entered but did not complete a TAACCCT-funded program of study?  
 Q5. How many participants earned degrees and certificates in the various grant-funded programs of study?

RxTN training programs (“prescriptions”) were designed to address healthcare workforce gaps in local regions throughout Tennessee by producing a qualified pool of eligible employees. In addition to recruiting interested students, program managers must ensure that students are trained in and have competencies in key program concepts and outcomes. Factors such as student GPA and the overall number of earned credentials tell an important part of the story of program success, but student perspectives also can provide valuable insight into the impact and utility of a program. To that end, this section reports on high-level enrollment characteristics, academic and program measures of student performance, students’ self-reported levels of satisfaction with their programs of study, and successful program completion using student tracking data and data from student surveys.

### Training Program Enrollment

By the end of Spring 2016, enrollment at all but three institutions equaled or surpassed initial projections, leading RxTN to achieve 117 percent of its projected enrollments overall. RxTN staff enrolled 2,399 students into nine degree and certificate programs (see Table 1.2). Most students identified themselves as white (77 percent) and female (90 percent). Students ranged in age from 18 to 71 years, with an average age of 33 (SD=10.2). Under this TAACCCT grant, the key target populations for the RxTN program include unemployed persons, underemployed persons, and workers who are eligible for trade adjustment assistance (TAA). By Summer 2016, just four students who enrolled in RxTN reported that they were TAA impacted. However, 36 percent were unemployed, and an additional 36 percent were underemployed at the time of program enrollment.

**TABLE 1.2: RxTN STUDENT DEMOGRAPHIC CHARACTERISTICS AND PROGRAM ENROLLMENT**

Student Demographic Characteristic	Percentage of Students	Training Program Enrollment	Percentage of Students
<b>Race/Ethnicity (n=2,390)</b>		<b>Institution (n=2,399)</b>	
American Indian or Alaska Native	<1%	Chattanooga State (n=116)	5%
Asian	2%	Cleveland State (n=144)	6%
Black or African American	19%	Columbia State (n=221)	9%
Native Hawaiian or Other Pacific Islander	--	Dyersburg State (n=291)	12%
White	77%	Jackson State (n=195)	8%
Hispanic/Latino	2%	Motlow State (n=181)*	8%
Multiracial	<1%	Nashville State (n=92)*	4%
		Northeast State (n=129)	5%
<b>Gender (n=2,399)</b>		Pellissippi State (n=95)	4%
Female	90%	Roane State (n=500)	21%
Male	10%	Southwest Tennessee (n=211)*	9%
		Volunteer State (n=157)	7%
<b>Age (n=2,399)</b>		Walters State (n=67)	3%
18-21	10%	<b>RxTN Training Program (n=2,399)</b>	
22-29	39%	LPN-to-RN Mobility (AAS)	31%
30-39	27%	Allied Health Sciences (AAS)	7
40-49	17%	Medical Informatics (AAS)	4%
50+	8%	Occupational Therapy Assistant (OTA) (AAS)	1%
		Surgical Technology (AAS)	1%
<b>TAA-Impacted (n=2,399)</b>		CCMA/Patient Care Technician (PCT) (certificate)	3%
Yes	<1%	Phlebotomy Technician (certificate)	36%
No	99%	ECG Technician (certificate)	15%
		IV Therapy (certificate)	<1%

Source: Student Tracking Data—Program Coordinators, through Spring 2016. \*Includes students enrolled at corresponding TCATs.  
 NOTE: Total percentages may not total exactly 100 percent due to rounding.

Dyersburg State and Roane State enrolled the highest number of participants through Spring 2016, collectively accounting for one-third of the total enrollments (see Table 1.2). This distribution was slightly different than anticipated by the original grant writers who anticipated that Nashville State and Roane State would enroll the most participants, with Dyersburg State having the fourth highest enrollment target. However, both Dyersburg State and Roane State exceeded their initial targets by more than 150 percent (see Table 2.5 in Section 2.4).

### Mastery of Training Programs

Program competency is conceptualized as grade point average (GPA) for students enrolled in degree programs, followed by graduation. Across the life of RxTN, 1,095 students registered for courses in all five RxTN degree programs, and 1,018 students reported earning credit hours. Across all co-grantee institutions, 1,051 of these students had valid GPA data reported. Students in the Occupational Therapy Assistant (OTA) programs and Surgical Technology earned the highest average cumulative GPA of 3.41 and 3.42, respectively (see Table 1.3). These were statistically significantly higher than the average GPA of students enrolled in Medical Informatics (2.78), LPN-to-RN (2.88) and Allied Health Sciences (2.95). No statistically significant differences were found in GPA by student age, cohort of enrollment, trade adjustment assistance (TAA) eligibility, or employment status. Furthermore, across all programs, GPA did not vary substantially by institution, with the exception of the LPN-to-RN program where the average GPA by institution ranged from 2.60 at Dyersburg State to 3.13 at Walters State (results not shown). This finding suggests that the difference in GPA among LPN-to-RN students may be attributable to programmatic differences across institution rather than other mitigating factors such as demographic or enrollment characteristics.

**TABLE 1.3: PERCENTAGE OF STUDENTS BY GPA RANGE AND DEGREE PROGRAM AS OF SPRING 2016**

Degree/Credit Training Program	Percentage of Students by GPA Range				Mean GPA
	4.0	3.0-3.9	2.0-2.9	1.0-1.9	
Allied Health Science (n=160)	3%	44%	51%	3%	2.95
LPN-to-RN Mobility (n=737)	1%	41%	54%	4%	2.88
Medical Informatics (n=96)	2%	41%	43%	15%	2.78
Occupational Therapy Assistant (n=26)	4%	85%	8%	4%	3.41
Surgical Technology (n=30)	7%	83%	10%	0%	3.42

Source: Student Tracking Data—Program Coordinators, through Spring 2016.

NOTE: Data on GPA were not available for all students. Total percentages may not total exactly 100 percent due to rounding.

### Successful Program Completion

By Spring 2016, a total of 2,399 students had enrolled in RxTN programs of study (see Table 1.2). Of those, 1,095 were initially enrolled in an associate’s degree program, and 1,304 had first enrolled in at least one noncredit program across all RxTN institutions.

**Degree Attainment.** More than half (57 percent) of the students enrolled in a credit program had graduated and earned a degree by the end of the grant’s funding period (see Table 1.4). This proportion varied by program of study with greater percentages of students enrolled in the LPN-to-RN program graduating during the grant period, compared with other programs. For students enrolled in these credit programs, passing the required classes and receiving their degree was the final demonstration of program mastery. In addition, more than one-third (38 percent) of LPN-to-RN program graduates had gone further and passed their licensure exam (results not shown).

**TABLE 1.4: PERCENTAGE OF DEGREE STUDENTS GRADUATING AND RETAINED BY PROGRAM**

Degree Program	Percentage of Students Graduated (n=628)	Percentage of Students Retained (n=251)	Percentage of Students Dropped (n=216)
Allied Health Science (n=176)	57%	24%	18%
LPN-to-RN Mobility (n=753)	63%	20%	18%
Medical Informatics (n=106)	21%	40%	40%
Occupational Therapy Assistant (n=30)	57%	17%	27%
Surgical Technology (n=30)	47%	50%	3%
<b>Total (n=1,095)</b>	<b>57%</b>	<b>23%</b>	<b>20%</b>

Source: Student Tracking Data—Program Coordinators, through Spring 2016.

NOTE: Total percentages may not total exactly 100 percent due to rounding.

**Earned Certifications.** Among noncredit students, 1,133 had successfully passed their course and become eligible to take their program-specific nationally recognized certification exam. Successfully passing this certification was the final step required for overall completion. Based on this criterion, 72 percent of noncredit students had successfully completed their certification program, while 9 percent had dropped out of their program, and 4 percent were still enrolled in their program of study at the end of Spring semester 2016.<sup>1</sup> The noncredit certificate programs had the largest percentage of students successfully complete these programs. However, these programs were shorter in duration and thus less likely to report a high percentage of students retained in the program (see Table 1.5). Across all of these programs, 86 percent of enrolled students completed at least one noncredit program of study.

**TABLE 1.5: PERCENTAGE OF STUDENTS COMPLETING AND RETAINED BY TRAINING PROGRAM, AS OF SPRING 2016**

Noncredit Program	Percentage of Students Completed (n=934)	Percentage of Students Retained (n=54)	Percentage of Students Dropped (n=117)	Percentage of Students Completing Course But Not Certification (n=199)
ECG Technician (n=364)	71%	4%	13%	12%
Phlebotomy (n=850)	73%	4%	8%	15%
CCMA/Patient Care (n=72)	69%	13%	8%	10%
IV Therapy (n=18)	6%	0%	0%	94%
<b>Total (n=1,304)</b>	<b>72%</b>	<b>4%</b>	<b>9%</b>	<b>15%</b>

Source: Student Tracking Data—Program Coordinators, through Spring 2016.  
NOTE: Total percentages may not total exactly 100 percent due to rounding.

Of the 10 institutions offering noncredit programs, four opted to “bundle” or “stack” their noncredit certificate programs to encourage students to earn multiple certifications to make them more marketable to future employers, including Columbia State, Dyersburg State, Jackson State, and Roane State. Through the end of the grant program in Spring 2016, 1,312 students had enrolled in 1,798 noncredit certificate programs, successfully passing 1,608 of these noncredit courses and earning 1,385 nationally recognized certificates, with many certification exams still pending (see Table 1.6).

**TABLE 1.6 STUDENT ENROLLMENT AND COMPLETION OF MULTIPLE CERTIFICATE PROGRAMS AS OF SPRING 2016**

Training Program Enrollment	Number of Students Ever Enrolled (n=1,312) <sup>†</sup>	Number and Percentage of Students who Passed All Enrolled Programs	Number and Percentage of Completed Students Certified in All Enrolled Programs
Total Program Enrollment			
ECG Technician	538	468 (87%)	409 (76%)
Phlebotomy Technician	1,013	912 (90%)	771 (76%)
CCMA/Patient Care	228	210 (92%)	202 (89%)
IV Therapy	19	19 (100%)	2 (11%)
Single Program Enrollment			
ECG Technician only	243	181 (74%)	138 (57%)
Phlebotomy Technician only	709	614 (87%)	484 (68%)
CCMA/Patient Care only	23	9 (39%)	5 (22%)
IV Therapy*	18	18 (100%)	1 (6%)
Dual-Program Enrollment			
ECG Technician and Phlebotomy Technician	110	103 (94%)	92 (84%)
ECG Technician and CCMA/Patient Care	15	14 (93%)	13 (87%)
Phlebotomy Technician and CCMA/Patient Care	21	20 (95%)	18 (86%)
All three certificate programs*	171	163 (95%)	154 (90%)

Source: Student Tracking Data—Program Coordinators, through Spring 2016. <sup>†</sup> Includes students not yet completed at the time of reporting.

NOTE: Total percentages may not total exactly 100 percent due to rounding.

\* All but one IV Therapy students were only enrolled in this program. One student was enrolled in all four programs, successfully passing all courses and earning all certifications. She is included in all three certificate programs.

<sup>1</sup> The remaining 15 percent of students had passed their noncredit course but had not taken or had failed their certification exam.

Among all program participants, 69 percent earned certificates in all programs in which they were enrolled. The Phlebotomy Technician Certificate program had the highest overall enrollment and was also the first of the noncredit programs to be fully deployed across participating co-grantee institutions in Fall 2013, followed shortly after by the ECG Technician program. In contrast, the CCMA/Patient Care Technician program was not fully developed and implemented until Summer 2014. The IV Therapy program, a replacement to the originally proposed Emergency Medical Dispatcher program, did not begin enrolling students until March 2015, which is reflected in overall enrollment totals for these two programs. More recent cohorts of students were more likely to pass their certification exam, although this increased pass rate was not statistically significant. The increase may be related to continuous improvements or more directly to changes in course sequencing, course materials, increased clinical hours, or better vetting of instructors (as seen through the Phlebotomy Technician Case Study and detailed in the Interim Evaluation Report) that have streamlined and aligned courses to be more relevant to the certification exams.

**Total Earned Credentials.** Across both the degree-seeking students and the noncredit certification students, 1,562 RxTN students had graduated from or earned a noncredit certification by the end of Spring Semester 2016. In addition, many of these students earned multiple certifications (see Table 1.6), resulting in a total of 2,227 earned credentials (degrees or certificates) by Spring 2016.

**Program Completion by Institution.** Program enrollment in these noncredit programs varied by institution, with individual institutions having different overall targets for enrollment. However, program completion, taking the certification exam, and passing the certification exam all varied by institution. Among students enrolled in the ECG Technician program, Nashville State and Jackson State had the highest percentage of students fail or drop out of the program (54 percent and 46 percent, respectively; results not shown). Among students who successfully completed the ECG Technician program, Volunteer State had the greatest percentage of students who did not take or did not pass the certification exam (93 percent), followed by Dyersburg State (21 percent). Among Phlebotomy Technician students, Volunteer State and Jackson State had dropout percentages that were similarly high to that of the ECG Technician program: 57 percent and 56 percent, respectively. Among these Phlebotomy Technician students, Volunteer State and Southwest Tennessee had the highest percentage of program completers decided to not take or fail to pass the corresponding certification exam (100 percent and 81 percent respectively). Additionally, students enrolled at institutions who “stacked” or “bundled” their noncredit programs were statistically significantly more likely to pass their certification exams ( $p=.373^{**}$ ).<sup>2</sup>

### Program Completion of Students in Hybrid Programs

During the RxTN program, 1,304 students enrolled first in noncredit certification courses, with 58 percent of these students participating in a hybrid certification course and 42 percent participating in traditional programs. No statistically significant difference was found in hybrid participation. However, students enrolled in hybrid programs were significantly different from those in traditional programs in terms of race: Hybrid students were significantly more likely to be white (86 percent, compared with 63 percent) while those in traditional programs were significantly more likely to be black or African American (31 percent, compared with 11 percent) (.272\*\*).

In addition to these enrollment differences, students in hybrid certificate programs varied in retention and academic outcomes, compared with those in traditional programs. Overall, 122 noncredit students dropped out of their program of study prior to completion. These students were disproportionately likely to have first been enrolled in a traditional program (significant at the 0.01 level). Among students who discontinued, 80 percent had been enrolled in a traditional program, compared with 20 percent who had been enrolled in a hybrid program (results not shown).

Students enrolled in hybrid versions of ECG Technician, CCMA/Patient Care, and Phlebotomy Technician courses either equaled or outperformed students in traditional courses both in passing their course and in passing nationally recognized certification exams. Students in hybrid ECG Technician or CCMA/Patient Care programs were both statistically significantly more likely to complete their courses,  $p=0.000^{**}$  and  $0.274^*$ , respectively. Significant differences were noted in certification rates between students in hybrid and traditional programs. Students enrolled in hybrid versions of ECG Technician, CCMA/Patient Care and Phlebotomy Technician were all more likely to pass their

<sup>2</sup> \* = *p-value* is significant at the 0.05 level. \*\* = *p-value* is significant at the 0.01 level.

nationally recognized certification exam than those in traditional programs (see Table 1.7). This finding may also be related to differences in the structure of the colleges that decided to adopt hybrid programs. For example, the Phlebotomy Technician case study found that colleges' implementing noncredit programs differed in terms of their overall management, their process for vetting instructors, and the overall course infrastructure, all potentially contributing to differences in exam pass rates.

**TABLE 1.7: COMPARISON OF STUDENT PERFORMANCE IN HYBRID VS. TRADITIONAL COURSES**

Training Program	Hybrid		Traditional		t Test		
	Mean	Standard Deviation	Mean	Standard Deviation	t (df)	p-value	95% CI
<b>ECG Technician</b>							
Course completion	0.97	0.158	0.85	0.354	-5.2 (483)	0.000**	[-0.17, -0.08]
Exam pass rate	0.97	0.165	0.92	0.272	-2.4 (424)	0.015**	[-0.09, -0.01]
<b>CCMA/Patient Care Technician</b>							
Course completion	0.99	0.077	0.98	0.156	-1.1 (209)	0.274*	[-0.05, 0.02]
Exam pass rate	0.98	0.152	0.94	0.232	-1.0 (205)	0.298*	[-0.09, 0.03]
<b>Phlebotomy Technician</b>							
Course completion	0.98	0.136	0.98	0.156	-0.6 (914)	0.571	[-0.03, 0.01]
Exam pass rate	0.96	0.199	0.94	0.236	-1.1 (799)	0.294*	[-0.05, 0.02]

Source: Student Tracking Data—Program Coordinators, through Spring 2016. \* = p-value is significant at the 0.05 level. \*\* = p-value is significant at the 0.01 level.

### Student Satisfaction

Factors such as program completion and student GPA tell an important part of the story of program success, but student perspectives also can provide valuable insight into the impact and utility of a program. At the beginning of the program, the vast majority of students (96 percent) indicated that they felt a sense of belonging in their program of study (results not shown). Upon program entry, students also were asked to report on their level of engagement with staff and key institutional resources (see Appendix B for a description of survey response rates by institution). Across each of these measures (see Table 1.8), students at Chattanooga State, Columbia State, and Nashville State reported the highest average levels of agreement with statements about institutional engagement.

**TABLE 1.8: PERCENTAGE OF STUDENTS WHO AGREE OR STRONGLY AGREE WITH MEASURES OF ENGAGEMENT, BY INSTITUTION, AS OF SPRING 2016**

Institution	A college staff member talked to me about my commitments outside of school to help me with my schedule	An academic advisor or completion coach helped me create an academic plan	I was able to meet with an academic advisor or completion coach at times convenient to me	The college provided me with adequate information about financial assistance
Chattanooga State (n=81)	87%	99%	99%	93%
Cleveland State (n=48)	80%	81%	96%	81%
Columbia State (n=96)	85%	89%	87%	90%
Dyersburg State (n=157)	79%	86%	88%	84%
Jackson State (n=88)	79%	78%	88%	75%
Motlow State (n=23)	68%	65%	63%	70%
Nashville State (n=53)	87%	88%	100%	89%
Northeast State (n=81)	82%	81%	92%	70%
Pellissippi State (n=64)	64%	82%	86%	73%
Roane State (n=60)	75%	77%	83%	82%
Southwest TN (n=67)	95%	78%	88%	82%
Volunteer State (n=80)	78%	83%	92%	85%
Walters State (n=0)	--	--	--	--
<b>Total (n=898)</b>	<b>80%</b>	<b>84%</b>	<b>90%</b>	<b>83%</b>

Source: RxTN Completion Survey of Healthcare Students, through Spring 2016. NOTE: Students were asked to report on their agreement with the above statements using a 1 to 5 scale from strongly disagree to strongly agree. Totals may not add up to 100 percent due to some students reporting this question was not applicable.



Upon program completion, students were asked to report on their satisfaction with their program of study using measures of satisfaction. Across all programs and institutions, an average of 82 percent of students surveyed reported that they were satisfied with their overall program of study and 96 percent indicated that they would recommend their program of study to others (see Table 1.9). When reflecting on the usefulness of the program, three-fourths (75 percent) of students indicated that their classes had prepared them for what they wanted to do in life, and 80 percent of students surveyed felt that what they learned in class was relevant to their future successes in a career. These responses varied by program of study, with students in the Allied Health, OTA, and Surgical Technology program reporting the highest levels of satisfaction across each measure at program completion. These findings may have more limited applicability due to relatively low response rates across the student surveys (see Appendix B).

**TABLE 1.9: PERCENTAGE OF STUDENTS WHO AGREE OR STRONGLY AGREE WITH MEASURES OF PROGRAM SATISFACTION, BY TRAINING PROGRAM, AS OF SPRING 2016**

Training Program	I would recommend my program of study to others	I am satisfied with the overall program of study	My classes have prepared me for what I want to do in life	What I learned in my classes is relevant to my future career success
Allied Health Science (n=20)	95%	90%	85%	85%
LPN-to-RN Mobility (n=70)	90%	84%	87%	87%
Medical Informatics (n=5)	100%	80%	100%	80%
Occupational Therapy Assistant (n=4)	100%	100%	100%	100%
Surgical Technology (n=2)	100%	100%	100%	100%
Phlebotomy Technician (n=269)	95%	82%	74%	79%
ECG Technician (n=134)	98%	80%	77%	81%
CCMA/Patient Care Technician (n=66)	100%	82%	80%	79%
<b>Total (n=570)</b>	<b>96%</b>	<b>82%</b>	<b>78%</b>	<b>81%</b>

Source: RxTN Completion Survey of Healthcare Students, through Spring 2016.

NOTE: Students were asked to report on their agreement with the above statements using a 1 to 5 scale from strongly disagree to strongly agree. Totals may not add up to 100 percent due to some students reporting this question was not applicable.

**Student Satisfaction in Hybrid Courses.** Students enrolled in traditional noncredit courses were significantly more likely to report meeting with and receiving assistance from campus-based staff members such as academic advisors, compared with students enrolled in hybrid noncredit courses (see Table 1.10). This finding is likely related to the greater amount of time spent on campus by these students. In addition, students in traditional courses reported feeling significantly higher levels of belonging in their program of study. Again, this result is likely reflective of greater time spent face-to-face with peers and instructors in traditional courses versus hybrid courses.

**TABLE 1.10: STUDENT CONNECTEDNESS IN HYBRID VS. TRADITIONAL NONCREDIT COURSES**

Survey Question	Hybrid Courses		Traditional Courses		Sig. level
	Strongly agree/ agree	Disagree/ strongly disagree	Strongly agree/ agree	Disagree/ strongly disagree	
A college staff member talked with me about my commitments outside of school to help me figure out my course schedule.	78%	22%	85%	15%	.117*
An academic advisor or coach helped create a plan for achieving my academic goals.	79%	21%	87%	13%	.133**
I was able to meet with an academic advisor or coach at times convenient for me.	88%	12%	92%	8%	.100*
The college provided me with adequate information about financial assistance.	81%	19%	89%	11%	.157**
I feel a sense of belonging in my program of study.	94%	6%	98%	2%	.132**

Source: RxTN Completion Survey of Healthcare Students, through Spring 2016.

\* = Correlation is significant at the 0.05 level (2-tailed). \*\* = Correlation is significant at the 0.01 level (2-tailed).

## Conclusions

Across the full grant period, RxTN exceeded its enrollment goals by 17 percent, with the greatest percentage of students enrolled in the LPN-to-RN program (31 percent) and the Phlebotomy Technician program (36 percent). Students enrolled in credit programs earned an average GPA of 2.91, with students in the Occupational Therapy

Assistant and Surgical Technology programs earning higher GPAs of 3.41 and 3.42, respectively. An average of 57 percent of all credit students had earned a degree by the end of the program, and 72 percent of all noncredit students had earned an industry-recognized certification. This result was a total of 2,014 earned credentials among RxTN students, which was slightly lower than anticipated by grant writers. Students enrolled in hybrid programs were significantly more likely than students in traditional programs to pass their certification exams. This finding is particularly interesting, because most of the few existing studies comparing hybrid and traditional courses report no significant difference in outcomes across delivery modalities (Russell, 2001; McDonough, Roberts & Hummel, 2014). One study found that students in a hybrid course outperformed students in the parallel traditional course on exam scores (Lim, Kim, Chen & Ryder, 2008). The authors partially attributed the finding to greater intentionality in the course design, because students in the hybrid programme received technical support and participated in highly interactive virtual instruction. This intentionality in design is similar to the approach of RxTN, which found similar outcomes. In addition to the academic and completion outcomes of RxTN students, 82 percent of students surveyed indicated that they were satisfied with their program of study and reported high levels of engagement with faculty and staff. Taken together, these outcomes indicate that the RxTN program met its enrollment goals and contributed to student academic success.

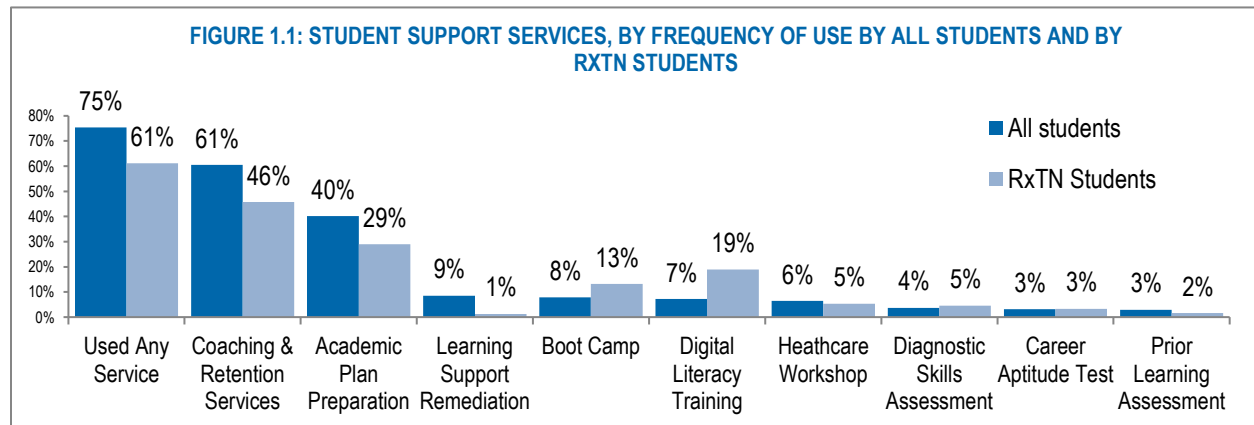
## Section 1.2 Impact of Student Support Services

- Q1. To what extent were the self-paced competency curricula associated with higher COMPASS test scores?  
 Q2. To what extent (and in what ways) were Student Support Services associated with graduation and retention rates at participating institutions?

The RxTN program incorporated Student Support Services that would strengthen students' academic readiness and preparation, program retention and completion, and career exploration. Together, these services addressed a multitude of needs and barriers that sought to enhance students' academic outcomes, training completion, and employment. This section reports on use of Student Support Services, students' perceptions of the impact of Student Support Services, and the statistical impacts of Student Support Services on graduation and completion rates and students' GPA. Data sources used in this section include student surveys and student tracking data.

### Use of Support Services

Across all institutions, RxTN completion coaches contacted 7,458 students to offer support services (“prescriptions”) designed to promote student retention, graduation, and subsequent employment. Overall, a total of 5,623 students (75 percent of all students contacted by the grant program) accessed at least one student support service. These numbers were considerably lower among students enrolled in RxTN training programs, with just 61 percent of RxTN students using any support service. The two most commonly used support services, both among all students and among students enrolled in RxTN programs, were Coaching and Retention Services (used by 61 percent of those contacted by a completion coach and by 46 percent of RxTN students), and Academic Plan Preparation (used by 40 percent of all students and 29 percent of RxTN students). Used by far fewer students in either group were the COMPASS® Diagnostic Skills Assessment, the Career Aptitude Test, and the Prior Learning Assessment process (see Figure 1.1).



Source: Student Tracking Data—Completion Coaches and Program Coordinators, through Spring 2016.

## COMPASS Testing

The Diagnostic Skills Assessment used Pearson's software to guide students through a COMPASS Adobe® Connect™ preparatory curriculum and practice exams in math, reading, and writing. Full COMPASS® exam scores were used by RxTN program staff to guide students pursuing a credit program into remediation courses in math, reading, or writing. Completion coaches reported that 310 students had been referred to this service, although test scores on any of these practice exams were only recorded for 130 students. Of students who were reported as having gone through the Diagnostic Skills Assessment curriculum, 109 had enrolled in an RxTN program by the end of grant program. However, just nine of these students enrolled in a credit program. It may be that in going through this remediation process, these students decided to pursue a short-term certificate program rather than a two-year degree, or that their practice COMPASS scores failed to qualify them for entry into the more competitive degree program.

While these numbers are too small to test for any meaningful correlations between utilizing the diagnostic skills assessment curriculum and higher full COMPASS scores, examining the data for those who took the full COMPASS exam without using the Diagnostic Skills Assessment curriculum beforehand does yield interesting results. A total of 180 RxTN students (representing 8 percent of all students enrolled) took a combination of the three COMPASS exams, with 35 students from the Allied Health program taking at least one exam, 91 students in the LPN-to-RN program, 41 students enrolled in Medical Informatics, 8 students in Surgical Technology and 8 students enrolled in the Occupational Therapy Assistant program. Across all programs, 41 percent of students with COMPASS scores were placed into remedial reading, 55 percent into remedial writing, and 80 percent into a remedial math course.

## Student Support Services, Student Retention, and Graduation Rates

Completion coaches contacted a total of 7,458 students to offer a variety of support services designed to promote retention, graduation, and employment. A total of 1,559 RxTN students took part in at least one of these services. For the whole group of RxTN students as well as RxTN students broken out into those enrolled in degree programs or noncredit programs, similar support services were correlated with both retention and graduation. This finding demonstrated that the same services contribute to student success in student retention as well as in graduation. Earlier cohorts of students were statistically significantly more likely to have used Student Support Services ( $p=.686^{**}$ ). This result is likely a factor of time, with students who have been enrolled for a longer period of time more able to take advantage of support services or more likely to be exposed to them.

At the end of the grant program, just two Student Support Services were significantly positively correlated with retention and graduation rates, indicating that these services seem to promote program success in retention and graduation. These services were Diagnostic Skills Assessment and Digital Literacy Training. Four additional support services were significantly negatively correlated with both retention and graduation (see Table 1.11). Approximately one-third of RxTN students did not receive Student Support Services throughout their time of enrollment, and many institutions concentrated their efforts on just a few support services, combining to limiting the available data to assess the potential impact of those services.

**Support Services Correlated with Degree Attainment.** For students enrolled in more long-term credit programs, three services were positively correlated with retention and graduation, including Academic Plan Preparation, Boot Camps, and Prior Learning Assessment (see Table 1.11). In addition, five support services were positively correlated with higher GPA among degree-seeking students: Prior Learning Assessment ( $p=.149^{**}$ ), Healthcare Workshop ( $p=.078^*$ ), Academic Plan Preparation ( $.129^{**}$ ), Digital Literacy Training ( $.102^{**}$ ), and Coaching and Retention Services ( $.074^*$ ; results not shown). This finding indicates that these support services promote higher academic performance and degree attainment.

**Support Services Correlated with Noncredit Certification.** For noncredit students, no support services positively correlated with program completion, although three services were negatively correlated with program completion (see Table 1.11). Two interpretations may help explain negative correlations: (1) students receiving services had more barriers to graduation and (2) students with the most needs are likely to receive the most services. Among the 238 students who had enrolled in, began taking courses, and dropped out by Spring 2016, 91 percent had received support services from a completion coach, and 71 percent had met with a coach for intensive coaching and retention services, higher percentage than the overall average for RxTN students (88 percent and 66 percent, respectively).

**TABLE 1.11: CORRELATION BETWEEN STUDENT SUPPORT SERVICES, RETENTION AND GRADUATION RATES, SPRING 2016**

Support Services Offered by Completion Coaches	Significantly Correlated	Correlation	Significantly Correlated	Correlation
<b>OVERALL STUDENTS</b>	<b>Retention</b>		<b>Graduation</b>	
Diagnostic Skills Assessment	+	.067**	+	.093**
Digital Literacy Training	+	.051*	+	.053*
Learning Support Remediation	-	.104**	-	.125**
Healthcare Workshop	-	.163**	-	.185**
Boot Camp	-	.073**	-	.119**
Academic Plan Preparation	-	.136**	-	.201**
<b>CREDIT STUDENTS</b>	<b>Retention</b>		<b>Graduation</b>	
Academic Plan Preparation	+	.074*	--	--
Boot Camp	+	.078*	--	--
Prior Learning Assessment	--	--	+	.072*
Learning Support Remediation	-	.091*	-	.119**
Career Aptitude Test	-	.082*	-	.115**
<b>NONCREDIT STUDENTS</b>	<b>Retention</b>		<b>Graduation</b>	
Academic Plan Preparation	-	.322**	-	.290**
Learning Support Remediation	-	.093**	-	.085*
Healthcare Workshop	-	.386**	-	.396**
Boot Camp	-	.255**	-	.293**
Digital Literacy Training	--	--	-	.143**

Source: Student Tracking Data—Program Coordinators and Completion Coaches, through Spring 2016.

\* Correlation is significant at the .05 level. \*\* Correlation is significant at the .01 level.

These correlations also varied by institution. Of the positive correlations, Prior Learning Assessment was positively correlated with graduation at Volunteer State. Academic Plan Preparation was positively correlated with graduation rates among students at Southwest Tennessee State. Digital Literacy Training was positively correlated with graduation at both Columbia State and Dyersburg State. Chattanooga State, Motlow State, Roane State, and Volunteer State all reported positive correlations between Coaching and Retention Services and graduation (results not shown). These differences in correlations by institutions were at least partially influenced by the volume of support services provided to students. How each support was administered at each institution also may account for differences.

## Conclusions

Although completion coaches contacted a greater number of overall students than anticipated by grant staff, just 61 percent of all RxTN students used any support service. Additionally, specific student supports were not as widely used as anticipated, limiting their potential impact. Just two support services were positively correlated with student retention and graduation among all RxTN students, indicating that these services promote student completion: Diagnostic Skills Assessment and Digital Literacy Training.

The greater number of supported services positively correlated with retention, graduation, and student GPA among credit students may be an indicator that these services are more effective at supporting students over time, or that some services have a compounded impact not immediately evident. These correlations for students enrolled in credit programs may be reflective not of delayed impact but of differences in “dosage” or “exposure” to support services, compared to noncredit students. For example, students enrolled over a period of two years have an additional 18 months (compared with typical noncredit students) to receive services, such as Coaching and Retention Services, that may build on previous services, thus strengthening the overall impact on program completion. In addition, students enrolled in earlier cohorts had greater impacts from student services, supporting both the explanation of delayed impact and increased exposure to services. Diagnostic Skills Assessment, Boot Camp, and Digital Literacy Training were all correlated with graduation or completion among the earliest cohort of students (results not shown).

## Section 1.3 Participant Employment Outcomes

- Q6. How many participants who completed a grant-funded program of study entered employment in the quarter after the quarter of program exit (three months after program completion)?
- Q7. How many participants who completed a grant-funded program of study entered employment (in the quarter following the quarter of program exit) retained employment (into the second and third quarters after program exit) (six and nine months after program completion)?
- Q8. What are the average earnings for participants attaining employment?
- Q9. How many participants who completed a grant-funded program of study continue onto one of the four-year participating consortium institutions with articulation agreements?

The RxTN program was designed to help TAA-eligible, dislocated, and un- and under-employed workers receive training in various healthcare fields and find employment in those fields across the state of Tennessee. Workforce participation was monitored throughout students' participation in the RxTN program through data collected by program coordinators at enrollment and through student completion surveys. Following program completion, program coordinators continued to track employment through follow-up outreach during three quarters (i.e., three-month periods) after graduation or completion. These sources of data were used to report on students' initial employment status, employment plans, and workforce participation following program completion.

### Employment During Program Participation

By Spring 2016 (within six months of the program's conclusion), less than 1 percent of all RxTN students were TAA-eligible (see Table 1.2), and less than 1 percent of students identified themselves as dislocated. TAA-eligibility and dislocation both relied on students' self-reports. These low percentages may be more reflective of students' unawareness of the qualifications for these categories than the overall percentage of workers who fit them. Of the participating institutions, Walters State and Columbia State reported the largest percentage (2 percent) of dislocated workers (see Table 1.12) Across all institutions, 35 percent of students were unemployed at RxTN program enrollment; however, this percentage varied by institution, with 50 percent of students at Jackson State reporting that they were unemployed when beginning an RxTN program, compared with 17 percent of students at Pellissippi State. Additionally, 25 percent of students reported that they were underemployed, most commonly indicating that they were working part time rather than full time (see Table 1.12).

**TABLE 1.12: PERCENTAGE OF ENROLLED STUDENTS WHO ARE UNEMPLOYED, UNDEREMPLOYED, OR DISLOCATED AT PROGRAM ENROLLMENT, THROUGH SPRING 2016**

Institutional Enrollment	Unemployed	Underemployed				Dislocated Worker
		Working Part Time	Working Below Education Level	Working Below Skill Level	Below Skill and Education Level	
<b>Total Enrolled (n=2,399)</b>	<b>35%</b>	<b>18%</b>	<b>1%</b>	<b>4%</b>	<b>2%</b>	<b>&lt;1%</b>
Chattanooga State (n=116)	31%	24%	4%	3%	2%	0%
Cleveland State (n=144)	45%	12%	0%	3%	4%	0%
Columbia State (n=221)	29%	16%	3%	13%	2%	2%
Dyersburg State (n=291)	45%	20%	0%	1%	0%	0%
Jackson State (n=194)	50%	21%	7%	7%	2%	1%
Motlow State (n=181)	44%	20%	0%	6%	1%	0%
Nashville State (n=92)	27%	23%	0%	3%	1%	0%
Northeast State (n=129)	25%	19%	1%	5%	2%	0%
Pellissippi State (n=95)	17%	--	--	--	--	1%
Roane State (n=500)	35%	13%	1%	2%	1%	0%
Southwest TN (n=211)	33%	28%	0%	6%	5%	0%
Volunteer State (n=157)	26%	24%	0%	5%	3%	1%
Walters State (n=67)	19%	5%	0%	3%	0%	2%

Source: Student Tracking Data—Program Coordinators, through Spring 2016.

When they entered the program, students were asked about what they hoped their degree or certificate would lead to in the future on the baseline survey. Most respondents reported hoping for new employment. Two-thirds of respondents (67 percent) reported hoping to gain qualifications for a new position, either in their current field (38 percent) or in a different field (44 percent), related to their program of study (see Table 1.13). Fewer respondents reported hoping to change to their current employment based on the completion of their degree or certification program. One-third of respondents indicated that they hoped this educational experience would give them a greater ability to perform their current job (32 percent), and 21 percent reported participating in their training program in order to fulfill their current job requirements. In addition, 17 percent of respondents hoped that completion of their degree or certificate would lead to a promotion in their current job, and half of respondents (50 percent) indicated that they hoped a degree or certificate would lead to a higher salary. Those in degree programs were more likely to report hoping for a raise in salary at the completion of their program (see Table 1.13).

**TABLE 1.13: RxTN STUDENTS' DESIRED RESULTS AFTER PROGRAM GRADUATION AND COMPLETION**

Training Program	Gain qualifications for a new job	New job in current field	New job in different field	Greater ability to perform current job	Fulfillment of current job requirements	Promotion in current job	Raise in salary
<b>Total (n=1,205)</b>	<b>67%</b>	<b>38%</b>	<b>44%</b>	<b>32%</b>	<b>21%</b>	<b>17%</b>	<b>50%</b>
Allied Health Science (n=119)	75%	44%	42%	43%	29%	37%	66%
LPN-to-RN Mobility (n=313)	70%	59%	26%	53%	27%	32%	67%
Medical Informatics (n=28)	82%	36%	68%	25%	14%	18%	68%
Occupational Therapy Assistant (n=11)	82%	27%	73%	36%	36%	18%	73%
Surgical Technician (n=5)	40%	80%	20%	40%	0%	0%	80%
ECG Technician (n=226)	69%	25%	54%	24%	20%	10%	46%
CCMA/Patient Care Technician (n=76)	66%	36%	54%	18%	15%	6%	34%
Phlebotomy Technician (n=417)	61%	29%	50%	20%	15%	6%	36%
IV Therapy (n=10)	50%	30%	10%	20%	20%	20%	20%

Source: RxTN Baseline Survey of Healthcare Students, through Spring 2016. NOTE: Students were allowed to select multiple responses.

## Employment Following Program Completion

At the time of their training program completion, 15 percent of survey respondents reported having a new job lined up for after graduation, and 72 percent reported working at a job for pay over the previous six months. Among those who had not found a new job, 84 percent reported working at a job during the past six months and would presumably continue in that work (results not shown). In contrast, 20 percent of those in the comparison group reported having a new job lined up for after graduation, but just 48 percent of those students reported working during the past six months (results not shown). Median salaries for individuals with degrees or certificates in the nine RxTN training programs ranged from \$27,000 to \$55,000 annually across Tennessee. However, two-thirds of survey respondents indicated that their current salary upon graduation was \$20,000 or less, representing a significant opportunity for a wage increase if these students obtain new work as a result of their degree or certificate.

**Students' Employment Plans.** Upon program completion, survey respondents were asked to indicate their workforce-related plans after graduation. Overall, 77 percent of respondents reported planning to enter the workforce in some capacity, including 18 percent who planned on working while continuing their education. Nearly one-third of students (29 percent; see Table 1.14) indicated that they planned to continue their education in a full- or part-time capacity, either by adding another certificate program, building toward an associate's degree, or continuing to a four-year institution. Limited data from students in the comparison group indicated that these students had a similar distribution of participants' planning to enter the workforce (80 percent). Fewer students planned to continue their

education (11 percent), suggesting that the RxTN program may be encouraging and equipping students to pursue more advanced degrees than they would have otherwise considered.

**TABLE 1.14: RxTN STUDENTS' ANTICIPATED WORKFORCE PARTICIPATION AT TRAINING PROGRAM GRADUATION AND COMPLETION, AS OF SPRING 2016**

Anticipated Workforce Participation	Percentage of RxTN Students	Percentage of Comparison Students
<b>Workforce participation</b>	<b>77%</b>	<b>80%</b>
Work full time	73%	--
Work part time	20%	--
Work for the military	1%	--
<b>Continuing education</b>	<b>29%</b>	<b>11%</b>
Continue education and work part time	18%	--
Continue education full time	14%	--
Continue education part time	15%	--
<b>Volunteer service</b>	<b>1%</b>	<b>--</b>

Source: RxTN Completion Survey of Healthcare Students, through Spring 2016.

NOTE: Participants could select more than one option.

Program graduates were asked to report on the benefits of job placement assistance, and 95 percent of students who had used this service reported that it greatly contributed to their success in their program of study (results not shown). However, just 22 percent of students who had used this service reported having a new job lined up for after graduation.

**Employment Following Program Completion.** After program completion, RxTN program staff followed up with students to learn about their current employment and compensation. By August 2016, 65 percent of all program graduates reported being employed three months (one quarter) after program completion (Table 1.15). This percentage declined over time, with only one-third (34 percent) of all program completers reporting that they were still employed nine months (three quarters) after completion. However, this relatively low percentage was impacted by a low response rate; 48 percent of completers did not have valid data collected for the third quarter.

**TABLE 1.15: RxTN STUDENTS' WORKFORCE PARTICIPATION FOLLOWING PROGRAM GRADUATION AND COMPLETION, AS OF AUGUST 2016**

Workforce Participation	Percent of Completers (n=1,592)
<b>Employment among all graduates and completers</b>	
Employed Q1	<b>65%</b>
Employed Q2	<b>43%</b>
Employed Q3	<b>34%</b>
<b>Incumbent workers (employed at enrollment)</b>	
Employed at enrollment, still employed	51%
Wage Increase	27%
<b>Unemployed at enrollment</b>	
Employed Q1	12%
Still Employed Q2	10%
Still Employed Q3	8%
<b>Any continuing education</b>	<b>9%</b>

Source: Student Tracking Data—Program Coordinators and Completion Coaches, through Spring 2016.

The majority of students who were employed three months after graduation were incumbent workers; that is, students who were employed at the time of program enrollment and retained that employment after graduation. Among these incumbent workers, 52 percent received a wage increase following program completion, representing 27 percent of the total population of program completers (Table 1.15). Just 12 percent of students reported finding

new work in the first quarter after graduation. These students were able to remain in these positions in high percentages: 95 percent of students who found new work within three months (one quarter) after program completion retained that employment into the second quarter after completion, and 87 percent retained it into the third quarter. The relatively low percentage of students finding new work is offset by the larger percentage of students who were employed upon enrollment and continued in those roles after program completion. In addition, 9 percent of program completers reported enrolling in continued education after program graduation.

**Impact of Program Structure on Employment.** Students enrolled in credit programs were statistically more likely to retain existing employment ( $p=.154^{**}$ ), find work three months after program graduation ( $p=.149^{**}$ ), and keep that new work six ( $p=.141^{**}$ ) and nine months ( $p=.127^{**}$ ) after graduation. Noncredit students who had participated in “bundled” or “stacked” certificate programs were statistically more likely to report finding new work after program completion ( $p=.131^{**}$ ) and to report receiving a wage increase if they were already employed ( $p=.140^{**}$ ). In addition, noncredit students as a whole were more likely than credit students to report enrolling in further education following program completion ( $p=.075^{**}$ ). Students enrolled in noncredit hybrid programs were more likely to receive a wage increase following program completion ( $p=.138^{**}$ ), compared with those in traditional noncredit programs. However, between those enrolled in hybrid and traditional noncredit programs, no differences occurred in obtaining new employment or continuing in current employment.

### Student Support Services and Employment

Among noncredit program completers and credit program graduates, several Student Support Services were positively correlated with employment outcomes, particularly among incumbent workers. Four support services were significantly positively correlated with retaining employment: Prior Learning Assessment, Boot Camp, Supplemental Instruction and Tutoring, and Coaching and Retention Services provided by a completion coach (Table 1.16). In addition, five Student Support Services were positively correlated with a wage increase: Diagnostic Skills Assessment, Prior Learning Assessment, Boot Camp, Instructional Learning Supports, and Supplemental Instruction and Tutoring. Only Digital Literacy Training was negatively correlated with receiving a wage increase. Taken together, the number of support services positively correlated with employment outcomes further validates the notion that support services have a delayed impact on students’ outcomes, with benefits from these services seen even after program completion.

**TABLE 1.16: CORRELATION BETWEEN STUDENT SUPPORT SERVICES AND EMPLOYMENT OUTCOMES, SPRING 2016**

Student Support Services	Significantly Correlated	Correlation
	Any Retained Employment	
Prior Learning Assessment	+	.070*
Boot Camp	+	.105*
Supplemental Instruction and Tutoring	+	.103**
Coaching and Retention Services	+	.111**
Wage Increase		
Diagnostic Skills Assessment	+	.078*
Prior Learning Assessment	+	.084**
Boot Camp	+	.180**
Instructional Learning Supports	+	.093**
Supplemental Instruction and Tutoring	+	.126**
Digital Literacy Training	-	.133**

Source: Student Tracking Data—Program Coordinators and Completion Coaches, through Spring 2016.

\* Correlation is significant at the .05 level. \*\* Correlation is significant at the .01 level.

These correlations also varied by institution. Chattanooga State, Columbia State, Dyersburg State, Jackson State, Motlow State, Northeast State and Southwest Tennessee State all reported positive correlations between



employment outcomes and at least one student support service, most frequently Coaching and Retention Services (results not shown). In addition, Academic Plan Preparation was positively correlated with continuing education among program completers at Columbia State and Roane State (results not shown).

## Conclusions

Although the overall percentage of program completers finding new work following program graduation was significantly lower than initially anticipated by the grant staff, this percentage is better understood in the broader context of students' post-graduation employment. Significantly more students were already employed when entering the program than grant staff anticipated, which contributed to more than eight times as many students as grant staff anticipated receiving a wage increase in the job they had while still a student. In addition, more students reported continuing in their education than anticipated by grant staff, likely positioning them for even greater gains in employment and compensation upon full completion of their education.

In addition, several RxTN program components were positively correlated with employment outcomes, which supports the benefit of these programmatic elements. First, students enrolled in "bundled" or "stacked" noncredit programs were significantly more likely to report finding new work or receiving a wage increase after program completion. Students enrolled in hybrid versions of noncredit programs also were more likely to receive a wage increase after program completion. Finally, a variety of support services were positively correlated with retaining employment or receiving a wage increase. All of these findings indicate that the RxTN program may have lasting benefits that continue to impact students even after program completion.

## Section 2. Implementation Evaluation

The implementation component of the RxTN evaluation examined the program implementation process and delivery methods to help develop an understanding of the extent to which project activities were implemented as intended by the grant. This component of the evaluation was guided by seven research questions with multiple data sources (see Table 2.1 and Appendix A).

**TABLE 2.1: IMPLEMENTATION EVALUATION RESEARCH QUESTIONS, SOURCES, AND METHODS**

Research Question	Data Collection Method	Data Source
<b>1. What process was used/is being used to plan the various program components, including student services?</b>	Document Review	Technical Proposal, Work Plan, Progress Reports
	Interviews	Program Director and Assistant Director
	Surveys	Program Director and Assistant Director, Data Manager, Curriculum Specialists, RxTN Staff
<b>2. What can be done to improve the program components during planning?</b>	Interviews	Program Director and Assistant Director
	Ongoing Structured Conversations	Program Leadership
	Focus Groups	Program Leadership, Staff and Faculty, Program Participants
<b>3. What actions can be taken toward continuous improvement during implementation?</b>	Surveys	Industry Partners and Employers, Program Participants
	Case Study Interviews	Programs of Study Deans and Faculty
	Case Study Focus Groups	Programs of Study Program Participants
	Interviews	Program Director and Assistant Director
<b>4. What factors contribute to partners' level of involvement in the whole program and program components?</b>	Ongoing Structured Conversations	Industry Partners and Employers
	Case Study Interviews	Program Coordinators, Programs of Study Deans
<b>5. Which contributions from partners are most critical to the success of the grant? 6. Which contributions from partners are less critical to the success of the grant?</b>	Case Study Document Review and Overall Document Review	Technical Proposal, Work Plan, Progress Reports
	Interviews	Program Director and Assistant Director
	Focus Groups	Program Coordinators
	Surveys	Program Participants

Whereas previous RxTN program evaluation reports focused on formative feedback, analyses performed for this final report were oriented around chronicling the lifecycle of RxTN. By “telling the story of implementation,” these findings may be instructive to both DOL and primary grantees in future grant programs. The implementation evaluation portion of the report is organized around meaningful groupings of the seven RxTN evaluation questions.

### Section 2.1 Program Conceptualization and Development

Q1: What process was used to plan the various program components, including Student Support Services?

Although program components were established at local campuses, RxTN was conceptualized to operate as a unified, statewide program with oversight from the RxTN leadership team based out of Roane State. A small team of grant writers from Roane State collaborated with staff and administrators from other Tennessee community colleges to develop the RxTN grant proposal for TAACCCT funding, which was submitted to DOL in May 2012. This section chronicles the conceptualization and planning of RxTN's two chief components (Training Prescriptions and Student Support Prescriptions), in addition to conceptualizing and preparing the program's management and continuous improvement process. Drawing on descriptive information cultivated through interviews with RxTN staff representing

all co-grantee institutions and the RxTN leadership team as well as documents and extant data, the section offers insights into (1) RxTN visioning and development, (2) RxTN structures for delivery, (3) RxTN curriculum development, and (4) RxTN Student Support Services development.

## RxTN Visioning and Development

To share the vision for the grant and build its conceptual framing, Roane State hosted a face-to-face meeting with prospective co-grantees. Subsequently, the grant's development process involved input from co-grantee institution personnel participating to varying degrees and in varying ways. The extent to which these participants were equipped to contribute to the process was attributable, at least in part, to the variety of co-grantee representative roles (i.e., administrative leadership, staff, and faculty).

Throughout the conceptualization and writing process, staff roles, employment needs, and training demand were discussed. From the process, for instance, the roles of completion coach and program coordinator were defined.<sup>3</sup> The process also resulted in projections of total enrollment for each co-grantee institution, although a range of methods were used to anticipate these numbers (i.e., some institutions consulted local employers or workforce investment boards, some used current enrollment in similar programs, and some seemed to have arbitrarily set enrollment projections<sup>4</sup>). In addition, the process resulted in measurable project goals, estimated required structures and workflows, and various support needs for the grant. Moreover, the process outlined how RxTN components would be developed, including descriptions of needed staff and high-level processes that would be followed to develop the training programs and support services. Finally, grant writers formalized structures for ensuring oversight of grant activities and for supporting implementation.

## RxTN Structures and Processes for Delivery

The evaluation team examined the RxTN technical proposal, the Performance to Plan Report, the RxTN Annual Presidential Review Report, and interviews with the grant's developers, the RxTN leadership team, and RxTN staff representing all of the co-grantee institutions to develop a depiction of the program's conceptualization and staffing. This subsection summarizes these key steps in the formalization of the grant.

**RxTN Leadership Team.** In January 2013, the RxTN Project Director and Assistant Director (the RxTN leadership team) began managing the RxTN program's implementation from the lead institution, Roane State. The Project Director was responsible for overall project management, coordination with co-grantee institutions and leading reporting efforts. The RxTN Assistant Director was responsible for the grant's Student Support Services program marketing and outreach, in addition to supporting the Project Director. During RxTN's start-up, the team worked with the grant's writers to clarify program elements and establish management procedures. For instance, they defined the various staffing roles from which they drafted job descriptions for the completion coaches, program coordinators, and data technicians to be hired by each co-grantee institution. Thereafter, the team used the grant proposal as a program map.

**RxTN Staff.** The staff hiring process for completion coaches, program coordinators, and data technicians at all co-grantee institutions began in February 2013. The timing of staff hires had a direct impact on the development and implementation of RxTN. Although most institutions hired staff according to plan, some RxTN staff described lengthy hiring processes, slowed down by the creation of multiple job descriptions or the rebooted website for job applications from the Tennessee Board of Regents (TBR).<sup>5</sup> Staff at two co-grantee institutions reported that multiple job postings were created and that the time from the initial job posting to their final hiring lasted several months. Final staff were

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<sup>3</sup> These roles were later refined in collaboration between individual institutions and the RxTN leadership team.

<sup>4</sup> Subsequent staff interviews corroborated these impressions.

<sup>5</sup> TBR sets policies and guidelines that govern all TBR institutions, which reflect decentralized decision making and operations while ensuring institutional accountability and maintaining campus prerogatives (see <https://www.tbr.edu/> for more information).

hired at all institutions by October 2013. This hiring occurred after the start of the first semester of program implementation, therefore delaying student enrollment and program launch until Spring 2014 at five institutions.<sup>6</sup>

**RxTN External Program Evaluators.** The RxTN leadership team issued a request for third-party program evaluation services in January 2013 and awarded that contract to the ICF program evaluation team in April 2013. An evaluation kickoff retreat was held in May 2013. The retreat, which drew together all primary stakeholders at Roane State, was used to discuss each element of the evaluation plan, identify primary stakeholders and their needs from the evaluation, discuss data collection plans and procedures, and develop a process for sharing and using evaluation feedback. Just after the meeting, the evaluation team submitted a revised evaluation plan that was consistent with the kickoff retreat agreements. In accordance with that plan, a series of bimonthly conference calls with the program evaluation team and the RxTN leadership team followed this kickoff retreat and were used to develop and finalize an Excel data entry template, to create student surveys, and to discuss and address implementation challenges as they arose.

**RxTN Adobe Connect Meetings.** Beginning in June 2013 and continuing through the duration of the grant, the RxTN leadership team hosted and facilitated a series of weekly virtual meetings through Adobe Connect. These meetings were designed to provide ongoing targeted training on a variety of student supports and data systems. Completion coaches received additional training on appreciative advising, COMPASS software and Career Scope® software; and participated in an instructional training on the student data tracking database. Program coordinators and data technicians participated in multiple introductions and trainings to the student tracking data system. The virtual seminars also were used to maintain regular communication between all co-grantees.

**RxTN Staff Training.** To increase uniformity in program development and delivery across the co-grantee institutions, the RxTN leadership team designed and delivered ongoing ad hoc training, targeted discussions via Adobe Connect, and formal face-to-face training sessions for RxTN staff. These training offerings, which began just prior to program implementation and continued through the program's final year, were designed initially to familiarize co-grantee staff with the purpose, elements, and responsibilities of RxTN; and, later, collectively address programmatic challenges.

- **Initial RxTN Training.** A two-and-a-half-day orientation and training program was held in June 2013. All RxTN staff were invited (and expected) to attend. The training, also the first in-person meeting of the RxTN staff from all participating institutions, featured presentations and hands-on exercises on Adobe Connect, Desire2Learn® (D2L®) online learning management system, appreciative advising, the program evaluation, student supports, recruitment strategies, and career exploration. The training also offered completion coaches and program coordinators breakout sessions on topics relevant to their positions. Completion coaches received instruction on case management and ACT® COMPASS remediation software while program coordinators were offered sessions in performance measures, data tracking, file management and quarterly reporting. Roane State staff also used the sessions to pilot data management systems and familiarize participants with Adobe Connect meetings. A second training covering most of the same topics was held in September 2013 for staff hired after June.
- **Annual RxTN Training.** In subsequent years 2014 and 2015, the RxTN leadership team held face-to-face training meetings for all grant staff. Among the topics covered was an introduction to the new Access databases used to collect and report student data. Participating RxTN staff members received hands-on training to learn how to navigate the databases and learn core functionalities of the software. In addition, the RxTN leadership team presented refresher sessions on quarterly reporting, paperwork and monitoring functions, performance measures, student services, and budget handling to promote continuous improvement in the program's implementation across institutions. The RxTN leadership team also provided updates on curricula development and Student Support Services. Much of the annual training was interactive. Co-grantee participants were given opportunity to discuss recruitment tactics with representatives from other institutions. According to the training

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<sup>6</sup> Some RxTN staff positions have experienced turnover (program coordinators at four institutions, completion coaches at four institutions, and a data clerk at one institution resigned), delaying student enrollment and student services, and requiring additional training to continue program implementation.

agenda and review of a monthly Adobe Connect debrief, the meeting also provided time for each institution to present on their progress during the year and offer suggestions for best practices.

## RxTN Curriculum Development

As proposed, the RxTN program was designed to create or augment five associate's degree programs (AAS) and four technician certification programs. Four of these programs were offered at a participating institution in a traditional classroom format prior to the start of the grant while three were partially developed. Each program would be enhanced and provided online as a result of grant funds. Two of the programs were not in place at any co-grantee institution and would be fully developed with RxTN grant funds. According to interviews, the RxTN leadership team used the grant narrative as a map, adhering to it closely in order to guide the development of the Training Prescriptions (curricular programs) and Student Support Services (see Table 2.2).

**Program Development and Review Partnerships.** As conceptualized in the RxTN technical proposal, each RxTN curriculum program had a structured system for development, review, and revisions prior to full implementation. Specifically hired curriculum specialists from three community colleges—Roane State, Walters State, and Volunteer State—were tasked with collaborating with subject matter experts to develop new or enhance existing curricula. Subject matter experts were hired to work closely with the curriculum specialists and instructional design staff at these three institutions to revamp existing curricula to meet the needs of RxTN. Following curriculum development, the new or enhanced credit program curricula would be reviewed by TBR. Noncredit programs would be reviewed by additional subject matter experts prior to implementation. Following the grant award, TBR revised its review and approval process as part of the state's Common Curriculum Initiative, and grant staff learned that noncredit programs needed to be reviewed and accredited by the Tennessee Council on Occupational Education.

**Credit Program Reviews.** Four of the five RxTN credit programs were fully or partially developed in a classroom format prior to the launch of the grant and needed to be enhanced for online or hybrid delivery. The remaining program, Surgical Technology, did not exist at any of the co-grantee institutions and was fully developed through this grant. Instructional design staff and staff at Roane State worked to revamp existing curriculum along with assistance from staff at Walters State and Volunteer State. Walters State was specifically responsible for the development of the new Surgical Technology program. Extended delays in hiring a Surgical Technology coordinator (hired May 2014) delayed the development of this curricular program and the subsequent launch of the RxTN Surgical Technology program. Likewise, Volunteer State was responsible for modifying the Medical Informatics curriculum, but did not hire a curriculum specialist until January 2014. Once curricula were developed, they were sent to TBR for review. This process also took longer than initially anticipated as TBR began a comprehensive review process as part of their Common Curriculum initiative. In addition, curricula were reviewed and in some cases redesigned to ensure that they were in compliance with Creative Commons requirements allowing others to copy, distribute, display, and perform the work and make derivative works based on it, only if they give the author or licensor credit (known as CC-BY).

**Noncredit Program Reviews.** The Phlebotomy Technician Certificate case study helped illuminate the review process for noncredit programs. The existing short phlebotomy program, which had been successful in preparing students for certification with the National Healthcareer Association, was 48 hours in duration and relied on traditional classroom delivery. Because the grant specified conversion to distance learning, the team also was responsible for "putting the didactic portion online." RxTN stakeholders noted that the process took longer than anticipated in part, at least, because noncredit programs within the system had previously not been offered via distance learning. Once the curriculum was revised for online instruction, the course materials were shared with several representatives of co-grantee institutions for review. Because it is noncredit, the Phlebotomy Technician program did not need to go through academic testing rigor. The finalized curriculum was then reviewed and approved by the Council on Occupational Education.

**TABLE 2.2 OVERVIEW OF TRAINING PRESCRIPTION PROGRAM CURRICULUM DEVELOPMENT**

Training Program	Status and Enhancement Description	Expected Semester Developed	Actual Semester Developed	Semester Launched	Development Notes
<b>Degree Programs</b>					
Allied Health Sciences	Fully developed in traditional classroom format; enhanced to make curriculum available online.	Fall 2013	Fall 2013	Fall 2013	<ul style="list-style-type: none"> <li>Management and supervision course to be available in Fall 2014.</li> <li>Conflict with TBR and SACSCOC* policies that could extend graduation time due to a reduction in credit hours awarded to graduates.</li> </ul>
Occupational Therapy Assistant	Fully developed in traditional classroom format; enhanced to make curriculum available online.	Fall 2013	Fall 2013	Fall 2013	<ul style="list-style-type: none"> <li>Program began in traditional classroom format as planned; online content and synchronous lecture delivery is under way.</li> </ul>
Medical Informatics (led by Volunteer State)	Partially developed in traditional classroom format; enhanced to make curriculum available online.	Fall 2013	Fall 2013	Spring 2014	<ul style="list-style-type: none"> <li>Implementation of a new program approval process at TBR delayed Medical Informatics launch.</li> <li>Reforecasting projected enrollment and graduation numbers at the six institutions with this program; only Volunteer State and Nashville State have active cohorts in Medical Informatics, with only the two active cohorts able to graduate students within the grant period.</li> </ul>
LPN-to-RN Mobility	Fully developed in traditional classroom format; enhanced to make curriculum available online.	Fall 2013	Spring 2014	Spring 2014	<ul style="list-style-type: none"> <li>Curriculum initially augmented in Spring 2014; program expanded, and course modules in Pharmacology and Mock Code rolled out in February 2014 with additional new modules launched in Fall 2014.</li> </ul>
Surgical Technology (led by Walters State)	Will be developed as on-ground and hybrid delivery models (on-ground lab and clinicals online).	Fall 2013	Spring 2014	Fall 2014	<ul style="list-style-type: none"> <li>Went through a new accreditation review process that took several months.</li> <li>Grant team is investigating the possibility of reducing targeted student enrollment numbers.</li> </ul>
<b>Certificate Programs</b>					
Phlebotomy Technician	Partially developed in traditional classroom format; enhanced to make curriculum available online.	Summer 2013	Fall 2013	Fall 2013	<ul style="list-style-type: none"> <li>Slightly delayed implementation at TCATs due to communication and other concerns.</li> </ul>
ECG Technician	Traditional classroom format; enhanced to make curriculum available online.	Summer 2013	Fall 2013	Fall 2013	<ul style="list-style-type: none"> <li>Slightly delayed implementation at TCATs due to communication and other concerns.</li> </ul>
CCMA/Patient Care Technician	Partially developed in traditional classroom format; enhanced to make curriculum available online.	Fall 2013	Spring 2014	Summer 2014	<ul style="list-style-type: none"> <li>Training provided in March 2014 and full materials available in April 2014, with programs expected to launch in Summer 2014</li> </ul>
Emergency Medical Dispatcher	Will be developed as on-ground/ hybrid delivery model (on-ground lab and clinicals online)	Fall 2013	Spring 2014	Cancelled	<ul style="list-style-type: none"> <li>Curriculum was finalized in May 2014.</li> <li>Private company developed online EMD program; RxTN staff decided to replacing Emergency Medical Dispatcher with an IV Therapy program.</li> </ul>
IV Therapy	Developed as on-ground and hybrid delivery models	---	Fall 2015	Spring 2015	<ul style="list-style-type: none"> <li>Developed to replace the Emergency Medical Dispatcher program.</li> <li>Curriculum was finalized in Fall 2015 with classes launching in March 2015.</li> </ul>

Source: RxTN Technical Grant Proposal, Adobe Connect meetings, and annual review reports. \*SACSCOC stands for the Southern Association of Colleges and Schools Commission on Colleges is the regional body for the accreditation of degree-granting higher education institutions in the Southern states.

**Discrepancies in Responsibilities.** Subject matter experts were hired to work closely with Roane State's instructional designer to revamp existing curricula to meet the needs of RxTN. However, although the RxTN leadership team understood that the curriculum leads were designated to direct curriculum development in all nine areas of the RxTN program, they noted that this aspect of the grant has not resulted in the expected level of engagement. Thus, the RxTN leadership team assumed responsibility for managing “almost everything as it related to the instructional designers, working with [subject matter experts].” The team described an additional hardship related to this challenge: When the curriculum leads were needed to review curricular materials, deadlines were seldom honored. Upon further probing during stakeholder implementation interviews, one member of the team noted that this set of experiences may not be unique to RxTN. Specifically, during a TAACCCT webinar, other participants described similar issues. According to the RxTN leadership team, this challenge may be explained, in part, by this fact: “There was no clear agreement or understanding about what the curriculum lead's role was going to be. There was no documentation, contract, or agreement that identifies what they were supposed to do for us.”

### RxTN Student Support Services Development

The RxTN Assistant Director assumed primary responsibility for researching and planning new Student Support Services that would adequately fulfill RxTN's needs. The development of these supports took one of two forms: partnership with private vendors, or internally-developed or facilitated supports. By Spring 2014, all RxTN student supports had been developed and were available for use. Table 2.3 illustrates when each student support prescription launched and describes its development highlights.

**Vendor Student Supports.** During Summer 2013, RxTN began a partnership with Pearson Education to provide ACT® COMPASS remediation testing services to RxTN students to fulfill the Diagnostic Skills Assessment and college readiness testing support prescription. The leadership team also contracted with Vocational Research Institute (VRI) to use its Career Scope® product to conduct career aptitude and interest assessments for students who are undecided in their career field. Orientation and training sessions for these supports—and all other RxTN student supports—were provided to RxTN grant staff during the two-day training meeting in June 2013. Supplementary training was provided through biweekly Adobe Connect meetings.

**Internally Produced or Assembled Supports.** Prior to developing the full range of student supports, the scope and purpose of each service was defined. During biweekly Adobe Connect meetings, the RxTN leadership team encouraged completion coaches to partner with learning centers and libraries, faculty members, and advising centers at their individual institutions to develop plans and strategies for connecting students with existing supports and resources. Specifically, RxTN grant staff at individual co-grantee institutions worked within their colleges to deploy Prior Learning Assessments, Learning Support Remediation, and connections to institutional learning support resources and practices for learning and supplementary instruction. Staffing delays and institutional support for RxTN at some co-grantee institutions also impacted the development and launch of these supports. In addition, RxTN grant staff developed informational videos, online boot camps of critical targeted skills, digital literacy guides, and supplemental tutoring and study guides (particularly for Nursing and Allied Health), which they then shared with RxTN completion coaches at other co-grantee institutions. Boot camps and supplementary tutoring programs were expanded to include a broader range of training programs, which led to an elongated development period prior to launch. As Table 2.3 illustrates, these locally generated support prescriptions make up a considerable portion of the full set of supports. Meetings and the program's central repository D2L® have facilitated sharing these resources. Training in Academic Plan preparation was made available through the Advising Resource Center to assist staff with developing plans for students.

**TABLE 2.3 OVERVIEW OF STUDENT SUPPORT SERVICES DEVELOPMENT**

Student Support Service	Semester Launched	Development Highlights
<b>Skills assessment and readiness services</b>		
Diagnostic skills assessment and college readiness testing	Summer 2013	<ul style="list-style-type: none"> <li>Partnering with Pearson Education for COMPASS remediation for credit students.</li> </ul>
Learning support remediation	Fall 2013	<ul style="list-style-type: none"> <li>Existing support at each institution, based on the initial COMPASS test; staff were encouraged to work with those leading the learning support remediation at schools.</li> </ul>
Prior learning assessment (PLA)	Fall 2013	<ul style="list-style-type: none"> <li>Received initial recommendations from a TN task force, and each institution used its own plan based on TBR's common core curriculum initiative.</li> </ul>
<b>Career exploration and academic planning services</b>		
Career aptitude and interest assessment and facilitated career exploration	Summer 2013	<ul style="list-style-type: none"> <li>Career Scope product chosen from VRI for career assessment.</li> </ul>
Healthcare career workshop	Fall 2013	<ul style="list-style-type: none"> <li>Healthcare videos developed by Roane State staff and external production company.</li> <li>Videos covering all RxTN programs could be viewed online or in workshop format.</li> </ul>
Academic plan preparation	Fall 2013	<ul style="list-style-type: none"> <li>Completion coaches developed academic plans for each student requesting help and have been encouraged to partner with advising centers.</li> </ul>
<b>Academic preparation and supplementary instruction services</b>		
Academic boot camps for students accepted into Nursing and Allied Health programs	Spring 2014	<ul style="list-style-type: none"> <li>Nursing and Allied Health boot camps were developed by Roane State faculty and subject matter experts.</li> <li>Modules also were available in a generic form for any student preparing to begin classes.</li> </ul>
Digital Literacy Training	Fall 2013	<ul style="list-style-type: none"> <li>Developed by Roane State Program Coordinator based on Open Educational Resources.</li> <li>Available in a hard copy format and online modules.</li> </ul>
Institutional learning support resources	Fall 2013	<ul style="list-style-type: none"> <li>Staff were encouraged to meet with learning center and tutoring center staff to help students find needed resources.</li> </ul>
Innovative practices for enhanced learning and supplementary instruction	Fall 2013	<ul style="list-style-type: none"> <li>Tutoring is provided through institutions or accessed through learning centers.</li> </ul>
Supplementary instruction and tutoring in "gatekeeper" courses in Nursing and Allied Health programs	Spring 2014	<ul style="list-style-type: none"> <li>"Gatekeeper" course identified for Nursing program.</li> <li>Individual institutions developed recommendations for supplementary tutoring and study guides.</li> </ul>
Shared online learning tools	Summer 2014	<ul style="list-style-type: none"> <li>Tools and resources developed for this grant such as Digital Literacy Training and Healthcare Career Workshops materials to be housed on a grant Web portal.</li> </ul>
<b>Retention and completion coaching services</b>		
Intensive case management	Summer 2013	<ul style="list-style-type: none"> <li>Training provided to completion coaches on the Appreciative Advising Model and Case Management.</li> </ul>

Sources: RxTN Technical Grant Proposal, Adobe Connect meetings, and annual review reports.

## Conclusions

Roane State Community College, RxTN's primary grantee institution, created enduring core structures and processes for RxTN's successful delivery. Moreover, the RxTN leadership team experimented with and established a variety of formal and informal methods for interacting with, training, and supporting RxTN staff across the co-grantee institutions. The development and rollout of training programs for student supports and the Student Support Services proceeded according to the grant proposal. However, each support service had to be defined prior to design and



implementation. This step led to a planning and development period for many of these resources and workshops that was longer than the grant writers' anticipated. In response to delayed development, the RxTN leadership team worked with staff at co-grantee institutions to encourage use of additional institution-based resources and to clarify the intent of the RxTN student supports. Likewise, although curricula were developed a little later than anticipated, most RxTN Training Prescriptions were developed according to the proposed timeline. Disruptions in program launch were largely associated with the implementation of a new state-mandated review process, subject matter expert deprioritization of RxTN work responsibilities, and requirements for additional time to development online didactic portions of the curricula. With the exception of the Emergency Medical Dispatcher (EMD) program (replaced with IV Therapy), all training prescriptions were developed.

Delays in program launch seemed to impact total program enrollment for each program of study. For example, the Phlebotomy Technician program had the highest overall enrollment and also was first of the noncredit programs to be fully deployed. In contrast, the CCMA/Patient Care Technician program was not fully developed and implemented until Summer 2014. The IV Therapy program, a replacement to the originally proposed Emergency Medical Dispatcher program, did not begin enrolling students until March 2015, which is reflected in overall enrollment totals for these two programs. Students in newly developed programs such as Surgical Technology had similar outcomes to those in more established programs such as Allied Health (see Tables 1.3 and 1.4) suggesting that newly developed curricula were as effective as existing curricula at producing program graduates.

## Section 2.2 RxTN Continuous Improvement

Q2: What was done to improve the program components during planning?  
 Q3: What actions were taken toward continuous improvement?

RxTN was designed to promote the use of high-quality information to guide efforts to continuously improve the program's components. Based broadly on Deming's system wide improvement process, continuous improvement is a vital step in program implementation and success that involves the ongoing accumulation and analysis of various forms of high-quality feedback for the purpose of incremental process improvement (Fryer, Antony & Douglas, 2007). Continuous improvement is critical to a successful program and was an ongoing theme in the RxTN program since the planning stages. Ongoing structured conversations between the RxTN leadership team and the evaluation team provided the bulk of the information on continuous improvement, along with notes from Adobe Connect meetings and ongoing training sessions.

Drawing on descriptive information cultivated through interviews with RxTN staff representing all co-grantee colleges and the RxTN leadership team as well as documents and extant data, this section offers feedback from RxTN staff about their use of market intelligence and other critical information. Because continuous improvement, writ large, relies on quality, actionable, and relevant information, this section reports on both the strategies and associated processes that were designed to aid in continuous improvement and presents a summary of the actions that were taken to improve RxTN.

### Program Evaluation's Role in Continuous Improvement

RxTN was designed so that the external evaluation could provide formative feedback. Drawing on Utilization-Focused Evaluation (Patton, 2012), the evaluation team and RxTN leadership team agreed upon formats for sharing timely, actionable, credible feedback for program improvement. The RxTN leadership team normalized the use of a combination of program evaluation feedback on implementation, compliance, and monitoring tools in concert with co-grantees, and capacity building to improve RxTN's execution and strides toward achieving its targets.

**Program Evaluation Process and Data Systems.** Throughout pre-implementation, the RxTN leadership team interacted extensively with the program evaluators to develop and improve student monitoring data systems and student surveys. The team looked to program evaluators for guidance to use findings from those data sources along with periodic evaluation reports. In addition, the external evaluators worked closely with the RxTN leadership team to define co-grantee training needs. They provided training and technical assistance to co-grantees on defining data elements and consistent reporting practices. For instance, recognizing that many staff members had difficulty with the original Excel reporting database, the RxTN leadership team opted to switch to an Access dashboard to meet the ongoing data needs of the grant while also streamlining reporting features for the staff. Subsequently, during the RxTN annual training in June 2014, staff received training on how to use the new Access database. In each following year, they received support and refreshers on following up with students for employment and continuing education data collection.

**Survey Development and Administration.** The RxTN leadership team also worked with the evaluation team on the baseline and completion student surveys. Data from Fall 2013 indicated that response rates for the online baseline survey were below the target of 75 percent of enrolled students. Working in concert, the leadership and evaluation teams responded to feedback from students and co-grantee staff by streamlining the baseline and completion surveys after Spring semester 2014. Questions not directly related to RxTN services or programs were eliminated along with a set of targeted questions about technology.<sup>7</sup> The RxTN leadership team also encouraged RxTN staff to distribute hard copy surveys to all students at baseline and at program completion to reduce respondent burden. As a result of these changes, between Fall 2013 and Spring 2016, all but one institution saw an increase in their response rate. However, survey participation varied widely from one institution to another, with eight institutions reporting a response rate of 60 percent or higher. The remaining five institutions' response rates ranged from 1 to 46 percent, decreasing the overall average (see Table B.1 in Appendix B).

**Regular Communication and Feedback.** In addition to monthly progress report telephone calls between the RxTN leadership team and the program evaluators, ad hoc communication between these entities took place on a regular basis. Specifically, following the publication of program evaluation reports, the evaluation team met with the RxTN leadership team to discuss findings, implications, and recommendations contained in the report. Throughout the grant, the RxTN leadership team was consistently open and responsive to suggestions for improvement. The team made use of data in strategic planning meetings with co-grantee institutions to promote continuous improvement.

**RxTN Periodic Evaluation Review Sessions.** The RxTN leadership team was involved in the evaluation and was responsive to improvement opportunities based on evaluation findings. In doing so, the team demonstrated a capacity and willingness to develop and improve student monitoring data systems and student surveys. The team looked to program evaluators for guidance to use findings from those data sources along with periodic evaluation reports. During annual training in June 2015, staff received an update on program evaluation findings to keep them informed of outcomes and trends. In addition to monthly progress report telephone calls between the RxTN team and the program evaluators, ad hoc communication between these entities took place on a regular basis. Specifically, following the delivery of evaluation reports, the evaluation team met with the RxTN leadership team to discuss findings, implications, and recommendations contained in the report. This interaction included an in-person meeting in January 2015 and a final closeout meeting in September 2016 with the RxTN leadership team and leaders at Roane State. Data also were used to monitor trends of Student Support Services use across institutions to provide additional training on use of services or on reporting where needed.

**RxTN Co-Grantee Review Sessions.** The evaluation team provided a summary of key program evaluation findings from RxTN's implementation at the RxTN annual staff training event in June 2015. At the conclusion of the

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<sup>7</sup> Technology questions were eliminated to minimize respondent burden after two semesters of data indicated that 95 percent or more of students had access to critical technology and felt comfortable using it. No significant differences were found by age or education level.

presentation, staff were asked to participate in a strengths, weaknesses, opportunities, and threats (SWOT) analysis. Then each individual participating in the session was asked to list the three items of the SWOT table believed most crucial to address. Although survey response by students and employers was listed as the greatest weakness, session participants also indicated that one of the greatest strengths was the survey's potential ability to demonstrate that the Training Prescriptions and Student Support Services were effective. In addition, they indicated that one of the greatest opportunities for RxTN's continuous improvement was to build relationships with employers to continually monitor their needs and to follow up with students who had graduated training prescription programs (jobs and additional training needs) and employers on students' and graduates' performance. These caveats are important to note not only because they are demonstrative of how RxTN staff viewed and valued feedback but also of their willingness to build a close-out plan for RxTN based on intelligence and the best practices of their colleagues from other campuses.

**RxTN Stakeholder Briefs.** To further communicate evaluation findings to co-grantee stakeholders, the evaluation team developed a series of seven stakeholder briefs with distilled, targeted information relevant to the work of key staff at co-grantee institutions. Published twice annually throughout the life of the grant, the briefs used straight-forward language to present big-picture findings in clear charts and graphs. The briefs sought to equip co-grantees with a broad perspective of the overall RxTN program as well as the relative progress of each institution and each program component.

### Internal Continuous Improvement Strategies

Leadership often is cited as the most important factor in continuous improvement (Fryer, Antony & Douglas, 2007). The RxTN leadership team members faced several implementation challenges that required them to adapt the initial program model to better support RxTN staff at Roane State and co-grantee institutions. In addition to supporting the relationships, partnerships, and access to high-quality and relevant information, they offered guidance to staff at co-grantee institutions with minimal capacity to collect or willingness to share information. The RxTN leadership team continually supported communication, worked with the evaluation team, and oversaw staff training.

Since the outset of RxTN, the RxTN leadership team embraced continuous improvement. Furthermore, as the analyses in this section suggest, personnel at some co-grantee colleges actively and systematically used robust continuous improvement practices; however, others were less well equipped with information. One key issue, as noted by several RxTN staff, is that some RxTN staff did not know how to collect or use labor market information data. This finding may suggest differential quality of input for long-term planning. In addition, no system wide structure for determining program sustainability seemed to exist.

**RxTN Communication, Direction, and Support.** The RxTN leadership team used portions of regular communication with RxTN staff at co-grantee colleges to discuss and support continuous improvement. The RxTN leadership team applied strategizing efforts to interact with institutional stakeholders, help staff collect and interpret market intelligence, accomplish database reporting, provide information about the creation or modification of curricula, and improve the use of Student Support Services. Additionally, the team engaged RxTN staff at co-grantee colleges in planning meetings and monitoring visits to offer specific feedback and support. These personalized engagements allowed the team to provide structured feedback to each institution on program targets for enrollment, retention, and graduation; and to ensure that each institution was equipped to meet its program targets. In particular, monitoring visits included compliance checks of DOL paperwork along with each of the relevant RxTN objectives. The visits provided institutions with an opportunity to adjust course, if needed, by improving student service delivery, promoting accurate reporting, or better recruiting students into programs lagging in enrollment.

**RxTN Planning, Monitoring, and Feedback.** The leadership team also engaged RxTN staff at co-grantee institutions in strategic planning meetings, site visits, and monitoring visits to provide tailored communication and support to staff. The objectives of the site visits were to provide the RxTN team with an opportunity to interact face-to-

face with co-grantee institution staff to build rapport and strengthen relationships, to see the work that was going on at each institution, and to provide in-person support and guidance around any implementation challenges. In total, the team facilitated three face-to-face and four Adobe Connect meetings for each institution (except for the two institutions that received four visits each).<sup>8</sup> The face-to-face visits started in Fall 2013 and were done every year after in the Spring. The RxTN team used Adobe Connect to conduct individual close-out virtual visits with each of the 13 institutions.

- **Progress Monitoring and Planning Meetings.** Beginning in 2013, these individualized engagements allowed the team to provide structured feedback to each institution on program targets for enrollment, retention, and graduation and to ensure that each college was equipped to meet its targets. Using a matrix that summarized RxTN program enrollment and participation targets to which each institution had committed during the grant's development phase, the RxTN leadership team brought together co-grantee staff and campus administrators to discuss the expected targets for enrollment, retention, and graduation and to identify specific methods for meeting the targets.
- **Compliance Meetings.** In 2014 and 2015, the RxTN leadership team and Compliance Officer conducted routine compliance and monitoring checks to ensure that grant funds were properly used and documented according to DOL regulations. After each visit, staff produced individualized follow-up memos summarizing the findings and describing which objectives were met and any steps that had been discussed for improvement during the monitoring visit. For example, after reviewing the intake forms at each institution, many staff were encouraged to ensure the completion of all sections of the various forms.

The visits were organized strategically to align with the grant's implementation stage. Specifically, during RxTN's setup and early implementation, the RxTN leadership team made sure each college was properly set up and equipped to carry out RxTN. In the subsequent two years, visits were geared to enrollment and maintenance. The RxTN leadership team worked with each co-grantee to check the scoreboard and timetable to help staff troubleshoot and, if necessary, get back on track. Beginning in 2015 and continuing to the end of the program, visits were concerned with sustainability and staffing, discussing with staff and co-grantee leaders the extent to which each college was on track to sustain the RxTN curricula and plans for staff after the program ended.

Although each type of meeting was intended to serve different purposes, both were associated with continuous improvement at both a tactical and broader, program-wide level. For instance, evidence suggested that some colleges not performing well were improved through the visits. For instance, according to one stakeholder, "Motlow State got off to a slow start, and there was some reluctance among staff who felt unsupported by their campus leadership to actively market RxTN courses." The initial two visits engaged campus leadership and equipped RxTN staff members to launch the program in earnest. One year later, the college met its enrollment targets. Similarly, according to another interview participant, Southwest Tennessee State's program coordinator "felt unsupported by campus leaders and made few inroads for implementing RxTN. The RxTN leadership team visit helped ensure all were on the same page, and, to some extent, RxTN leaders became the coordinator's proxy leadership.

**RxTN Staff Professional Learning Opportunities.** Professional learning opportunities, offered through Adobe Connect calls and annual events at Roane State, helped RxTN staff across all co-grantee colleges perform their job responsibilities. In June 2015, the RxTN leadership team organized and delivered the third formal professional learning meeting for all RxTN grant staff. This meeting provided time for each institution to report on its progress during the year and to describe program highlights. The RxTN leadership team presented information about program sustainability as well as reminders about target outcomes and facilitated a panel discussion to provide broad perspectives on the RxTN program to date. The RxTN leadership team also gave updates on curriculum development and provided the RxTN staff with time to discuss sustainability strategies and address questions that

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<sup>8</sup> Walters State and Motlow State encountered start-up difficulties requiring additional compliance visits.

had surfaced during the training. RxTN staff responded positively to this training as well as to professional learning meetings offered during previous project years. In addition, the team continued to offer individualized support to new RxTN staff. The RxTN leadership team noted that although multiple modalities and supports were offered to help equip staff to use credible information, many RxTN staff lacked the “strong investigative urge about their own school’s performance” and were focused on targets rather than cause-effect relationships and reflective practice.

### Local Industry Intelligence for Continuous Improvement

Another integral form of continuous improvement, gauging industry needs, was planned and performed at the individual college level. Co-grantee staff described a variety of methods used to identify and monitor employers’ needs. At one extreme, these included casual feedback from students or employers; at the other extreme, they involved carefully developed, administered, and collected surveys from clinical sites and student. Staff representing the colleges that had new or nonoperational advisory boards and few other systematic methods for gauging market needs reported having insufficient information about local job markets. Some of these staff members said they were uncertain about their information needs; one described having little knowledge about how to accumulate or interpret such data. Finally, RxTN staff at a few campuses noted that they would benefit from having feedback on how to transition successfully out of the grant.

**Industry Needs Sensing.** RxTN staff described using various forms of information to gauge and monitor local industry needs. Among these were:

- **Better WIB Relationships.** Staff at most colleges reported having enhanced relationships and increased communication with WIBs. About the same number reported having improved relationships and more frequent contact with their college’s internal workforce development offices.
- **Part-Time Instructors Who Were Employers.** Most staff said their colleges hired part-time instructors who worked in the local healthcare field, adding that they offered an informational advantage, especially when the instructors were in a senior position.
- **Interactions with Local Employers.** At most colleges, RxTN staff said they interacted with local employers fairly consistently. Staff at five colleges reported using systematic, planned telephone calls or surveys. Staff at four other colleges said they took advantage of opportunistic interactions (e.g., casual encounters in the community).
- **Advisory Board Meetings.** Most RxTN staff reported gathering feedback via advisory board meetings. Most reported having active, ongoing advisory boards. However, a few RxTN staff described having only recently established advisory boards. At two campuses, staff reported having advisory boards that suffered from low attendance and that met irregularly.
- **Relationships with Healthcare Associations.** Two RxTN staff members said they created new relationships with professional healthcare associations from which they gathered important market information.

**Strength of Intelligence.** In addition, staff described a range of strength of industry intelligence.

- **Informal Feedback.** Staff at about half of the colleges reported using informal feedback, relying primarily on anecdotal feedback from adjunct instructors, informal discussions with local employers, and students passing by. Without corroboration, there was no way for RxTN staff to know whether the anecdotal information they were collecting was representative of the industry, either locally or more broadly.
- **Semi-Systematic Feedback.** RxTN staff at two colleges described using semi-systematically accumulated feedback forms of intelligence, which consisted of gathering informal feedback from several different sources (faculty, students, and employers) and then looking for corroborations or disconfirmations from across those sources. Staff at both campuses said they were interested in more robust methods, but did not have time to dedicate to data collection and analysis.
- **Systematic Feedback.** Staff at five colleges described what appeared to combine some systematic data collection with opportunistic methods. These included, for instance, administering a survey (not the external

program evaluation survey) with all students who completed programs and complementing feedback with communication with staff from other departments, faculty feedback, anecdotal feedback from students, and regular conversational interviews with employers about clinical experiences.

**Relationships with Business Communities.** Most RxTN staff reported having developed improved working relationships with local business communities. The relationships included informal faculty relationships, advisory boards, local workforce offices, and WIBs. At colleges that had previously limited interactions with local industry partners, RxTN staff described new relationships that translated easily into access to information about jobs and employer needs. Moreover, enhanced relationships with local industry partners were described as leading to improved Training Prescriptions, because decisions about program delivery (e.g., hybrid), requirements (e.g., clinical hours), and structure (e.g., bundling) were attributable to the enhanced relationships. TCATs posed a noteworthy set of exceptions. For instance, Northeast State and Southwest Tennessee State were unable to develop functional, systematic relationships with their business communities and instead, relied on informal feedback from staff and instructors.

## Conclusions

Leveraging RxTN's core structures—the RxTN program evaluation, regular project meetings between the RxTN leadership team and RxTN staff, annual training events, and planning and review meetings with each co-grantee—the RxTN leadership team strived to make regular improvements to the grant's implementation process and its products. The RxTN leadership team was regularly actively engaged in the program evaluation, providing feedback on instrumentation, procedures, and reports as well as helping evaluators gain access to data (e.g., survey responses). The team also participated fully in evaluation sense-making activities and debriefings of evaluation reports, using many of the formative findings to augment or adjust existing implementation supports and structures (e.g., targeted training for RxTN staff). In addition, the RxTN leadership team created bidirectional avenues for evaluators to share directly with co-grantee stakeholders at training sessions, through stakeholder briefs, and via data collection visits. In addition to the evaluation, the RxTN leadership team planned and facilitated regular meetings and carefully structured planning and monitoring meetings to identify implementation and product problems, collaboratively create plans for remedying them, and then manage the enactments of the corrective actions. Leadership was able to effectively navigate all 13 co-grantee institutions through start-up, full implementation, and program close-out, addressing both localized (college-level) improvement needs and those of the full RxTN program. Finally, the evaluation team noted considerable differences in co-grantee institutions' capacity and systems for gauging program needs and for otherwise participating in continuous improvement. This finding is especially recognizable in industry needs-sensing and in building and managing relationships with business partners.

## Section 2.3 Co-Grantee Involvement and Contributions

Q4: What factors contribute to co-grantee partners' level of involvement and participation in the whole program and in program components?

Q5: What contributions from partners are most critical to the success of the grant?

Q6: What contributions from partners are less critical to the success of the grant?

RxTN was designed so that partnering co-grantee institutions would be responsible for implementing agreed-upon curricula and student supports as well as participating in regular RxTN meetings and other functions. The evaluation was concerned with the contributions and level of participation of each co-grantee institution.<sup>9</sup> This section describes

<sup>9</sup> Two levels of partner were involved: (1) co-grantee, including Roane State, staff, and institutional leaders and (2) external institutions such as members of the business communities, industry representatives, and workforce development personnel. Level 1 partners were most directly involved in program implementation and in program components. To varying degrees by co-grantee college, level 2 partners influenced the extent to which the colleges fully participated in all program activities and which of their contributions may be considered critical or to have had an impact on the grant.

the outlay of supports and other structures that were designed to encourage full participation across co-grantee institutions, in addition to the extent to which co-grantees participated. It also considers the contributions from co-grantees that appeared to have been most and least critical to the program's successful implementation and observed outcomes. In addition to interviews with stakeholders representing co-grantee institutions, evaluators examined documents (i.e., grant proposal, Performance to Plan Report, and RxTN Annual Presidential Review Report) and notes from strategic planning sessions and Adobe Connect meetings to describe grant participation.

Evaluators found that, during start-up, the RxTN leadership team faced varying understandings about the RxTN program among co-grantee staff and institutional leaders. In addition, the RxTN leadership team found different levels of buy-in and support from co-grantee leaders. Some institutions demonstrated what one staff member perceived as "institutional amnesia," describing the extent to which institutional leadership seemed to have forgotten about or deemphasized participation in RxTN. Some institutions, for instance, were delayed in posting or filling RxTN staff positions. This variation appeared to have affected program set up and implementation timelines, thereby affecting partners' involvement in program delivery. Faced with these initial challenges, the RxTN leadership team created a series of strategically coordinated efforts intended to enhance co-grantee contributions. Thus, several factors emerged throughout the grant's implementation that are likely to have contributed to co-grantees' level of involvement in RxTN: (1) the RxTN leadership team's approach and support system for co-grantee staff and leadership, (2) co-grantee institution stakeholders' perceived value of RxTN programs and active support for RxTN programs, (3) the creation and maintenance of internal and external relationships, and (4) the use of program components, especially student supports. This set of factors influenced the feasibility and impact of co-grantee contributions to the grant.

### RxTN Leadership Team Approach and Support

Throughout the grant's implementation, the RxTN leadership team developed, delivered, and refined a host of coordinated program supports while also striving to build and maintain relationships with multiple stakeholders at co-grantee colleges. Among the supports were biweekly staff teleconference meetings with all RxTN staff, annual staff development retreats, data reporting tools and best practices, in-person and virtual compliance and monitoring visits, training for new curricula as they become available, and ad hoc training and support, especially for new RxTN staff. In addition, the team adapted these supports and developed new ones when RxTN staff expressed needs for added or more efficient means of assistance. Finally, the RxTN leadership team adopted what one stakeholder called a "consistent, yet responsive, servant leadership" approach. This approach entailed, as another participant noted, "helping co-grantees accept responsibility for their college's unique program and realize that they were not competing with each other but with themselves over time. Three major support structures were used:

- **RxTN Staff Training.** As described previously as a support for continuous improvement, the RxTN leadership team designed and delivered annual training sessions in 2013, 2014, and 2015 for RxTN staff. Sessions familiarized attendees with RxTN structures (e.g., Desire2Learn® online learning management system), approaches (e.g., appreciative advising), external supports (e.g., the program evaluation), and reporting methods (e.g., budget handling). Training sessions also encouraged co-grantees to contribute. During the sessions, co-grantee participants were given the opportunity to present on their progress during the year and offer suggestions for best practices. New, less-experienced RxTN staff described annual professional learning retreats as being integral in helping them understand and be able to use Student Supports Prescriptions, amass and transfer data, use case management tools, attend to reporting requirements, and share best or promising practices. Moreover, the annual training events' content was revisited and elaborated upon during routine communications, which helped ensure continuous involvement of all RxTN staff.
- **RxTN Routine Group Communication.** Also described previously, regularly scheduled Adobe Connect meetings were the main form of regular communication. Throughout interviews, RxTN staff reported that the meetings provided a mechanism for discussing and resolving implementation challenges; preparing RxTN staff to execute all of the grant components; providing opportunities to share new ideas; and training staff on student

support elements, various software programs, and data collection and management tools. For instance, the meetings engaged staff in discussions about student recruitment and orientation, evaluation reporting requirements, building relationships with LWIAs, challenges related to students declining to fill out USDOL paperwork, and ways to demonstrate the need for academic boot camp materials and digital literacy training and other Student Support Services.

- RxTN Individual Support.** The RxTN leadership team offered guidance and support beyond the weekly Adobe Connect calls, providing one-on-one assistance through individual telephone calls and emails that followed up on concerns, which surfaced during the Adobe Connect meetings. According to co-grantee staff, these meetings prepared RxTN staff to execute all components of the program, provided an opportunity to present best practices and discuss challenges, and equipped them with targeted professional learning in various areas, including Student Support Prescription tools, software programs, and data collection and management tools.

Periodically, evaluators interviewed co-grantees, asking them to describe the quality and usefulness of leadership team supports and, moreover, the ways in which the supports prepared staff to be fully involved in grant activities. Two themes emerged from these interviews. First, the team was almost universally described as the major support for RxTN information sharing, program implementation, and troubleshooting. For instance, some RxTN staff members, particularly those who felt under-supported by their campuses, described ongoing, ad hoc training from RxTN's leaders as helpful. In some cases, for instance, the team "adopted" co-grantee staff for this reason: "At their own colleges, there was great amount of uncertainty about who was reporting to whom, how to process paperwork, and what to prioritize." Second, co-grantee staff described the team as responsive to emerging needs and receptive to co-grantee input. For instance, after Year 3 evaluation interviews were analyzed and recommendations were made to refine the makeup and timing of regular meetings, the team made adjustments. This practice became especially important for many staff during the final training event. Subsequent meetings invited co-grantee staff to share the practices they believed were vital contributions that others could employ.

**Planning and Monitoring Visits at Co-Grantee Institutions.** As described above, beginning in July 2013, the RxTN leadership team led annual planning sessions with stakeholders at co-grantee institutions. According to co-grantee staff, planning and monitoring visits were instrumental in getting all key personnel on the same page, developing institution-specific plans, and building a monitoring process. According to several stakeholders (co-grantee staff and members of the host institution), the visits not only produced continuous improvement results, but also contributed to garnering institutional commitment and staff engagement, which, in turn, helped RxTN staff feel connected, supported, and responsible for being actively involved in the grant. According to staff representing participating co-grantee colleges, these visits influenced co-grantee RxTN staff and non-staff to participate in grant activities. Most co-grantee staff reported that the meetings helped them understand the number of students that they were responsible for enrolling and feel better equipped to achieve the goals. In addition, the engagements permitted the team to offer structured feedback and support and, concurrently, helped generate local support for RxTN. Several staff members commented that the visits helped them feel better engaged in RxTN because the visits allowed them to deliberate on and include site-specific challenges in the plans. Others described a unifying effect. One noted, for instance, "All the planning was critical for getting our dean on board; it gave her concrete facts and realistic targets, which made her a lot more interested."

**RxTN Leadership Communication with Co-Grantee College Administrators.** In addition to inviting administrators to planning meetings, with the aid of co-grantee RxTN staff, the team fostered and built relationships with college senior administrators. For instance, to remedy or assuage co-grantee colleges' experiencing low student enrollment in RxTN programs, the team coordinated with Roane State's senior administrators to communicate with those co-grantee college senior administrators to help make RxTN a priority. With the attention of senior administrators, the team equipped co-grantee RxTN staff with targets and benchmarks, resulting in both comprehensive plans and tactics for reaching enrollment targets. By maintaining these close relationships, the team was able to identify program barriers, changes in institutional decisions about RxTN, and changes in local workforce needs. By doing so,



and combined with the team's willingness to meet with key decision makers to describe best practices, discuss grant requirements, and underscore the value of RxTN, the RxTN leadership team was able to influence administrative leadership at several co-grantee institutions to better support RxTN programs and to protect its resources.

## Co-Grantee Valuing of and Support for RxTN Programs

Although the leadership and direction for the overall RxTN grant were essential to co-grantees' participation in grant activities and, therefore, contributed to RxTN's successful implementation, institution-level leadership support also influenced participation. Based on interviews with RxTN staff, this subsection describes the extent to which individual colleges supported RxTN and offered adequate localized supports for the program's implementation as well as cases in which RxTN program components were integrated into colleges' existing frameworks and systems.

**Support for RxTN from Campus Administration.** After the grant was awarded, the RxTN leadership team faced a wide range of buy-in and participation from institutional leadership at co-grantee institutions. Representing a substantial change from the first few years of implementation, during the final year of implementation most RxTN staff described having strong relationships with administrators. RxTN staff at all but one college said their campus administration, both departmental (e.g., dean) and college level (e.g., president), was much better aware of, attuned to, and supportive of RxTN than at the outset of the program. Staff at eight institutions specifically highlighted support from deans and chief academic officers as a strength of the grant program at that institution. One participant noted, "We've had great backup from our dean and other leaders here on campus to make our programs run smoother." Some staff attributed the shifts in administrator support for RxTN to the team's communication and face-to-face planning efforts. Other staff said that the increased support may have been a result of demonstrable positive outcomes in enrolling students, completions, and the improved relationships with local industry. This support may have had enduring impacts on staff morale and confidence, with staff at six institutions continuing to list their administration as a strong support to program implementation during the follow-up implementation interviews conducted during spring 2015. According to several interview participants, some administrators did not initially understand their role on RxTN. Although this problem was mostly rectified through the team's communication and site visits, institutional leadership affected staffing, program integration, and institutional plans to continue RxTN, as described below.

**RxTN Staffing.** Staffing for the grant's implementation at co-grantee institutions presented barriers to co-grantee participation. Later-than-anticipated staff hires at some colleges (especially Nashville State, Southwest Tennessee State, Columbia State, and Pellissippi State) hampered these institutions in developing program structures and implementing RxTN during the first year. Moreover, RxTN co-grantees experienced varying degrees of staff turnover throughout the grant's implementation. Several program coordinators (Columbia State, Nashville State, Pellissippi State, and Southwest State) and completion coaches (Columbia State, Nashville State, and Roane State) resigned during the first three years of RxTN. Vacancies in these positions resulted in temporary delays in student enrollment and student services, and new staff required onboarding and training to continue program implementation. In an employer survey administered in 2015, local employers were asked to provide suggestions for improving the RxTN program; among these were curbing turnover. For instance, one employer noted, "Program staff turnover within RxTN creates a loss of momentum, which is hard for these programs. The sooner these programs can be fully integrated into the college, the better." In addition, turnover of key administrators affected relationships at some institutions—most notably Nashville State, Pellissippi State, and Southwest Tennessee State that were also among the subset of colleges hiring staff later than anticipated.

**RxTN Support from Other Centers and Departments.** Integration of student supports, fiscal departments, and academics improves student success in two-year institutions (Dadgar, Nodine, Bracco & Venezia, 2013). Within most co-grantee colleges, staff described enhanced relationships between the RxTN program and the colleges' support centers, academic departments, and financial assistance. Co-grantee staff described increased departmental support

for RxTN, noting, for instance, that faculty and support personnel had become more willing to “share” students with RxTN programs. One staff member reported, “I would say I have more involvement now. I think it was just getting them out there and explaining to other departments and demonstrating that it is working.” Staff representing some co-grantee colleges also described improved service integration, most notably with career centers, student success centers, academic advisors, financial aid, other departments, and campus workforce development personnel.

***Institutional Intent to Invest in RxTN Products and Services.*** Some co-grantee institutions had active advisory committees, established coordinative relationships between RxTN’s Student Support Services and campus counseling offices, and included RxTN staff in department faculty meetings. Department and inter-department organizational fit may be imperative for the continuation of RxTN, especially the curricular elements. RxTN staff shared their thoughts about the key factors affecting the likelihood of training prescription sustainability.

- **Incorporating RxTN Programs into the College’s Financial Model.** Several program coordinators, especially those staff that indicated uncertainty about whether their college’s curricular programs would be sustained beyond the funding period, commented that their college administrators and grant writers were either in the process of writing new grants, or had recently secured grants and were planning to integrate some elements of RxTN into the new grants. Conversely, at colleges where staff indicated lesser likelihood of training program continuation, a lack of direct or indirect available funds or viable funding model was described as underscoring the decision to discontinue the programs.
- **Giving New Certificate Programs a Home.** At colleges where new certificate courses were rated as most likely to continue, the programs were integrated into college structures. At several colleges, these courses will be integrated into continuing education departments. The lingering issues of responsibility for clinicals and coordinating with employers also fit into this factor. RxTN staff who indicated a high degree of likelihood that a program would continue noted that their department leadership had plans for staffing. For instance, at one college, faculty will assume the role of arranging clinicals and will receive additional pay for doing so.
- **Integrating New Degree Programs into Departments.** In describing the sustainability of new degree programs, RxTN staff noted that department integration is important. For instance, at colleges where LPN-to-RN Mobility is a new program, it was integrated into the college’s Nursing Department and the department’s funding model. At colleges where degree program sustainability is uncertain, the main factor is whether it will be adopted. One coordinator noted, “If Allied Health does adopt the RxTN courses, they’re likely to sustain; if not, they may not have a home or staff to coordinate them and may be, thus, discontinued.”

In addition to staffing, oversight, and funding, fluid student advancement—either into RxTN from other college or TCAT degree programs or, from Training Prescriptions into other degree programs—may be a sign of program integration and, therefore, sustainability. For example, some co-grantee colleges used certificate courses to identify candidates for their more intensive degree programs.

## Inter-Institutional Relationships that Support RxTN

Organizational relationships are key to the success of a consortium-based curricular innovation (Knights & Wilmott, 2010). Using interviews with RxTN co-grantee staff, this subsection describes both formal and informal inter-institutional relationships that served as implementation supports beyond those formal supports offered by the RxTN leadership team. These informal relationships were both indications of and, collectively, a factor contributing to, co-grantee partners’ participation in RxTN’s delivery and enhanced the likelihood of some partners’ participation.

***RxTN Informal Intercollege Relationships.*** RxTN staff from most (9 of the 13) co-grantee colleges said they received and provided support for RxTN implementation through informal relationships with staff at other RxTN colleges. RxTN staff described these relationships as particularly important sources of advice and assistance in developing new curricular structures. For instance, the co-grantee colleges opting to bundle certificate programs sought advice about sequence, number of cohorts, and funding from staff at those co-grantee colleges that were better developed and that had successfully deployed these programs. Moreover, in several cases, RxTN staff

coordinated programs and shared students. For example, at Northeast State where no functional Phlebotomy Technician course was launched, RxTN staff coordinated with RxTN staff at other colleges to assist students that were interested in pursuing the CCMA certificate to have access to that required course. In addition, particularly at institutions offering limited sections of required courses, RxTN staff recommended that students consider taking the course at a “sister” co-grantee college. Finally, some intercollege relationships were extended, in part, through the use of social media by inviting colleges to share news and success stories via LinkedIn and Facebook.

**RxTN Formal College-TCAT Relationships.** As described in the *Phlebotomy Technician Multiple Case Study Analysis Report*, co-grantee college-TCAT relationships experienced hardships throughout RxTN’s funding period. A lack of explicit institutional expectations and roles affected these relationships. In some cases, this effect took the shape of limited interaction between colleges and TCATs, a lack of clarity about role for RxTN (e.g., who was responsible for collecting data at TCATs), and fewer or no Student Support Prescriptions at TCATs. In one college-TCAT partnership, the TCAT opted not to engage in RxTN at all. The lack of relationship-building across these institutions translated, unsurprisingly, into fewer available supports for RxTN staff through TCATs and, concomitantly, less support for TCAT instructors and administrators for RxTN functions (e.g., data collection). This analysis was not conducted across all institutions during implementation study interviews, limiting its applicability to all college-TCAT relationships. However, RxTN staff across colleges commented on the challenges of encouraging TCAT participation.

**RxTN Relationships with Business Representatives.** Most RxTN staff reported having developed working relationships with local business communities and employers. These relationships included informal faculty relationships with local employers (e.g., clinics and healthcare facilities), advisory board participation, and interactions through local workforce offices. At co-grantee colleges that had previously limited interactions with local industry partners, RxTN staff described new relationships that translated easily into access to information about jobs and employer needs. Moreover, the enhanced relationships with local industry partners were described by many RxTN staff as leading to improved Training Prescriptions, because decisions about program delivery (e.g., hybrid), requirements (e.g., clinical hours), and structure (e.g., bundling) were attributable to the enhanced relationships. As illustrated in the *Phlebotomy Case Study Report*, the TCATs posed a noteworthy set of exceptions. For instance, although Motlow State’s administration had a relationship with its business community, information was not shared with RxTN staff or program decision makers. Similarly, RxTN staff at Northeast State and Southwest Tennessee State did not have functional, systematic relationships with their business communities, but instead relied on informal feedback from staff and instructors. Overall, RxTN staff members cited their employer advisory committee as being a significant contributor to their success in both preparing students for employment and in networking to find employment. LWIAs and WIA offices were similarly cited as providing useful programmatic feedback. However, not all institutions experienced this boost from employer advisory committees. Staff at four institutions (Columbia State, Nashville State, Northeast State, and Roane State) cited a need for greater employer feedback and workforce data during the follow-up interviews.

## Programmatic Components

**Student Support Prescriptions.** Student support services (“prescriptions”) were designed to provide both broad and targeted academic support to students enrolled in the RxTN program. Interviews with program staff as well as data from completion coaches’ student tracking database demonstrated that not all support services were used equally across institutions, creating challenges for accurately assessing how successful these supports were at improving students’ performance, graduation, and retention rates. Despite these challenges, analysis suggests that most of the support services did not have a statistically significant impact on these outcomes (see Section 1.2: Impact of Student Support Services). However, students responding to the completion survey were asked to report on whether or not support services contributed to their success in their program of study. Of the respondents who used one-time services offered by completion coaches (e.g., career aptitude assessment or digital literacy training), an average of 85 percent agreed or strongly agreed that the services contributed to their success in the program. In addition, 68

percent of student respondents reported that an academic advisor or completion coach helped them create a plan for achieving academic goals; only 52 percent of students in the comparison group reported the same. Eighty-five percent of students who reported working with staff to create an academic plan graduated or completed a program of study by June 2015 in comparison with 74 percent of students overall who had completed their programs.

**Subject Matter Expert Reviews of RxTN Curricula.** Subject matter experts were hired to conduct reviews of new curricula. Deans of Allied Health or of Nursing and Health Programs at Volunteer State and Walters State agreed to vet and hire curriculum specialists to develop the Medical Informatics program and the Surgical Technology program, respectively. Hiring of these specialists was delayed at both institutions, which resulted in additional work for the lead institution and a delayed curriculum launch. In addition, the reviewers were hired, mostly from academic institutions, and were expected to deliver completed reviews during the first year. According to the RxTN leadership team, however, the reviews had a slow start. As one stakeholder commented, “Managing the deliverables and getting them in a timely fashion was very difficult.” Part of the issue, according to stakeholders, was that expectations for faculty reviewers were unclear. Once this barrier was understood, the RxTN team was able to move the subject matter reviews forward progressively by initiating regular update meetings and by supporting the reviewers with access to a professional instructional designer.

### Co-Grantee Contributions

Co-grantee contributions included the implementation of training programs and support services as well as the hiring of grant staff. Throughout the RxTN’s lifecycle, student enrollment in program courses was contingent upon having developed training programs. Thus, the timely creation of curricula, the development of curricular modules for new training prescription programs, and establishment of support services were critical.

**Collective Impacts.** Collectively, these co-grantee and other partner contributions led to what several stakeholders described as RxTN’s greatest successes overall:

- **Development of Hybrid Curricula.** Several co-grantees and the primary grantees described the hybrid curriculum component as “particularly successful.” One interview participant commented, “Finding evidence that supports the rural model, that we could reach people 50 to 60 miles outside of campus was truly valuable.” These stakeholders specified two interlinked aspects of the “rural model”: (1) producing the curricula and setup required for hybrid delivery was feasible and (2) where implemented in earnest, hybrid delivery was successful.
- **Development and Adoption of Noncredit Programs.** Several co-grantee and primary grantee stakeholders commented that noncredit courses were successful because they shortened program duration without losing quality. One interviewee said, “Some programs went from five months down to 10 or fewer weeks.” Another said, “Colleges and students appreciate the lower cost and shorter timeframe.” Stakeholders described these factors as especially valuable at Jackson State, Dyersburg State, Columbia State, and Roane State.
- **Colleges Working Together.** At RxTN’s outset, stakeholders described a “culture of competition” as an obstacle preventing full participations. Stakeholders believed that the inter-institutional competitiveness contributed to a reluctance among college staff to share curricula or successful practices. However, most colleges were able to create and sustain working relationships to develop and share curricula.
- **Curricular Development Process.** Some co-grantee and primary grantee stakeholders said that RxTN led to improved curriculum design processes that would benefit the entire state. One said, “The Schools Commons repository had a better product because of the willingness of colleges to provide feedback and suggest improvements.”

**Barriers to Partner Contributions.** A few notable co-grantee contributions appeared to have either minimal impact or the contributions themselves were minimal. As noted above, leadership support and participation at some institutions had ongoing implications for the extent to which each co-grantee contributed fully to the program and whether the contributions made had the intended effect. There was a reluctance among many college decision-makers to change. One stakeholder said, “Some college leaders think, ‘We’ve always done it this way.’” In addition,

several co-grantee leadership decisions affected diminished partner contributions from those institutions. Among these were the following:

- **Technology Enhanced Delivery Variation.** Although one core objective of RxTN was to deliver curricula as hybrid courses and most colleges did use hybrid delivery in some form, some colleges decided against offering technology-enhanced coursework. Specific explanations for the decision varied, but most included instructor technical skills, perceptions of students' lacking access to technology, and beliefs about the hybrid modality's effectiveness as a teaching tool. Also, the colleges choosing to launch and maintain hybrid delivery changed considerably over time.
- **Privatization of RxTN Programs.** One college, Walters State, used a third-party private vendor to deliver the noncredit courses. As one stakeholder noted, "It was a surprise and a disappointment when they reneged on programs." Problematic was the increased cost turned over to students. A stakeholder commented, "They sold the name of the college for three times the normal cost of these courses." The one exception was the Surgical Technician program that was combined with another college, Roane State.
- **Decisions to Withdraw from Curricula.** With changes in leadership, a few colleges withdrew from RxTN program offerings after they started. For instance, because of breakdowns in internal relationships at Nashville State, college leaders opted to forego participation in the Medical Informatics program, resulting in only one graduation from that program. Similarly, at Columbia State, leadership decided to forego implementation of its LPN-to-RN bridge program. According to interview participants, departmental leadership at the college had "no interest in RxTN." Another noted, "The dean never gave it a fair deal, because she didn't want to participate in the grant."
- **TCAT Participation Was Not Considered Successful.** As one stakeholder observed, "Sadly, the TCAT addition had great potential for the TCATs and the whole state." However, the TCATs received almost no support for RxTN. In the beginning of the project, "they were resistant to RxTN and then, much later, when they started taking the money, they wanted to participate in it, but it was too late." There was a misunderstanding between TCATs and colleges about expectations and roles. One key stakeholder commented, "That part [TCAT involvement] was hastily put together."

## Conclusions

The RxTN program anticipated variation by institution in programs implemented, with various co-grantee institutions signing on to participate in different programs. Initial levels of involvement in the RxTN program varied substantially across each partnering co-grantee institution but leveled out throughout implementation. The RxTN leadership team employed a set of supports, mechanisms, and procedures that appeared to have increased co-grantee participation in the RxTN program. These structures helped co-grantees identify challenges and actively participate in remedying them, develop similar understandings of and capacities to implement the grant components, receive uniform instructions from the primary grantee, and encourage administrative leadership support for RxTN. The structures resulted in normalized communication pathways and facilitated the development of a virtual learning community. Periodic site visits, compliance checks, and monitoring audits enhanced the quality and thoroughness of fiscal documentation and student records. Institutional factors also contributed to the level of individual and collective success of the grant. Among these, co-grantee administrative support, clarity and valuing of the partnership's agreements, and the quality and usefulness of inter-institutional relationships had lingering implications for institutional participation and, consequently, staff hiring, student support provision, program marketing, and curricular implementation. Staff turnover, especially among completion coaches, seemed to contribute to service receipt among students. For example, Columbia State experienced turnover in its coach role and ultimately failed to reach its service goal (see Table 2.5). And, although completion coach staff members at Roane State far exceeded their projected totals, they served just 19 percent of enrolled RxTN students, in contrast to the initial program design, potentially indicating a miscommunication about this role.

## Section 2.4 Fidelity of Program Implementation with RxTN Plan

Q7: Were program activities and outputs consistent with what was planned and to what extent did consistency occur across institutions?

This section reports on the extent to which program activities and outputs were consistent with what was planned and to what extent consistency occurred across co-grantee institutions. Drawing on descriptive information accumulated through interviews with RxTN staff representing all co-grantee colleges and the RxTN leadership team as well as student participation data in all program components, the analysis reveals that student enrollment and completion outcomes were generally consistent with program projections.

The RxTN technical proposal identified student outcome targets for each of the nine DOL outcome measures (see Table 2.4). Based on these targets, RxTN would ultimately serve a total of nearly 4,000 students through broad support services and targeted training programs, with slightly more than half (52 percent) expected to enroll in training programs and 37 percent expected to complete programs of study during the program’s implementation. Thus, the evaluation was concerned with the extent to which RxTN was implemented consistently across co-grantee institutions and whether, when implemented, the activities and program outputs were consistent with RxTN’s technical plan.

**TABLE 2.4 DOL TAACCCT GRANT OUTCOME MEASURES FOR RXTN PROGRAM**

DOL Outcome Measures	Goal	Current Through June 2016 <sup>‡</sup>	Percentage of Goal Achieved
1. Unique students receiving services under the <i>Student Support Prescription</i> or <i>Training Prescription</i>	3,939	8,183	207%
1a. Students served by <i>Student Support Services</i>	3,939	7,458	189%
1b. Students enrolled in a <i>Training Prescription</i>	2,039	2,399	117%
2. Students who have completed a grant-funded program of study	1,500	1,562	104%
3. Students retained in grant-funded programs of study	458	305	67%
4. Total number of students completing credit hours	1,019*	1,028	101%
5. Total number of earned credentials	2,296	2,014	89%
6. Total number of students enrolled in further education after completion	100	144	144%
7. Students who become employed one quarter after program completion	1,300	197	15%
8. Students who remain employed three quarters after exiting the program	1,170	120	10%
9. Students employed at program enrollment who receive a wage increase	49	424	865%

Source: Student Tracking Data—Program Coordinators and Completion Coaches, through Spring 2016. <sup>‡</sup> Outcome measure 1a was assessed in March 2016 and outcome measures 6-9 were assessed in August 2016. \*NOTE: Initial projections reported that the goal for outcome measure 4 was 1,835. However, this total included noncredit students. The number has been changed to reflect credit students only.

**RxTN Training Prescription Implementation Challenges.** RxTN staff commented that RxTN’s implementation for Training Prescriptions went mostly according to plan. Most, particularly those who had been involved in the grant since its initiation, articulated having had concerns earlier, but felt that most issues were resolved. As expected, staff reporting on the deployment of new curricula encountered more implementation challenges than those with continuing programs. Five implementation challenges were described across colleges.

- **Human Resource Limitations.** RxTN staff articulated difficulties in managing all facets of implementing RxTN. staff described the high learning curve. Not surprisingly, this finding was particularly true of newer RxTN staff; several of these staff members commented that they struggled with prioritizing their work.
- **System Alignment.** RxTN staff from nearly half of the co-grantee colleges described difficulties related to various kinds of misalignments throughout the system which prevented full implementation of some Training

Prescriptions. Among these were issues related to honoring agreements to share students across colleges wherein students discovered barriers to their matriculation during the enrollment process or that the program was no longer available. At some colleges, articulation agreements between TCATs and colleges (for transferring or accepting previous work for credit) were stymied by state-level policy.

- **Launching Medical Informatics.** The only program specifically described as having implementation challenges was Medical Informatics. Several RxTN staff said that hiring qualified instructors for the course was difficult because of the “high technical aspect.” Staff added that, because of its newness and complexity, marketing the course to students was difficult.
- **Delayed Launches.** For a number of reasons, seven RxTN training programs experienced launch delays. The delays presented challenges to meeting enrollment projections throughout RxTN’s implementation.

**Program Enrollment Variation.** Throughout implementation, variation occurred in Training Prescription enrollment by institution. That variation was much more noteworthy during the initial few years of RxTN because of several interacting factors (such as staff turnover, lack of institutional support and integration, limited or restricted relationships with TCATs, and co-grantee college decisions to opt out of Training Prescriptions), especially with regard to concerns about whether co-grantee institutions would be able to achieve projections. Most colleges solidified their overall enrollment projections by the end of Year 3. However, some co-grantee colleges overenrolled in some programs. By Spring 2016 across all co-grantee colleges, 31 percent of all students were enrolled in LPN-to-RN Mobility and 36 percent in Phlebotomy—more than double the programs’ target projections.

**Stacked and Bundled Noncredit Curricula.** RxTN was designed to optimize employment prospects for students in noncredit Training Prescriptions by bundling certificates. This bundling would enable students to complete certificates at their own pace and continuously build up their credentials. Although most colleges planned to offer noncredit training in stackable bundles, implementation of this plan varied across institutions and, within institution, over time. Specifically, at this reporting, four colleges offered most or all noncredit courses in bundles: Columbia State, Dyersburg State, Jackson State, and Roane State. Staff at each college reported several key demand inputs that affected decision making: employers, WIB and WIA funding prospects, and students. The Phlebotomy Technician Certificate program—the focus of the evaluation’s multiple case study analysis—was part of the stacked and latticed credentials that permitted students to choose programs based on what they aim to achieve in a specific field or certification and promote greater student mobility. In that example, during implementation, five colleges planned to bundle Phlebotomy Technician into the Medical Assistant program (Volunteer State planned to bundle its courses, but no students enrolled at Volunteer State participated in more than one noncredit course). Participants cited these major rationales for this move: (1) to make students more competitive vis-à-vis other Phlebotomy Technician course graduates and (2) to get the program accepted as an approved course for WIA funding. Other colleges offering the program opted to offer Phlebotomy as part of an optional bundle or as a standalone course only. In turn, evaluators found that across many WIBs, the Phlebotomy Technician Certificate as a standalone course was not deemed a viable or high demand area of concentration and was, therefore, not supported or funded. Offered as part of a bundle, however, it passed muster almost universally.

**Technology Enhanced Delivery Variation.** The RxTN technical proposal indicates that Training Prescriptions would be delivered as hybrid courses. Most colleges used hybrid delivery in some form. Although only a few co-grantee colleges offered didactic portions of Training Prescriptions as a full hybrid with synchronous coursework, others offered online instruction using prerecorded modules. Staff reported various setups and arrangements, including offering different sections of courses via in-person delivery and hybrid delivery simultaneously and scheduling technology-enhanced coursework only on campus (equipping all students with laptops during class and while they are on campus). Although some RxTN staff reported using hybrid delivery for credit-bearing programs and not in noncredit courses, others reported using hybrids for noncredit courses only. Explanations for the different modality emphasized instructor pedagogical ability and student access to technology. Some staff said they did not have a mechanism for ensuring instructors or students were sufficiently digitally literate.

## Student Support Prescriptions Offered and Used

RxTN completion coaches were hired to offer supports to students to assess their needs and explore career pathways to help them identify the most suitable programs. In addition, they offered academic supports and follow-up with students to ensure program success and completion. A responsibility of completion coaches was to provide students with the opportunity to use a variety of support services. Four broad categories of support services were available to students through RxTN and were administered primarily by completion coaches. Available services ranged from one-time assessments to ongoing career counseling or academic supports tailored to individual students' needs. The grant writers anticipated that completion coaches would meet with a total of 3,939 unique students during the RxTN grant period.

**TABLE 2.5 STUDENT ENROLLMENT AND PARTICIPATION TARGETS AND CURRENT ENROLLMENT AND PARTICIPATION, BY INSTITUTION, AS OF SPRING 2016**

Institution	RxTN Degree and Certificate Programs	Unique Students Receiving Services (Completion Coaches)			Enrolled Students (Program Coordinators)		
		Goal	Current	Percent	Goal	Current	Percent
<b>Chattanooga State</b>	Allied Health, OTA	160	266	166%	35	116	331%
<b>Cleveland State</b>	Allied Health, LPN-to-RN Mobility, Medical Informatics, OTA, (Surgical Tech)	225	378	168%	100	144	144%
<b>Columbia State</b>	Allied Health, ECG Technician, LPN-to-RN Mobility, Medical Informatics, Patient Care, Phlebotomy	339	253	75%	189	221	117%
<b>Dyersburg State</b>	ECG Technician, IV Therapy,* LPN-to-RN Mobility, Medical Informatics, Patient Care, Phlebotomy	204	533	261%	179	291	163%
<b>Jackson State</b>	ECG Technician, Patient Care, Phlebotomy	379	1,110	293%	79	195	247%
<b>Motlow State<sup>α</sup></b> • McMinnville TCAT • Murfreesboro TCAT	ECG Technician, LPN-to-RN Mobility, Phlebotomy	274	626	228%	100	181	181%
<b>Nashville State<sup>α</sup></b> • Nashville TCAT	ECG Technician, IV Therapy, Medical Informatics, Patient Care	420	420	100%	270	92	34%
<b>Northeast State</b>	ECG Technician, IV Therapy, LPN-to-RN Mobility, Phlebotomy	254	490	193%	129	129	100%
<b>Pellissippi State</b>	LPN-to-RN Mobility	175	342	195%	50	95	190%
<b>Roane State</b>	Allied Health, ECG Technician, IV Therapy, LPN-to-RN Mobility, Medical Informatics, Patient Care, Phlebotomy, Surgical Tech	476	1,201	252%	275	500	182%
<b>Southwest TN <sup>α</sup></b> • Memphis TCAT	Allied Health, ECG Technician, IV Therapy, LPN-to-RN Mobility, Phlebotomy	319	431	135%	194	211	109%
<b>Volunteer State</b>	ECG Technician, IV Therapy, Patient Care, Medical Informatics, Phlebotomy (Allied Health)	444	430	97%	294	157	53%
<b>Walters State</b>	ECG Technician, LPN-to-RN, Surgical Tech (Allied Health, Patient Care, IV Therapy)	269	978	364%	144	67	47%
<b>TOTAL</b>		<b>3,939</b>	<b>7,458</b>	<b>178%</b>	<b>2,039</b>	<b>2,399</b>	<b>118%</b>

Source: RxTN Performance to Plan Report, through Spring 2016; Student Tracking Data—Program Coordinators and Completion Coaches, through Spring 2016.  
<sup>α</sup> The targeted numbers for enrolled students include all students enrolled in a training program, and the targeted numbers for receiving services include all enrolled students and 25 students from each corresponding TCAT. \* IV Therapy is being offered in place of the Emergency Medical Dispatcher program. Programs listed in parentheses were discontinued after the funding of the grant.

**Student Support Implementation.** As of Spring 2016, completion coaches had served 7,458 students across all institutions, or 178 percent of the total number of students expected to be served over the grant period, indicating that



the grant was on track to meet this target as planned (see Table 2.5). Eleven co-grantee colleges met or exceeded projections considerably (between 100 percent and 364 percent). Two colleges fell short of projections, one just marginally (at 97 percent) and the other with a more considerable gap (75 percent completed).

**Training Program Enrollment and Student Contacts.** RxTN was designed to have completion coaches meet with all students enrolled in RxTN program as well as an average of 100 additional students interested in healthcare programs or on waiting lists. In addition, institutions that partnered with TCATs were projected to provide Student Support Services to 25 students from each TCAT. By the end of the Spring 2016 semester, the largest group of students seen by completion coaches had not yet enrolled in any academic program (62 percent), although this varied considerably by institution from 1 to 80 percent (see Table 2.6). Across all co-grantee institutions, completion coaches worked with more than four times as many non-RxTN students as RxTN students (see Table 2.6). In addition to RxTN students, completion coaches targeted students enrolled in other healthcare training programs to inform them of grant programs and offer support services. More than one-tenth of students served by completion coaches were enrolled in non-RxTN health care programs. At some co-grantee institutions, small numbers of staff in academic or career advising offices led to completion coaches seeing a greater number of undecided students.

**TABLE 2.6: TRAINING PROGRAM ENROLLMENT DATA FOR STUDENTS SEEN BY COMPLETION COACHES, BY INSTITUTION, AS OF SPRING 2016**

Institution	Number of Students Contacted	Training Program Enrollment			
		Percentage in RxTN Training Program	Percentage in Other Healthcare Training Program	Percentage in Non-Healthcare Training Program	Percentage Not Enrolled in Any Training Program
<b>TOTAL</b>	<b>7,458</b>	<b>20%</b>	<b>12%</b>	<b>6%</b>	<b>62%</b>
Chattanooga State	266	41%	29%	3%	27%
Cleveland State	378	34%	39%	5%	22%
Columbia State	253	73%	2%	15%	10%
Dyersburg State	533	50%	5%	0%	45%
Jackson State	1,110	16%	1%	0%	83%
Motlow State	626	27%	<1%	31%	43%
Nashville State	420	20%	19%	4%	57%
Northeast State	490	24%	10%	<1%	66%
Pellissippi State	342	20%	0%	0%	80%
Roane State	1,201	8%	35%	12%	45%
Southwest TN	431	31%	39%	23%	7%
Volunteer State	430	31%	7%	1%	61%
Walters State	978	2%	93%	5%	1%

Source: Student Tracking Data—Completion Coaches, through Spring 2016. NOTE: Total percentages may not equal 100 percent due to rounding.

**Student Support Prescriptions Received.** The following table (2.7) provides a comparison between RxTN students and all students who were served by completion coaches. Although RxTN was designed so that completion coaches would work primarily with enrolled RxTN grant students, evidence suggests co-grantee colleges adopted one of the three strategies to providing support services. At some colleges, (e.g., Columbia State and Chattanooga State), completion coaches adhered to the program plan and mostly targeted grant students for service provision.

Completion coaches at other colleges, however, worked with most RxTN students and also served many non-enrolled students (e.g., Cleveland State, Northeast State, Volunteer State). Finally, at another subset of colleges (e.g., Roane State, Walters State), completion coach services were directed at non-RxTN students primarily. As the table illustrates, the approach to student support provision may have affected the number of students in each group who (1) contacted (and, therefore, were added to the RxTN database), (2) received any RxTN student support service described in Table 2.3, and (3) met with a completion coach for coaching or retention services at least once. Finally, the table suggests that some college team members may have carried out substantial outreach, they did not

serve many students. Note the discrepancies between the number of students contacted and percentage served at Jackson State and Pellissippi State, for instance.

**TABLE 2.7: SUPPORT SERVICES RECEIVED BY ALL STUDENTS AND RxTN STUDENTS, BY INSTITUTION, AS OF SPRING 2016**

Institution	Total Students seen by Completion Coach			Number of RxTN Students	RxTN Students Seen by Completion Coach		
	Number of Students Contacted	Percentage Receiving Any Service	Percentage Receiving Coaching Services		Percentage Contacted by Completion Coach	Percentage Receiving Any Service	Percentage Receiving Coaching Services
<b>TOTAL</b>	<b>7,458</b>	<b>75%</b>	<b>60%</b>	<b>2,399</b>	<b>65%</b>	<b>56%</b>	<b>46%</b>
Chattanooga State	266	97%	38%	116	94%	94%	46%
Cleveland State	378	100%	100%	144	90%	90%	90%
Columbia State	253	91%	85%	221	83%	76%	70%
Dyersburg State	533	51%	1%	291	92%	88%	1%
Jackson State	1,110	23%	21%	195	92%	91%	91%
Motlow State	626	57%	9%	181	92%	5%	<1%
Nashville State	420	89%	71%	92	91%	91%	83%
Northeast State	490	99%	99%	129	89%	89%	89%
Pellissippi State	342	14%	14%	95	73%	52%	51%
Roane State	1,201	99%	99%	500	19%	19%	19%
Southwest TN	431	100%	69%	211	63%	63%	61%
Volunteer State	430	88%	56%	157	85%	85%	67%
Walters State	978	100%	98%	67	22%	22%	22%

Source: Student Tracking Data--Completion Coaches and Program Coordinators, Spring 2016. NOTE: Total percentages may not equal 100% due to rounding.

**Actual Implementation of Student Support Services.** Of the support services measured, only Northeast State, Roane State, and Volunteer State reported all services being used by some students (see Table 2.8). At the other extreme, some colleges used three or fewer support services (Pellissippi State and Southwest Tennessee State). Although this variation may seem crucial, two findings are important: Some Student Support Services were not appropriate for all students or all programs, and co-grantee institutions varied in their adoption of programs. Coaching and Retention Services, Career Aptitude Testing, and Academic Plan Preparation were the support services most widely used.

**TABLE 2.8: PERCENTAGE OF STUDENTS PARTICIPATING IN SUPPORT SERVICES, BY INSTITUTION**

Student Support Service	Chattanooga State	Cleveland State	Columbia State	Dyersburg State	Jackson State	Motlow State	Nashville State	Northeast State	Pellissippi State	Roane State	Southwest TN	Volunteer State	Walters State
<b>TOTAL (n=7,458)</b>	<b>266</b>	<b>378</b>	<b>253</b>	<b>533</b>	<b>1,110</b>	<b>626</b>	<b>420</b>	<b>490</b>	<b>342</b>	<b>1,201</b>	<b>431</b>	<b>430</b>	<b>978</b>
Diagnostic Skills Assessment	0%	1%	0%	0%	12%	<1%	18%	1%	0%	4%	0%	8%	1%
Learning Support Remediation	13%	5%	0%	0%	0%	0%	34%	1%	0%	7%	0%	8%	33%
Prior Learning Assessment	0%	0%	0%	0%	0%	27%	0%	7%	0%	<1%	0%	<1%	1%
Career Aptitude Test	7%	<1%	4%	0%	7%	0%	6%	2%	0%	3%	0%	8%	4%
Health Care Workshop	0%	<1%	<1%	0%	0%	0%	13%	18%	0%	10%	0%	50%	0%
Academic Plan Preparation	91%	99%	33%	0%	0%	56%	74%	8%	0%	25%	43%	41%	96%
Boot Camp	0%	48%	0%	34%	0%	0%	0%	7%	0%	<1%	0%	41%	<1%
Digital Literacy Training	<1%	4%	44%	31%	0%	<1%	<1%	16%	0%	1%	0%	33%	<1%
Coaching/Retention Services—1 time	19%	90%	71%	<1%	4%	6%	44%	25%	0%	11%	25%	35%	65%
Coaching/Retention Services—2+ times	19%	10%	15%	<1%	17%	3%	28%	74%	14%	89%	44%	21%	34%

Source: Student Tracking Data—Completion Coaches, through Spring 2016.

## Conclusions

Several implementation barriers disrupted individual co-grantee implementation, especially RxTN staff members' available time, problems with articulation agreements, and training program launch delays. As expected, some variation was noted in program participation by co-grantee institution, although this variation was greatly diminished toward the end of the grant's lifecycle. Curriculum delivery also varied across co-grantee institutions. For instance, instructors, available technology, and local infrastructure appeared to have largely determined whether hybrid course delivery was adopted. Overall, completion coaches greatly exceeded the anticipated number of students, with variation from college to college. Considerable variation also occurred in each co-grantee institutions selection and use of student supports, which may be explained in part by each college's and program's specific needs. In addition, although some co-grantee colleges targeted RxTN students, others either targeted non-RxTN students or both of these subgroups for Student Support Services.

Institutions that decided to drop out of implementing specific programs tended to struggle with meeting their overall enrollment targets (see Table 2.5). For example, both Volunteer State and Walters State elected to no longer implement the Allied Health program. Both failed to enroll enough students in the remaining programs to meet their enrollment targets, each achieving approximately half of its initial goal. Beyond program implementation decisions, the decision to implement program components such as hybrid instruction seemed to contribute to program success. Students in hybrid versions of ECG Technician, Phlebotomy Technician, and CCMA\Patient Care Technician programs all outperformed traditional students in passing their certification exam. Additionally, students enrolled in "stacked" or "bundled" noncredit programs were significantly more likely to report finding new work or receiving a wage increase after program completion. These findings suggest those institutions that implemented the RxTN program as initially designed were more able to meet their program goals and produced students who experienced greater academic and employment success.

## Section 3. Program Sustainability and Recommendations

In this final section of the report, the RxTN evaluation team presents indicators of each co-grantee institution to sustain RxTN components and offers recommendations for the programs' continuation. In March and April 2016, the RxTN evaluation team administered a questionnaire to RxTN program coordinators and completion coaches representing all 13 co-grantee colleges. The questionnaire, which consisted of a rating scale and open-ended questions, was designed to gauge which RxTN Training Prescriptions and Student Support Services are most likely to be sustained after the TAACCCT grant-funding period.

### Section 3.1 Program Sustainability

#### RxTN Degree Training Prescriptions

Table 3.1 provides a summary of ratings indicating the likelihood of RxTN degree Training Prescriptions beyond the funding period. Shaded cells in the table represent programs that existed prior to the launch of RxTN. The table is followed by a summary of comments on the rationale for continuation or discontinuation plans.

**TABLE 3.1: RxTN STAFF RATINGS OF LIKELIHOOD OF SUSTAINING DEGREE PROGRAMS**

Institution	Degree Training Programs				
	Allied Health	LPN-to-RN Mobility	Medical Informatics	Occupational Therapy	Surgical Technology
Chattanooga State	Very likely	--	--	Very likely	--
Cleveland State	Very likely	Very likely	Very likely	Very unlikely	--
Columbia State	Unlikely	Very likely	Very likely	--	--
Dyersburg State	--	Very likely	Very unlikely	--	--
Motlow State	--	Very likely	--	--	--
Nashville State	--	--	Discontinue	--	--
Northeast State	--	Very likely	--	--	--
Pellissippi State	--	Very likely	--	--	--
Roane State	Very likely	Very likely	Likely	Very likely	Very likely
Southwest TN	Undecided	Likely	--	--	--
Volunteer State	--	--	Very likely	--	--
Walters State	--	Very likely	--	--	Very likely

Source: Final questionnaire—RxTN staff, as of April 2016. "--" indicates programs that were not implemented at participating institutions.

NOTE: Cells shaded light blue represent programs that existed prior to RxTN.

**Sustaining Existing Degree Programs.** Not surprisingly, most of the degree programs that existed prior to the launch of RxTN were rated as very likely to be sustained by colleges beyond the RxTN grant's funding period (see shaded cells in Table 3.1). Staff at most colleges indicated that RxTN helped to solidify and solicit those programs. One exception to the likely continuation of these programs is Columbia State Community College's Allied Health program, which may be eliminated because of cost-related reasons.

**Sustaining New Degree Training Prescriptions.** Staff at co-grantee colleges rated several new degree Training Prescriptions as very likely or likely to be continued after the grant's funding period. Among the newly implemented degree programs that they rated most likely to be sustained are LPN-to-RN Mobility, Medical Informatics, and Allied Health (see Table 3.1). Additionally, they rated the one universally new degree program, Surgical Technology, as very likely to be sustained at the two colleges where it has been implemented.

- **LPN-to-RN Mobility.** This degree program was universally rated as likely to continue by participating institutions. This program predated RxTN at six colleges and was new to the remaining three. Staff commented that the number of students has increased making this degree program viable. One staff member indicated that enrollment doubled since the beginning of the grant.

- **Medical Informatics.** Staff at four colleges, including Volunteer State where this degree program predated RxTN, rated the program as likely to be sustained. Staff at two colleges, however, indicated that low enrollment has raised concerns about this degree program’s future. Although Dyersburg State Community College and Nashville State Community College launched this degree program in earnest, both have experienced a lack of student interest. Staff noted that the program is “confusing to students and employers” and attracts few of either.
- **Allied Health.** As noted above, although existing prior to RxTN, this degree program may not be sustained at one college. At two of the colleges where the program was newly implemented, staff rated it as very likely to be sustained. Staff at a third college indicated that this degree program was pending approval from the college for future implementation.
- **Occupational Therapy Assistant.** For those launching OTA as a new program, RxTN staff rated it as very likely to continue at one college and very unlikely at the other. The latter represents an inter-college partnership, which may not continue once the completion coach portion of the grant ends.

### RxTN Certificate Training Prescriptions

Table 3.2 summarizes RxTN staff ratings of the likelihood of RxTN certificate Training Prescriptions beyond the grant’s funding period. Shaded cells in the table represent certificate programs that existed prior to the launch of RxTN. The table is followed by a summary of comments on the rationale for continuation or discontinuation plans.

**TABLE 3.2: RxTN STAFF RATINGS OF LIKELIHOOD OF SUSTAINING CERTIFICATE PROGRAMS**

Institution	Certificate Training Programs			
	ECG Technician	Phlebotomy Technician	Patient Care Technician	IV Therapy
Columbia State	Likely	Likely	Likely	--
Dyersburg State	Very likely	Very likely	Very likely	Very unlikely
Jackson State	Very likely	Very likely	Very likely	--
Motlow State	Discontinue	Undecided	--	--
Nashville State	Undecided	Discontinue	Discontinue	Likely
Northeast State	Likely	Very likely	Very likely	--
Roane State	Very likely	Very likely	Very likely	Very likely
Southwest TN	Discontinue	Discontinue	--	Discontinue
Volunteer State	Likely	Likely	Likely	Undecided
Walters State	Very likely	--	--	--

Source: Final questionnaire—RxTN staff, as of April 2016. “--” indicates programs that were not implemented at participating institutions. NOTE: Cells shaded light blue represent programs that existed prior to RxTN.

**Sustaining New RxTN Certificate Training Prescriptions.** RxTN staff rated most noncredit certificate training prescriptions very likely or likely to be continued after the grant’s funding period. Importantly, in responses to a previous questionnaire, RxTN staff indicated at that time they were undecided about sustaining many more certificate programs, compared with this recent questionnaire. Thus, college decision makers seem to have reached measured conclusions about the future of certificate programs and whether they will be sustained.

- **ECG Technician.** RxTN staff indicated that this certificate program is likely or very likely to continue at seven of the nine colleges where it has been implemented. Staff at the colleges where this certificate was planned to be discontinued described the costs of maintaining an individual certificate program as a major determinant. One college is in the process of evaluating this certificate program to determine whether it may be competitive and whether to include clinical experience for students.
- **Phlebotomy Technician.** RxTN staff rated this certificate program as likely to continue at 6 of the 10 colleges where it has been implemented. At colleges where it is being discontinued, again, cost of maintaining an individual certificate program was described as a major factor in the decision. One college may continue this certificate program provided it is able to enroll enough students.

- **Patient Care.** RxTN staff rated Patient Care as likely to continue at six of the seven colleges offering that certificate program. It is being discontinued at the one college where it was planned but never fully deployed or implemented.
- **IV Therapy.** RxTN staff described this certificate program as successful and likely to continue at Nashville State as a new program and at Roane State where it existed prior to RxTN. Staff at the other three colleges, however, indicated less optimism about its continuation. Dyersburg State offered the certificate program once, with low enrollment and low student interest. Volunteer State has not launched or offered the class; staff noted uncertainty about whether the college will garner enough interest among students to make a class prior to the end of the grant. The decision about whether or not to sustain it will be based on interest and WIA approval (which, as a staff member noted, may take up to three months). A decision has been made to discontinue it at Southwest Tennessee State.

**Bundling RxTN Certificate Training Prescriptions.** According to RxTN staff, an important factor in the decision about whether to sustain a certificate program is its viability and ability to be fully integrated into a department unit or similar structure. As standalone professional certificate programs, Phlebotomy Technician and ECG Technician graduates were described as having little likelihood of leading to gainful employment and, for the few open positions, are likely to saturate local markets. This point was factored into decision making about whether to sustain these certificate programs. Thus, colleges offering the individual courses as a packaged bundle were, overall, more confident about the future of the certificate programs. When the programs were rated as very unlikely to continue, staff described poor fit with existing programs, lack of personnel, and low revenue projections as the main reasons. These reasons help explain some of the shift in colleges' decisions to continue these certificate programs. For instance, at some colleges where the certificate programs previously were offered on an individual basis, RxTN staff noted that the college was unlikely to sustain ECG Technician and Phlebotomy Technician certificate programs. Once the college decided to bundle the programs, they experienced a "remarkable number of applications," one program coordinator noted. However, even at the colleges that opted to adopt the certificate bundles in earnest, most staff described their college's likely continual monitoring to determine the availability of staffing, enrollment in the program, and the certificate programs' strategic benefits to the college.

**Discontinuing RxTN Certificate Training Prescriptions.** RxTN staff at three colleges indicated that they planned to discontinue certificate Training Prescriptions that were launched or that were planned but not fully implemented. Among these, the TCAT partnering with Southwest Tennessee State will not sustain the ECG Technician, Phlebotomy Technician, or IV Therapy certificate programs because of low enrollment and local competition. Similar situations (i.e., TCAT partnership) and rationale (i.e., low enrollment and local competition) were described as underlying Motlow State's and Nashville State's decisions to discontinue certificate programs.

## RxTN Student Support Prescriptions

Table 3.3 summarizes the current status of planning for RxTN's Student Support Prescriptions beyond the grant's funding period. The table is followed by a summary of comments on the rationale for continuation or discontinuation plans. The services are organized from those rated as most to least likely to be sustained.

**Coaching Services.** All but one college intends to sustain completion coaching services. However, the exact nature and level of support for the position is in varying stages of planning. Staff at several partner colleges said their college leadership planned to sustain the completion coach model. At the colleges where a decision has not yet been made about sustaining the completion coach model, staff commented that planning is still under way to determine whether and, if so, how coaching will be provided. In some instances, staff said that Coaching and Retention Services are not likely to be provided at the same level as during the grant period, and may only be accomplished if grant funds are secured from another source.

TABLE 3.3: RxTN STAFF RATINGS OF STUDENT SUPPORT PRESCRIPTION SUSTAINABILITY

Institution	Student Support Service						
	Coaching & Retention Services	Prior Learning Assessment	Academic Plan Preparation	COMPASS Testing	Digital Literacy Training	Boot Camps	Career Aptitude Test
Chattanooga State	✓	✓	✓	✓			
Cleveland State	✓		✓				
Columbia State		✓	✓				
Dyersburg State	✓	✓		✓	✓	✓	
Jackson State	✓	✓			✓	✓	
Motlow State	✓	✓	✓	✓			
Nashville State	✓	✓	✓	✓			✓
Northeast State	✓	✓	✓		✓	✓	
Pellissippi State	✓		✓		✓		
Roane State	✓	✓	✓	✓	✓	✓	✓
Southwest TN	✓	✓	✓			✓	
Volunteer State	✓	✓	✓	✓	✓		✓
Walters State	✓	✓	✓	✓	✓		
<b>TOTAL</b>	<b>12</b>	<b>11</b>	<b>11</b>	<b>7</b>	<b>7</b>	<b>5</b>	<b>3</b>

Source: Final questionnaire—RxTN staff, as of April 2016.

**Prior Learning Assessment.** RxTN staff at most colleges said Prior Learning Assessment will continue to be implemented although its sustainability is likely to vary. At most colleges, Prior Learning Assessment was designed to serve specific RxTN training prescriptions, most notably ECG Technician, Phlebotomy Technician, and LPN-to-RN Mobility. In some colleges, the process of converting prior learning to credit is still in the planning stage. Some staff, for instance, said they are trying to balance Prior Learning Assessment’s usefulness to students with institutional and program quality perceptions.

**Academic Plan Preparation.** Most RxTN staff described Academic Plan Preparation as an essential component in achieving student success across the consortium and said this service was likely to continue. Staff at most colleges noted that Academic Planning services have either already been or are slated to be adopted by their colleges overall. In most cases, staff indicated that academic and college advisors employed at each college will take responsibility for preparing and administering student Academic Plans (as contrasted with new positions). At some colleges the importance of being able to meet with students one on one is seen as a priority, with other colleges leaving the implementation of Academic Plans open to interpretation for academic and college advisors.

**COMPASS Testing.** RxTN staff indicated that COMPASS Diagnostic Skills Remediation testing is likely to be continued at seven colleges. The administrators of the test—either through the admissions office, testing center, or other entity of the college—viewed COMPASS as a valuable tool in determining a student’s college readiness. At colleges where this testing is less likely to be sustained beyond the RxTN funding period, staff described the support service as tedious and redundant.

**Digital Literacy Training.** RxTN staff at seven colleges said that Digital Literacy Training was likely to be sustained. The means in which Digital Literacy Training will be administered will vary by college. However, the most commonly described approach was having someone in a completion coach role oversee Digital Literacy Training. Other mechanisms described include administering the service on a case-by-case basis through instructors or delivering the service through separate online tutorials.

**Boot Camps.** Boot camps were rated as likely to be continued at five colleges. RxTN staff who indicated that camps will be continued at their colleges described the caveat of funding as the most crucial determinant for the shape and

magnitude of boot camps. Most said their colleges are currently or planning to use subsequent grant funding to support camps.

**Career Aptitude Test.** The Career Aptitude assessment, Career Scope, was described as a useful tool and likely to be sustained at three colleges. Staff at colleges opting to forego this tool said their colleges had already adopted and were comfortable using other career aptitude exams such as the Kuder aptitude test and STRONGS.

## Section 3.2 Program Evaluation Recommendations

This section offers recommendations for DOL, decision-makers at the lead and co-grantee institutions, and other institutions wishing to pursue similar opportunities. Recommendations are organized into three broad themes, which are to provide guidance on fostering effective partnerships, extend the benefits of programmatic features, and support sustainability.

**Provide Guidance on Fostering Effective Partnerships.** DOL is uniquely positioned to assess best practices from across all TAACCCT grants and use that information to provide subsequent grantees across a variety of workforce development programs insights for planning, implementation, and refinement. In particular, DOL could help grantees in troubleshooting participation strategies among nonresponsive participants or inadequate participation from partner institutions, local industries, and curriculum developers.

- **Strengthen Administrative Leadership of Grant Programs.** As part of its work in promoting effective partnerships, DOL may wish to consider recommending to future grantees leadership models and practices, such as those executed by the RxTN leadership team. RxTN's leadership team provided coordinated communication and support to co-grantee institutions, thereby promoting consistent implementation and facilitating a learning community that strengthened the overall grant program implementation. Based on other evaluations the evaluation team has conducted, this structure and leadership approach are not universal. Future programs may benefit from adopting this leadership model. In addition, it may be beneficial to stakeholders of subsequent programs to receive guidance on front-end program planning, garnering institutional support and commitment, and creating uniform processes.
- **Formalize Agreements Between Participating Organizations.** For future grantees, creating written agreements with consultants, subject matter experts, and partner institutions prior to or immediately following program kickoff may reduce challenges similar to those encountered by the RxTN program; for example, decisions to no longer offer specific training programs or not to adopt the full range of intended programmatic features such as hybrid curriculum delivery.
- **Support Improved use of Workforce and Market Data.** The TAACCCT grant program recommended that grantees use workforce data to inform and strengthen their programs. However, many were unfamiliar with these data. Additional information and instruction on how to collect and use market intelligence, during planning and throughout implementation, is likely to strengthen the link between these grant programs and the workforce needs of their communities. Establishing supportive partnerships with local industries during grant writing or pre-implementation would contribute to more integrated and responsive market intelligence. In addition, co-grantee institutions with workforce partnerships can leverage these partnerships to promote student employment, ultimately strengthening program outcomes.

**Extend the Benefits of Programmatic Features.** The TAACCCT grant program prioritized the use of evidence-based program designs; several of these features were built into the RxTN program. Although these structural components were not as widely used across the consortium as anticipated, they showed promising results. Continuing to invest in and promote evidence-based design may further program and student success.

- **The Use of Stacked Credentials.** A key evidence-based component of the RxTN program was incorporating “stacked” or “bundled” noncredit programs. Although some institutions decided to continue offering their noncredit programs as individual, standalone programs, stakeholders from four institutions presented the RxTN noncredit programs as a bundled package. Students who enrolled in noncredit programs at these four institutions outperformed students enrolled at institutions that only offered stand-alone programs on their



industry-recognized certification exams. These students also were significantly more likely to find new work after program completion and to report a wage increase if they were already employed. This finding suggests that stacking or bundling these noncredit programs better equips students to take and pass certification exams and to improve their likelihood of finding employment. Further programs may want to implement “bundled” programs to maximize the benefits of noncredit certification programs.

- **Implement Hybrid Noncredit Programs.** The RxTN program planned to offer all noncredit programs in a hybrid format, using technology alongside face-to-face classroom instruction. Due to a variety of implementation decisions, just half of the RxTN co-grantee institutions offering noncredit programs provided them in a hybrid format. Students enrolled in hybrid programs were as likely or more likely to both pass their noncredit course and to go on and pass their nationally recognized certification exam, compared with students enrolled in fully traditional programs. Continuing to expand the implementation of these hybrid programs may be a cost-effective way to engage greater numbers of students while also promoting their success.

**Support Sustainability.** Finally, nearly all grant programs struggle with sustaining the program after the end of the funding period and DOL is well-positioned to provide guidance on program sustainability. Working across all TAACCCT or other DOL grant programs, future grantees may benefit from collective best practices and advice for creating enduring programmatic structures and distribute those strategies to grantees to support program sustainability. Future similar grant competitions could highlight these best practices and require grantees to build sustainable plans into their program designs.

- **Sustain Student Support Services.** Within RxTN, sustainability plans varied by institution with most planning to continue a total of five Student Support Services: Coaching and Retention Services, Prior Learning Assessment, Academic Plan Preparation, COMPASS Diagnostic Skills Assessment, and Digital Literacy Training. Each of these supports was positively correlated with at least one student outcome such as graduation or employment, indicating that if these programs are sustained, they are likely to have continued positive impact on students. As stakeholders at each institution make decisions about program sustainability, reaching out to institutions with significant correlations between support services and student outcomes to learn about success factors may strengthen support services, allow institutions to target particularly needs, and further improve student outcomes.
- **Sustain Successful Curricular Programs.** Within RxTN, sustainability plans for curricula also varied by institution. A number of factors, including leadership decisions, perceived value and enrollment, and operating cost, affected sustainability plans. Helping institutional stakeholders with long-term program planning and, as noted above, evidence-based design, may lead to the selection of curricular programs that fit with industry and student needs and, thus, serve long-term needs of the community.

## Appendices

### Appendix A: Data Sources

**TABLE A.1: EVALUATION DATA SOURCES**

Quantitative Data	
Student Tracking Data	<ul style="list-style-type: none"> <li>• This database was compiled and, at the end of each semester, combined to produce one longitudinal SPSS file of all students impacted by the RxTN program.</li> <li>• Demographic, enrollment, and participation data was collected by completion coaches for all students they have interacted with and by program coordinators for all enrolled students. This was reported in an Access database.</li> <li>• Data collected by completion coaches included student self-reported demographics, date of initial contact, student enrollment status, and list of support services received.</li> <li>• Data collected by the program coordinators included extant data from the institutions' BANNER system such as student demographics, institution, enrollment date, program of study, graduation data and GPA. In addition, this data included COMPASS test scores and data from RxTN student enrollment paperwork, including RxTN program enrollment data, employment status, TAA-eligibility, and dislocated worker status.</li> </ul>
Student Surveys	<ul style="list-style-type: none"> <li>• Completion coaches and program coordinators administered two surveys to enrolled students—once at program entry and once at program completion or graduation. A total of 1,212 students completed this baseline survey (see Appendix B), and 616 students submitted the completion survey.</li> <li>• Student surveys collected supplemental data on use of and satisfaction with Student Support Services, employment aspirations, and overall program satisfaction, along with basic student and program demographic data.</li> <li>• Data from these student surveys were matched to student tracking data from program coordinators and completion coaches, and merged into one large longitudinal SPSS data file.</li> </ul>
Comparison Surveys	<ul style="list-style-type: none"> <li>• At program completion, students in the comparison group received a survey similar to the RxTN completion survey (n=49) and received a survey three months after program completion.</li> </ul>
Qualitative Data	
Implementation Interviews	<ul style="list-style-type: none"> <li>• Evaluators conducted interviews with grant staff, college leaders, and instructors in September and October 2013 and May 2015 to learn about program implementation. Interviews with 31 individuals were conducted in person and by telephone.</li> <li>• Evaluators also interviewed RxTN's leadership team members during these studies to learn about their perspectives related to each college's implementation challenges and structures used to facilitate cross-site implementation.</li> <li>• Evaluators conducted interviews with program developers in October 2013.</li> </ul>
Implementation and Sustainability Interviews	<ul style="list-style-type: none"> <li>• Evaluators conducted interviews with grant staff (completion coaches and program coordinators) in September and October 2015 and March and April 2016 to learn about continued implementation and institutional plans to sustain</li> </ul>

	<p>RxTN support services and curricula after the grant's funding period. During each round of data collection, interviews with 28 individuals were conducted in person and by telephone.</p> <ul style="list-style-type: none"> <li>• Evaluators also interviewed RxTN's leadership team members during this study to learn about their perspectives related to each college's sustainability plans.</li> </ul>
Case Study Interviews and Focus Groups	<ul style="list-style-type: none"> <li>• Evaluators conducted interviews and focus groups in April and May 2014 with grant leadership at Roane State as well as grant staff, college and departmental leadership, course instructors, business representatives, and students involved in the RxTN Phlebotomy Technician program at Columbia State, Northeast State, Motlow State, and Roane State. Fourteen interviews and three focus groups were conducted in person. In addition, evaluators conducted telephone interviews with six additional staff members at colleges offering Phlebotomy Technician.</li> <li>• In March and April 2015, evaluators conducted interviews and focus groups with grant leadership at Roane State as well as grant staff, departmental and college leaders, course instructors, and students involved in the RxTN Phlebotomy Technician program at Columbia State, Dyersburg State, Jackson State, Nashville State, Northeast State, and Motlow State, Roane State, Southwest Tennessee State, and Volunteer State. In total, 54 interviews were conducted.</li> <li>• In addition, during each data collection period, evaluators interviewed RxTN's leadership team.</li> </ul>
Final RxTN Questionnaire	<ul style="list-style-type: none"> <li>• RxTN staff were asked to complete a short questionnaire in April 2016. Questions addressed program close-out, the likelihood of program sustainability after the end of the grant program, and best practices developed throughout the course of the grant.</li> </ul>
<b>Document Review and Additional Sources</b>	
RxTN Program Report and Documents	<ul style="list-style-type: none"> <li>• The following program documents and reports were analyzed <ul style="list-style-type: none"> <li>○ RxTN Technical Grant Proposal</li> <li>○ RxTN Performance to Plan Report</li> <li>○ Annual Review Report (December 2013, 2014, and 2015)</li> <li>○ Compliance Monitoring Audits—summary memos</li> <li>○ Strategic Planning Meetings—notes and slides</li> <li>○ Phlebotomy curriculum, course syllabi, and related materials</li> </ul> </li> </ul>
Adobe Connect Meetings	<ul style="list-style-type: none"> <li>• Regular Adobe Connect meetings have been held with grant staff since June 2013. Meeting notes and presentations were analyzed along with curriculum presentations conducted through Adobe Connect and evaluation meetings held through this platform.</li> </ul>
Trainings	<ul style="list-style-type: none"> <li>• Three formal training sessions for all grant staff took place in June 2013, 2014, and 2015. Agendas, notes, and PowerPoint slides from these trainings were analyzed along with the same materials from a smaller training in September 2013.</li> </ul>

## Appendix B. Survey Response Rates

**TABLE B.1: STUDENT SURVEY RESPONSE RATE BY RXTN INSTITUTION  
AS OF SPRING 2016**

Institution	Fall 2103			Spring 2016		
	Enrolled Students	Student Surveys	Survey Response Rate	Enrolled Students	Student Surveys	Survey Response Rate
Chattanooga State	24	14	58%	116	98	85%
Cleveland State	7	6	86%	144	55	38%
Columbia State	16	9	56%	221	136	62%
Dyersburg State	24	11	46%	291	225	77%
Jackson State	5	15	100%	195	132	68%
Motlow State	0	--	--	181	28	15%
Nashville State	13	2	15%	92	67	73%
Northeast State	0	--	--	129	108	84%
Pellissippi State	0	--	--	94	71	76%
Roane State	13	2	15%	500	83	17%
Southwest TN State	0	--	--	211	97	46%
Volunteer State	12	3	25%	157	111	71%
Walters State	0	--	--	67	1	1%
<b>Total</b>	<b>114</b>	<b>62</b>	<b>54%</b>	<b>2,399</b>	<b>1,212</b>	<b>51%</b>

Source: RxTN Baseline Survey of Healthcare Students, through Spring 2016; RxTN Student Tracking Data—Program Coordinators, through Spring 2016.

## Appendix C. References

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