

*Advancing Careers and Training for Healthcare (ACT for Healthcare)* is a collaboration of all 16 colleges in the Wisconsin Technical College System (WTCS), industry partners, workforce development systems, and previous TAACCCT grant recipients to develop, expand, and enhance healthcare training programs. Using innovative training methods aligned with industry needs, the project will create educational pathways and improve employment outcomes for TAA-eligible workers, veterans, and other adults in the high-demand field of healthcare.

## **1) STATEMENT OF NEED**

From 1990 to 2009, the number of workers in Wisconsin's robust healthcare industry increased by 106%,<sup>1</sup> remaining steady even during the recent recession.<sup>2</sup> The workforce continues to grow, with 387,882 jobs throughout the state projected to increase to nearly 423,000 by 2018, representing a greater increase than any other industry.<sup>3</sup> The *ACT for Healthcare* consortium will address the need to train workers for important occupations within a rapidly changing industry.

### **a) Serving the Education and Training Needs of TAA-Eligible Workers**

*i. Impact of Foreign Trade* – Since January 2013, 35 Trade Adjustment Act (TAA) petitions have been certified in Wisconsin, impacting 3,448 workers. Table 1 provides details on the 25 petitions impacting 20 or more workers at a company (3,381 individuals total).<sup>4</sup>

In 2013-14, of the 3,137 individuals in Wisconsin who became employed following a TAA certified dislocation, an average of 72% had participated in a training program of some sort.<sup>5</sup> And while nearly all TAA petitions in Wisconsin have come from the manufacturing

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<sup>1</sup> Wisconsin Area Health Education Center System (2011). State Health Care Workforce Development (SHCWD) Planning Grant Project Report for Period 2010-11.

<sup>2</sup> Wisconsin Department of Revenue (2013). Wisconsin Economic Outlook. Summer 2013.

<sup>3</sup> Economic Modeling Specialists, Inc. (2014). Industry Report, State of Wisconsin Region, using data from the Quarterly Census of Employment and Wages and other sources from the Department of Workforce Development.

<sup>4</sup> Wisconsin Department of Workforce Development (2014). TAA Petition Numbers 1/1/2013-6/2/2014.

<sup>5</sup> Wisconsin Department of Workforce Development (2014). Industry of Employer for TAA Program Exiters Report, (DE1515 Industry Code of Employment in 2<sup>nd</sup> Quarter After Exit Quarter), dated May 15, 2014.

industry, individuals impacted have sought occupations outside of this sector. For example, 404 workers (13%) selected careers in healthcare, the second most popular re-employment industry behind manufacturing. Healthcare careers require more training than others: of TAA participants working in the healthcare industry following their initial lay-off, nearly 90% received some sort of training in preparation for employment, compared to just 65% in manufacturing.<sup>6</sup>

<b>Table 1: TAA Determinations in Wisconsin Impacting 20 or More Workers (2013-14)</b>						
<b>Region</b>	<b>Community</b>	<b>Company Name</b>	<b>Industry</b>	<b>Workers</b>	<b>Petition #</b>	<b>Date</b>
Bay Area	Green Bay	The Nielsen Company	Prof, Sci, & Tech Services	35	82206	1/11/13
	Appleton	Plexus Corporation- Neenah Design Center/Appleton 1&2	Manufacturing	228	82221	4/5/13
	Kiel	A.A. Laun Furniture Company	Manufacturing	43	82837	8/2/13
	Manitowoc	Broadwind Towers, Inc.	Manufacturing	237	83338	1/31/14
	Manitowoc	Manitowoc Ice Inc.	Manufacturing	200	85238	5/21/14
Fox Valley	OshKosh	Interstate Brands Corp. (IBC)	Manufacturing	183	82165 TT	2/19/13
	Oshkosh	Axle Tech International	Manufacturing	80	82763	6/7/13
	Neenah	Pitney Bowes	Manufacturing	50	83053	11/15/13
	Ripon	Alliance Laundry Systems	Manufacturing	734	83341	2/19/14
Milwaukee County	Milwaukee	Harley Davidson	Manufacturing	188	82257	1/28/13
	Milwaukee	Integrated Medical Partners	Health Care & Social Asst	21	82266	3/13/13
	Milwaukee	C&D Technologies	Manufacturing	90	82782	7/3/13
	Milwaukee	Rockwell Automation	Manufacturing	42	82857	8/1/13
	Milwaukee	Kohl's Department Stores, Inc.	Manufacturing	67	82966	8/20/13
	Milwaukee	Rock-Tenn Company	Manufacturing	68	83220	12/31/13
	Milwaukee	FIS	Manufacturing	412	83320	1/30/14
North Central	Biron	New Page Wisconsin Systems, Inc.	Manufacturing	20	82496F	5/9/13
	Wisconsin Rapids	New Page Wisconsin Systems, Inc.	Manufacturing	56	82496C	5/9/13
	Wausau	Clover Industries Inc.	Manufacturing	30	82507	5/30/13
South Central	Waterloo	Trek Bicycle Company	Manufacturing	70	82970	11/7/13
	Montello	Glen Oak Lumber & Milling Inc.	Manufacturing	43	83232	1/9/14
Washington-Ozaukee-Waukesha	Brookfield	YP Holdings LLC	Prof, Sci, & Tech Services	44	82402	4/9/13
	New Berlin	BuySeasons, Inc.	Manufacturing	280	82942	9/9/13
	Pewaukee	Eaton's Cooper Power System	Manufacturing	80	83274	1/24/14
	Pewaukee	ADECCO-Eaton Corporation	Admin Support	80	83274A	1/24/14
<b>35 certifications impacting 20 or more</b>				<b>3,381 workers impacted</b>		

<sup>6</sup> Ibid.

*ii. Education and Training Needs of TAA-Eligible Workers* – Few TAA-eligible workers in Wisconsin have any postsecondary experience to prepare them for high-demand jobs; nearly 70% lack any type of postsecondary credential, putting them at a disadvantage in an economy where most jobs require postsecondary training.<sup>7</sup> Most TAA-eligible workers in Wisconsin are 50 years or older and are concerned about succeeding in higher education. In fact, 93% of the population reported obtaining a credential was “very/extremely important,” but 59% had “great/extreme concern” about their “ability to succeed in school.”<sup>8</sup>

**Table 2: Age of TAA-Eligible Workers in Wisconsin**

Ages	Percent of Workers
<20	0.1%
20’s	4.4%
30’s	10.0%
40’s	20.1%
50’s	46.0%
60’s	19.3%
70+	0.1%

Many TAA-eligible workers in Wisconsin also require intense supportive services to help them succeed academically and

**Table 3: Educational Level of TAA-Eligible Workers in Wisconsin**

Education Level	Percent of Workers
Less than 9 <sup>th</sup> Grade	2.7%
9 <sup>th</sup> Grade	0.7%
10 <sup>th</sup> Grade	1.7%
11 <sup>th</sup> Grade	3.7%
High School Diploma	51.0%
GED or Equivalent	8.0%
Certification of Attendance/Completion	0.4%
Postsecondary	Percent of Workers
13 Years or Postsecondary Certificate	7.4%
14 Years	4.3%
Associates Diploma or Degree	8.1%
15 Years	0.9%
Other Postsecondary Degree/Certificate	2.3%
Bachelor’s Degree	7.3%
Beyond Bachelor’s Degree	0.4%
Master’s Degree/Equivalent	1.1%
Doctorate Degree/Equivalent	0.0%

gain (or regain) skills for securing employment. *ACT for Healthcare* will provide priority service to TAA-eligible workers for programs offered through the project. Support services and project activities have been carefully designed to meet the unique needs of the TAA-eligible population.

*iii. Strength of Partnerships with Cooperating TAA Agencies* – *ACT for Healthcare* will leverage existing partnerships with state workforce agencies to serve TAA-eligible workers. The

<sup>7</sup> Sullivan, T. (2012). The Road Ahead: Restoring Wisconsin’s Workforce Development. Report prepared for Governor Scott Walker.

<sup>8</sup> Consortium Member Institutional Research Offices (2012). TAA Student Survey, conducted April, 2012.

Wisconsin Department of Workforce Development (DWD) is a state agency charged with building and strengthening Wisconsin's workforce, headed by a Governor-appointed Secretary. Its primary responsibilities include providing job services, training, and employment assistance to people looking for work. In 2013, DWD published strategic goals to "improve our ability to connect job seekers to jobs" and "develop a skilled labor force aligned with employers' needs."<sup>9</sup> DWD operates the Wisconsin Job Center system, which delivers services through locations in 57 communities throughout the state. The centers are part of the workforce system led by Wisconsin's 11 regional Workforce Investment Boards (WIBs). Job Center partners include Job Service, Vocational Rehabilitation, technical colleges, county human service agencies, and other community organizations.

Wisconsin's technical colleges have successfully partnered with state workforce agencies in two previous rounds of TAACCCT funding and will continue to do so in this project. In 2013, technical college representatives met twice with 15 state and local-level labor system leaders to develop strategies for the TAACCCT Round 3 application, *Intentional Networks Transforming Effective and Rigorous Facilitation of Assessment, Collaboration, and Education* (INTERFACE). In these planning sessions, project leaders and attendees "mapped out similarities in common goals and identified potential targets or focus of services based on group consensus."<sup>10</sup> The *ACT for Healthcare* consortium will build on this work with DWD, Wisconsin Workforce Development Association, and the Wisconsin Department of Veterans Affairs to align strategic goals and initiatives with grant-funded activities. Letters of commitment from DWD and WWDA are included as attachments to this proposal. At the local/regional level, each consortium member will collaborate and/or contract with their area WIB to ensure project

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<sup>9</sup> WI DWD (2013). Wisconsin Department of Workforce Development Strategic Plan. July 2013.

<sup>10</sup> Northcentral Technical College (2013). INTERFACE TAACCCT Round III Project Narrative.

participants are recruited into grant-funded training programs, as well as provide comprehensive support services required to move them through programs and into jobs.

The *ACT for Healthcare* consortium will also actively recruit U.S. veterans into programs, providing them with priority of service, per the Jobs for Veterans Act (Public Law 107-288). There are an estimated 409,419 veterans living in Wisconsin.<sup>11</sup> While veterans are more likely than non-veterans to have attended some college, they are less likely to have completed a degree.<sup>12</sup> According to the National Survey of Veterans, 73% of veterans using education benefits indicated the benefits were “extremely important” or “very important” in helping them meet educational goals and prepare for a better job.<sup>13</sup>

## **b) Evidence of Job Opportunities in the Targeted Industries and Occupations**

*i. Evidence of Employer Demand for Targeted Industries and Occupations* – The healthcare sector in Wisconsin is thriving, employing 12.8% of the state’s workforce. With a projected increase of 35,046 jobs, the industry will employ 13.5% of the labor market by 2018.<sup>14</sup> As the state’s population ages – the percentage of individuals aged 65 and older is projected to increase from 14% to 24% by 2040<sup>15</sup> – the need for skilled healthcare workers will continue to grow. This expected need has prompted all 11 of Wisconsin’s WIBs to develop healthcare sector strategies to connect with each other, identify shared needs of their industry, and design approaches to solve identified problems.<sup>16</sup>

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<sup>11</sup> U.S. Department of Veterans Affairs, National Center for Veterans Analysis and Statistics (2013). Veteran Population Statistics. Retrieved online at: [http://www.va.gov/vetdata/Veteran\\_Population.asp](http://www.va.gov/vetdata/Veteran_Population.asp).

<sup>12</sup> National Center for Veterans Analysis and Statistics (2011). Educational Attainment of Veterans: 2000 to 2009. Report prepared with data from the U.S. Census Bureau’s Bureau of Labor Statistics.

<sup>13</sup> National Center for Veterans Analysis and Statistics (2010). National Survey of Veterans, Active Duty Service Members, Demobilized National Guard and Reserve Members, Family Members, and Surviving Spouses. Retrieved online at: <http://www.va.gov/vetdata/docs/SurveysAndStudies/NVSSurveyFinalWeightedReport.pdf>.

<sup>14</sup> Economic Modeling Specialists, Inc. (2014). Industry Report, State of Wisconsin Region, using data from the Quarterly Census of Employment and Wages and other sources from the Department of Workforce Development.

<sup>15</sup> Competitive Wisconsin, Inc. (2012). Be Bold 2: Growing Wisconsin’s Talent Pool.

<sup>16</sup> Wisconsin Workforce Development Association (2014). Summary of Healthcare Industry Partnerships document.

Launched in 2013 by Governor Scott Walker and administered by DWD, the Wisconsin Fast Forward program offers support to businesses for worker training programs. Fast Forward connects education and workforce networks around the state to develop solutions for demand-driven training needs. WTCS colleges are named as the training partners in many of these employer-led training projects.

*ii. Understanding of Skills Required in the Targeted Industries and Occupations – ACT for Healthcare* will draw on its close relationships with industry as well as established partnerships/sector alliances to seek employer feedback on content developed and delivered during the project period. All WTCS colleges have program advisory committees of regional employers and employees, which meet bi-annually to help inform educational program content and delivery. Advisory committees are actively involved in decisions to develop or modify programs by providing an employers' perspective on relevant technology and trends in the workforce, keeping content and training responsive to changes in industry needs.

Advisory committee members also offer guidance and partnership in work-based learning opportunities, particularly in healthcare fields, where internships and clinical requirements are rigorous. The *ACT for Healthcare* consortium members will work with 48 employers and industry representatives to develop, modify, and implement career pathways in identified occupational areas to improve and accelerate training and employment outcomes. The consortium will also benefit from industry sector partnerships between regional employers and WIBs, along with regional collaborative planning efforts of other workforce agencies.

**Table 4: Target Occupation Areas for Each Consortium Member as Matched to Employment Trends in the State of Wisconsin<sup>17</sup>**

SOC Major Group	College(s)	Sample Occupational Title <sup>18</sup>	SOC Code	2010	2020	Change	Annual Openings <sup>19</sup>	NAICS
Healthcare Practitioners and Technical	Lakeshore; Waukesha; Wisconsin Indianhead; Madison; Mid-State; Western; Northcentral	Registered Nurses	29-1141	57,760	71,540	24%	2,420	62
	Northcentral; Northeast; Southwest	Medical and Clinical Laboratory Technicians	29-2012	2,800	3,070	10%	80	62
	Northcentral; Madison	Dental Hygienists	29-2021	4,890	5,790	19%	190	62
	Northeast	Cardiovascular Technologists and Technicians	29-2031	1,140	1,470	29%	50	62
	Northcentral	Radiologic Technologists	29-2034	4,650	5,770	24%	180	62
	Blackhawk; Gateway; Madison; Mid-State	Emergency Medical Technicians/Paramedics	29-2041	6,380	7,470	17%	240	62
	Northcentral	Dietetic Technicians	29-2051	320	370	15%	10	62
	Lakeshore	Pharmacy Technicians	29-2052	7,360	8,490	15%	240	62
	Northcentral; Mid-State; Madison	Respiratory Therapist	29-1126	1,870	2,420	29%	90	62
	Gateway; Northcentral; Madison; Mid-State	Surgical Technologists	29-2055	2,540	2,950	16%	80	62
	Lakeshore; Northeast; Waukesha; Wisconsin Indianhead; Mid-State	Licensed Practical/Vocational Nurse	29-2061	10,400	12,060	16%	440	62
	Northeast; Mid-State	Medical Records and Health Information Technicians	29-2071	4,250	4,950	17%	160	62
Healthcare Support	Western	Home Health Aides*	31-1011	875,100	1,299,300	49%	59,070	62
	Chippewa Valley; Nicolet; Madison; Mid-State; Western	Nursing Assistant	31-1014	37,980	44,270	17%	1,120	62
	Western	Orderlies	31-1015	37,980	44,270	17%	1,120	62
	Madison; Western	Occupational Therapy Assistants	31-2011	840	1,060	26%	40	62
	Madison; Western	Physical Therapist Assistants	31-2021	1,400	1,780	27%	60	62

<sup>17</sup> Career One Stop (2014). Sponsored by the U.S. Department of Labor, Employment and Training Administration. Retrieved online at: [www.careerinfonet.org](http://www.careerinfonet.org).

<sup>18</sup> O\*NET OnLine (2014). Created for the U.S. Department of Labor, Employment and Training Administration, by the National Center for O\*NET Development. Retrieved online at: [www.onetonline.org](http://www.onetonline.org).

<sup>19</sup> Average annual job openings due to growth and net replacement.

	Madison	Massage Therapists	31-9011	3,240	3,650	13%	90	62
	Gateway	Dental Assistants	31-9091	5,260	5,950	13%	180	62
	Milwaukee; Northeast; Madison; Mid-State	Medical Assistant	31-9092	10,870	12,690	17%	350	62
	Northcentral; Northeast; Mid-State	Phlebotomists	31-9097	4,680	5,250	12%	130	62
	Southwest	Healthcare Support Workers, All Other	31-9099	4,680	5,250	12%	130	62
Personal Care and Service	Northcentral; Wisconsin Indianhead; Western	Personal Care Aides	39-9021	31,130	42,600	37%	1,390	62
	Western	Personal Care and Service Workers, All Other	39-9099	2,180	2,370	9%	70	62
Office and Administrative Support	Northeast	Receptionists and Information Clerks	43-4171	18,730	21,360	14%	830	56
	Chippewa Valley; Northeast	Medical Secretaries	43-6013	13,670	17,610	29%	580	62
	Northeast; Madison	Insurance Claims and Policy Processing Clerks	43-9041	7,830	9,090	16%	360	52
Life, Physical and Social Science	Southwest	Food Scientists and Technologists	19-1012	690	780	11%	40	62
	Southwest	Agricultural Technicians	19-4011	800	860	7%	30	62
Community and Social Service	Western	Mental Health Counselors	21-1014	1,940	2,340	21%	80	62
	Mid-State	Health Educators	21-1090	1,120	1,470	32%	60	62
	Western	Social and Human Service Assistants	21-1093	7,800	8,310	7%	220	62

*\*Data for Home Health Aides (SOC Code 31-1011) is not yet available in Wisconsin. Employment data reflects national (U.S.) trends.*



<b>Table 5: Skills and Abilities Required for Target Occupations</b>		
<b>Sample Title</b>	<b>Top Three Skills</b>	<b>Top Three Abilities</b>
Registered Nurses	Active Listening; Social Perceptiveness; Service Orientation	Oral Comprehension & Expression; Problem Sensitivity
Medical and Clinical Laboratory Technicians	Active Listening; Critical Thinking; Reading Comprehension;	Near Vision; Oral Comprehension; Finger Dexterity
Dental Hygienists	Speaking; Active Listening; Critical Thinking	Near Vision; Problem Sensitivity; Oral Comprehension
Cardiovascular Technologists and Technicians	Active Listening; Monitoring; Critical Thinking	Problem Sensitivity; Oral Comprehension & Expression
Radiologic Technologists	Active Listening; Speaking; Reading Comprehension	Oral Comprehension & Expression; Problem Sensitivity
Emergency Medical Technicians/Paramedics	Critical Thinking; Active Listening; Coordination	Problem Sensitivity; Deductive & Inductive Reasoning;
Dietetic Technicians	Monitoring; Reading Comprehension; Speaking	Oral Comprehension & Expression; Deductive Reasoning
Pharmacy Technicians	Active Listening; Reading Comprehension; Speaking	Near Vision; Oral Comprehension; Oral Expression
Respiratory Therapist	Active Listening; Critical Thinking; Monitoring	Inductive Reasoning; Problem Sensitivity; Deductive Reasoning
Surgical Technologists	Monitoring; Active Listening; Operation Monitoring	Oral Comprehension; Near Vision; Problem Sensitivity
Licensed Practical/Vocational Nurse	Service Orientation; Active Listening; Coordination	Oral Comprehension; Oral Expression; Problem Sensitivity
Medical Records and Information Technicians	Reading Comprehension; Active Listening; Critical Thinking	Near Vision; Oral & Written Comprehension
Home Health Aides	Active Listening; Service Orientation; Critical Thinking	Oral Expression & Comprehension; Problem Sensitivity
Nursing Assistant	Service Orientation; Active Listening; Service Perceptiveness	Oral Comprehension; Problem Sensitivity; Near Vision
Orderlies	Service Orientation; Active Listening; Service Perceptiveness	Oral Comprehension; Problem Sensitivity; Near Vision
Occupational Therapy Assistants	Reading Comprehension; Active Listening; Judgment and Decision Making	Oral Comprehension & Expression; Problem Sensitivity
Physical Therapist Assistants	Active Listening; Monitoring; Social Perceptiveness	Oral Comprehension & Expression; Problem Sensitivity
Massage Therapists	Speaking; Active Listening; Critical Thinking	Oral Comprehension & Expression; Dynamic Strength
Dental Assistants	Active Listening; Reading Comprehension; Speaking	Oral Comprehension; Near Vision; Oral Expression
Medical Assistant	Speaking; Active Listening; Reading Comprehension	Oral Comprehension & Expression; Problem Sensitivity
Phlebotomists	Active Listening; Service Orientation; Social Perceptiveness	Near Vision; Problem Sensitivity; Arm-Hand Steadiness
Healthcare Support Workers, All Other	N/A	N/A
Personal Care Aides	Service Orientation; Active Listening; Social Perceptiveness	Oral Comprehension; Problem Sensitivity; Information Ordering
Personal Care and Service Workers, All Other	N/A	N/A
Receptionists and Information Clerks	Speaking; Active Listening; Service Orientation	Oral Expression & Comprehension; Speech Clarity
Medical Secretaries	Speaking; Active Listening; Service Orientation	Oral Comprehension & Expression; Speech Clarity
Insurance Claims and Policy Processing Clerks	Active Listening; Reading Comprehension; Speaking	Written Comprehension; Oral Expression; Speech Recognition
Food Scientists and Technologists	Active Listening; Reading Comprehension; Writing	Inductive Reasoning; Oral Comprehension; Problem Sensitivity
Agricultural Technicians	Reading Comprehension; Critical Thinking; Writing	Near Vision; Oral Comprehension; Oral Expression
Mental Health Counselors	Active Listening; Social Perceptiveness; Service Orientation	Oral Comprehension & Expression; Problem Sensitivity
Health Educators	Speaking; Active Listening; Critical Thinking; Writing	Oral Expression; Speech Clarity; Oral Comprehension
Social and Human Service Assistants	Active Listening; Service Orientation; Social Perceptiveness	Oral Expression & Comprehension; Problem Sensitivity

### c) Gap Analyses

*i. Significant Gaps in Existing Education and Career Training Programs* – Healthcare has been identified as a key industry sector for securing Wisconsin’s economic future.<sup>20</sup> In 2012, Competitive Wisconsin, Inc. (CWI) defined Nursing and Health Related Professions as one of five skills clusters for major employer groups in the state, representing industries associated with high growth, performance, and entrepreneurialism. The cluster is expected to add more jobs than any other; 24% of all jobs in the state will fall within this group by 2018. Demand for the skills cluster exceeded supply by about 2% in 2012, but will outstrip supply by 13% in 2021. Since jobs in this cluster are projected to increase by 43% in the same time period, this represents a significant skills gap in Wisconsin’s healthcare sector. Training for these jobs will be critical, particularly for two-year institutions, as 62% of healthcare job openings between 2010 and 2020 will require an associate’s degree or less.<sup>21</sup>

An aging population will exacerbate the healthcare worker shortage. Wisconsin residents aged 65 and older will increase from 770,000 in 2010 to more than 1.5 million by 2040, but the 15-64 age group will remain steady.<sup>22</sup> For the healthcare sector, this double-edged sword is of great concern: “The growth in the number of older residents is in sharp contrast to... the number of people available to work... It is also expected that older residents will consume more health care.”<sup>23</sup> Employment in areas associated with long-term care and related health support will be especially in demand. Amongst the target occupations, there are more projected openings for nursing assistants, registered nurses, home health aides, and personal care aides than the rest of the occupations combined (see Table 4).

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<sup>20</sup> Competitive Wisconsin, Inc. (2012). Be Bold 2: Growing Wisconsin’s Talent Pool.

<sup>21</sup> Carnevale, P., Smith, N., Gulish, A., Beach, B. (2012). Healthcare State Report. Georgetown University Public Policy Institute. Retrieved online at: <https://georgetown.app.box.com/s/c8xqd81dcq8hzd53blqh>.

<sup>22</sup> Wisconsin Hospital Association (2013). Wisconsin’s Health Care Workforce: 2013 Report.

<sup>23</sup> Ibid.

***ii. Impact of Gaps on Applicant's Ability to Serve TAA-eligible Workers and Other Adults***

Workforce Demand and WTCS Training Programs: In 2012-13, WTCS colleges graduated 14,019 students from 52 healthcare programs.<sup>24</sup> More than 90% of these individuals were employed after graduation, working an average of 40 hours per week and earning a median salary of \$33,277.<sup>25</sup> However, these graduates still do not meet employer demand, as evidenced in the sector's massive growth and projected annual job openings.

Wait Lists and Time to Completion: Despite the large number of healthcare programs offered by WTCS colleges, thousands of technical college students spend time on wait lists to begin training. This creates a bottleneck in the pipeline, increasing students' time to completion and intensifying the workforce demand as jobs open up with too few workers to fill them. Though employers have a need for skilled workers in the healthcare field, limited resources have made it impossible for the technical colleges to keep up with demand.

Practical Skills of Healthcare Students: Many of the consortium's healthcare programs have rigorous clinical requirements to provide hands-on experience in healthcare environments. While students wait to be enrolled in healthcare education programs, clinical and lab space is limited, making it difficult to expand capacity to meet demand. This issue is mitigated in part by simulated learning, which can supplement or replace some clinical requirements in training programs. Simulation standardizes the clinical experience for students and ensures a well-rounded understanding of crucial topics. Patient safety is also improved by learning through repetition: students have more opportunity to practice skills over and over without increasing risk to actual patients. The expansion and enhancement of simulation learning is part of the solution to the shortage of clinical sites for healthcare training.

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<sup>24</sup> Wisconsin Technical College System (2014). Graduate Follow Up Report: 2013 Graduates.

<sup>25</sup> Ibid.

Program Preparation and Student Attrition: The TAACCCT Round 1 grant project, *Bridges2HealthCare*, which included eight two-year colleges in Minnesota, Iowa, and Wisconsin, identified four primary gaps that limited the target population’s completion of healthcare training programs: 1) Lack of preparation for healthcare industry careers; 2) Lack of familiarity with the college environment and institutional supports; 3) Lack of basic skills support before and during occupational training; and 4) Lack of ability to utilize prior knowledge and experience towards college credit. Though graduates from WTCS healthcare programs have success in getting jobs, they struggle to complete programs for these reasons.

## 2) METHODOLOGY AND WORKPLAN

*ACT for Healthcare* will address gaps in healthcare education and training in Wisconsin through a comprehensive, strategic approach, working collaboratively as a system to address each of the TAACCCT core elements. The goals of *ACT for Healthcare* are to: 1) Increase attainment of degrees, certifications, certificates, diplomas, and other industry-recognized credentials that match the skills needed by employers to better prepare TAA-eligible workers, veterans, and other adults for high-wage, high-skill employment or re-employment in the healthcare industry; 2) Introduce or replicate innovative and effective methods for designing and delivering instruction that address specific industry needs and lead to improved learning, completion, and other outcomes for TAA-eligible workers, veterans, and other adults; and 3) Demonstrate improved employment outcomes. The consortium will achieve these goals using a cohesive approach to implement strategies, drawing on several evidence-based design elements.

Strategy	Core Elements	Evidence-Based Design Elements
1.1 Expand capacity of Wisconsin technical colleges to create and implement career pathways in healthcare.	1, 2, 4, 5	Career Pathways
1.2 Improve student success in healthcare programs.	1, 2, 5	Student Support Services
1.3 Offer career guidance for students in healthcare programs.	1, 2, 5, 6	Career Pathways

2.1 Enhance simulation learning and technology in healthcare programs across the state.	1, 3	Simulation Learning
2.2 Establish statewide systems for awarding credit for prior learning.	1, 2, 5	Prior Learning Assessment
3.1 Align efforts of educators, employers, and workforce systems to better connect participants to jobs.	4, 5, 6	Career Pathways
3.2 Disseminate statewide relevant program graduate employment data.	4, 5, 6	Career Pathways; Student Support Services

### a) Evidence-Based Design (Core Element 1)

#### *i-ii. Evidence for Program Design and Description of Research Findings – ACT for*

*Healthcare* was designed using research and best practices from previously-funded Wisconsin TAACCCT grants and additional research to support the following key elements: **Prior Learning Assessment, Career Pathways, Simulation Learning, and Student Support Services**. A description of research findings and their associated strength of evidence follows.

Prior Learning Assessment: Prior Learning Assessment (PLA) was a core component in Wisconsin’s Round 2 and 3 TAACCCT grants and supports strategy 2.2 in *ACT for Healthcare*. PLA creates an expedited path for student degree completion by granting credit for knowledge and competencies acquired through work experiences. The Council for Adult and Experiential Learning (CAEL) conducted a multi-institutional study, which included data from 48 postsecondary institutions and 62,475 students. They found PLA students “had better outcomes, particularly in terms of graduation rates and persistence, than other adult students. Many ... also shortened the time required to earn a degree, depending on the number of PLA credits earned.”<sup>26</sup> CAEL’s PLA research provides **moderate evidence of effectiveness**.

PLA opportunities for veterans transitioning into healthcare education has **evidence of promise**. A Texas study focused on U.S. Army Licensed Vocational Nurses (LVNs) and a “competency-based accelerated professional nursing program for Bachelor of Science in nursing

<sup>26</sup> CAEL (March 2010). Fueling the race to postsecondary success: A 48-Institution study of prior learning assessment and adult student outcomes. Chicago, IL. Retrieved from <http://files.eric.ed.gov/fulltext/ED524753.pdf>, p. 7

(BSN) education.”<sup>27</sup> U.S. Army medics who have completed LVN education in the military “could make significant contributions beyond the military arena, but their advanced LVN skills are rarely known or appreciated in the civilian sector.”<sup>28</sup> Developing a pathway from LVN to associate degree nursing programs and beyond was recommended. “The PLA approach provides an individualized curriculum for each veteran student, allowing the student to move rapidly through curriculum while remaining engaged and challenged in learning.”<sup>29</sup>

Career Pathways: The research on career pathways supports *ACT for Healthcare*’s 1.1, 1.3, 3.1, and 3.2 strategies. Conceptually, career pathways organize education in a “series of manageable steps leading to successively higher credentials and employment opportunities in growing occupations.”<sup>30</sup> *ACT for Healthcare* strategies incorporate contextualized remedial coursework, student support services, prior learning assessment, competency-based programs, and program-specific pathways. The Innovative Strategies for Increasing Self-sufficiency project (ISIS) began a randomized evaluation of multiple institutions’ career pathways in November 2011. Preliminary findings suggest pathways are effective when including well-designed skills assessments, innovative instructional approaches, student support services, and connections to employers. In a randomized study evaluating CUNY’s Accelerated Study in Associate Programs (ASAP) initiative, retention and credit accumulation improved after students attended full-time in a block schedule enriched with student support services.<sup>31</sup>

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<sup>27</sup> Allen, P., Billings, L., Green, A. Lujan, J., & Armstrong, M. (2012). Returning enlisted veterans- upward (to) professional nursing: Not all innovative ideas succeed, *Journal of Professional Nursing*, 28, 241-246.

<sup>28</sup> Ibid, p. 242

<sup>29</sup> Allen, P., Armstrong, M., Saladiner, J., Hamilton, M., & Conard, P. (2014). Opportunities, hurdles, solutions, and approaches to transition military veterans into professional nursing programs, *Journal of Professional Nursing*, p.12

<sup>30</sup> Fein, D. (2012). Career pathways as a framework for program design and evaluation: A working paper from the ISIS project. Office of Planning, Research and Evaluation. Retrieved from [http://www.projectisis.org/wp-content/uploads/2012/05/ISIS-CareerPathways-Framework-OPRE-2012-30\\_5-16-12.pdf](http://www.projectisis.org/wp-content/uploads/2012/05/ISIS-CareerPathways-Framework-OPRE-2012-30_5-16-12.pdf), p. 2

<sup>31</sup> Scrivener, S., Weiss, M., & Sommo, C. (2012). *What can a multifaceted program do for community college students? Early results from an evaluation of ASAP for developmental education students*. New York, NY: MDRC. Retrieved from <http://files.eric.ed.gov/fulltext/ED532840.pdf>

Contextualized learning includes a comprehensive assessment of basic skills, combined basic and occupational training, student support services, and participant connection to employers. A meta-analysis including 61 studies, several randomized, found that contextualized instruction promoted “short-term academic achievement and longer term college advancement of low-skilled students” across disciplines.<sup>32</sup> The Integrated Basic Education and Skills Training (I-BEST) program conducted a multivariate analysis with a sample of 31,000 basic skills education students and 900 I-BEST students at 24 colleges in Washington State. I-BEST pairs two instructors together to collaboratively teach technical and basic skills content to a class. I-BEST participants were more likely than the control group to transition to credit-bearing coursework, earn occupational certificates, and gain points on basic skills tests.<sup>33</sup> In Wisconsin, Regional Industry Skills Education (RISE) was implemented in 2007 through the Joyce Foundation’s *Shifting Gears* program. In a 2012 evaluation, RISE included 956 participants in 39 programs and reported 648 completers at 14 WTCS institutions.<sup>34</sup>

The competency-based education (CBE) approach looks at “the full array of knowledge, skills, attitudes, and other characteristics (KSAOs) for completing a task or course of study or performing a job, rather than simply knowledge alone.”<sup>35</sup> Preliminary research suggests that educators are “actively engaged in the identification and specification of core competencies critical to their graduates' career success.”<sup>36</sup> Research on career pathways provides **moderate evidence of effectiveness**, including contextualized learning as a core component. Although

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<sup>32</sup> Office of Planning, Research and Evaluation. (April 2014). *ISIS career pathways program profile: I-BEST program*. Retrieved from [http://www.acf.hhs.gov/sites/default/files/opre/isis\\_ibest\\_profile\\_final\\_6\\_6\\_2014\\_005.pdf](http://www.acf.hhs.gov/sites/default/files/opre/isis_ibest_profile_final_6_6_2014_005.pdf), p. 287

<sup>33</sup> Jenkins, D., Zeidenberg, M., & Kienzl, G. (May 2009). “Building Bridges to Postsecondary Training for Low-Skill Adults: Outcomes of Washington State’s I-BEST Program.” CCRC Brief No. 42. Retrieved from <http://ccrc.tc.columbia.edu/Publication.asp?uid=695>

<sup>34</sup> Roberts, B., & Price, D. (2012). Strengthening state systems for adult learners: An evaluation of the first five years of shifting gears. *Shifting Gears*. Retrieved from [http://www.joycefdn.org/assets/1/7/SG\\_Strengthening\\_State\\_Systems\\_Report\\_-\\_final.pdf](http://www.joycefdn.org/assets/1/7/SG_Strengthening_State_Systems_Report_-_final.pdf)

<sup>35</sup> Calhoun, J., Wrobel, C., & Finnegan, J. (2011). Current state in U.S. public health competency-based graduate education. *Public Health Reviews*. 33.1. P. 148-167., p. 152

<sup>36</sup> Ibid, P.159

CBE is in the early stages of adoption, **strong theory** supports this proposed practice.

Student Support Services: *ACT for Healthcare* includes the incorporation of evidence-based student support approaches into college programs, including supplemental instruction and peer tutoring, learning communities, digital literacy, student success coaching, and intrusive academic advising. Student support services support strategies 1.2 and 3.2 (see section 2B).

*Supplemental Instruction (SI)* “is an academic support program that targets historically difficult courses” to improve student learning, reduce attrition, and increase graduation rates.<sup>37</sup> The International Center for Supplemental Instruction tracked national SI data for 69 institutions from 2002 to present and included 726,320 students from 5,686 classes. In this longitudinal study, SI participants at two-year public institutions and within the health sector had lower D, F, and withdrawal grades and higher final GPAs than non-SI participants. This study provides a range from **evidence of promise** to possible **moderate evidence of effectiveness**.

*Learning communities* are defined as “small cohorts of students who are enrolled together in two or more linked courses in a single semester.”<sup>38</sup> Learning communities include faculty collaboration, collaborative learning, and enhanced support services.<sup>39</sup> MDRC evaluated Kingsborough Community College’s Opening Doors project, including 1,500 students randomly assigned into a program or control group. This study found statistically significant differences between program and control groups pertaining to degree attainment, total number of credits earned, and persistence.<sup>40</sup> Learning community research provides **strong evidence of**

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<sup>37</sup> University of Missouri- Kansas City. (2014). National Supplemental Instruction Report Fall 2002-Spring 2013. Powerpoint, received from [http://www.umkc.edu/asm/si/si-docs/National%20Data%20updated%20slides\\_09-13-2013.pdf](http://www.umkc.edu/asm/si/si-docs/National%20Data%20updated%20slides_09-13-2013.pdf), slide 11

<sup>38</sup> Visher, M., Weiss, M., Weissman, E., Rudd, T., & Wathington, H. (2012). *The effects of learning communities for students in developmental education: A synthesis of findings from six community colleges*. MDRC. Retrieved from <https://www.yumpu.com/en/document/view/5815190/executive-summary-national-center-for-postsecondary-research>, p. 5

<sup>39</sup> Weiss, M., Mayer, A., Cullinan, D., Ratledge, A., Sommo, C., & Diamond, J. (March 2014). A random assignment evaluation of learning communities at Kingsborough Community College: Seven years later. MDRC. Retrieved from [http://www.mdrc.org/sites/default/files/A\\_Random\\_Assignment\\_Evaluation\\_of\\_Learning\\_Communities\\_KCC.pdf](http://www.mdrc.org/sites/default/files/A_Random_Assignment_Evaluation_of_Learning_Communities_KCC.pdf)

<sup>40</sup> Sommo, C., Mayer, A., Rudd, T., and Cullinan, D. (July 2012). Commencement Day: Six-year effects of a freshman learning community program at Kingsborough Community College. MDRC. Retrieved from <http://www.mdrc.org/commencement-day>



**effectiveness.**

The use of *technology* in healthcare is burgeoning.<sup>41</sup> A survey of 266 baccalaureate and higher nursing programs in the United States found that 88% of programs “expected students to demonstrate computer literacy skills...and information literacy skills when graduating from their programs.”<sup>42</sup> Incorporating technology literacy for healthcare students provides **evidence of promise.**

*Student success coaching models* often include “academic advising, career exploration, and academic support services.”<sup>43</sup> A multi-institutional randomized study examined an initiative where coaches met regularly with students to help “students prioritize their studies, plan how they can be successful, and identify and overcome barriers to students’ academic success.”<sup>44</sup> In the study, 13,555 students across eight institutions were randomly assigned into cohorts.<sup>45</sup> Coached students showed statistically significant higher retention and graduation rates. Intrusive advising is defined as “high involvement advising” and includes “generating student responsibility for problem solving and decision making, assisting students in identifying resolvable causes of poor academic performance, and offering negotiated agreements for future actions.”<sup>46</sup> One study targeted students on academic probation by inviting them to participate in advising sessions. These students had statistically significant higher semester GPAs than the control group, composed of students who did not accept the invitation.<sup>47</sup> Research focused on

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<sup>41</sup> McNeil, B. J., Elfrink, V. L., Bickford, C. J., Pierce, S. T., Beyea, S. C., Averill, C., & Klappenbach, C. (2003). Nursing information technology knowledge, skills, and preparation of student nurses, nursing faculty, and clinicians: A U.S. survey. *Journal of Nursing Education*, 42(8), 341-349.

<sup>42</sup> Ibid, p. 344

<sup>43</sup> Neuhauser, C., & Weber, K. (2011). The student success coach. *New Directions for Higher Education*, 153, 43-52, p. 45

<sup>44</sup> Betting, E. & Baker, R. (2011). The effects of student coaching in college: An evaluation of a randomized experiment in student mentoring. *Stanford University School of Education*. Retrieved from [http://cepa.stanford.edu/sites/default/files/bettinger\\_baker\\_030711.pdf](http://cepa.stanford.edu/sites/default/files/bettinger_baker_030711.pdf) , p. 2

<sup>45</sup> Ibid, p. 10

<sup>46</sup> Vander Shee. (2007). Adding insight to intrusive advising and its effectiveness with students on probation. *NACADA Journal*, 27(2), 50-59, p. 50

<sup>47</sup>Ibid

student success coaching and intrusive advising ranges from **strong evidence of effectiveness** to **moderate evidence of effectiveness**.

Simulation Learning: *ACT for Healthcare* will enhance simulation learning in healthcare programs at member institutions (strategy 2.1). Extant literature holds that simulation in healthcare enhances learning and increases student outcomes while standardizing the educational experiences of students. A meta-analysis of 600 simulation studies and 36,500 participants found that technology-enhanced simulation “confirmed theory-based predictions that feedback, repetition, range of difficulty, cognitive interactivity, clinical variation, distributed practice, individualized training, and longer training significantly improve skill outcomes.”<sup>48</sup> Several studies in this meta-analysis found “large, statistically significant benefits in the areas of knowledge, skills, and behaviors.”<sup>49</sup> A random-effects meta-analysis of 92 studies pooled effect sizes and discovered that “in comparison with other instruction, technology-enhanced simulation is associated with small to moderate positive effect”<sup>50</sup> in regards to satisfaction, knowledge, time measure of skills, process measure of skills, product measure of skills, time measure of behavior, process measure of behavior, and patient effects.

Augmented Reality (AR) is simulation learning technology in which students use mobile devices to engage “with virtual information superimposed on physical landscapes.”<sup>51</sup> The foundational theory of situated cognition for AR places learners in an “emotionally compelling,

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<sup>48</sup> Cook, D., (March 2013). *The Literature on Health Care Simulation Education: What Does It Show?* Web Morbidity and Mortality Rounds on the Web, Agency for Healthcare Research & Quality, U.S. Department of Health & Human Services. Retrieved from <http://webmm.ahrq.gov/perspective.aspx?perspectiveID=138>

<sup>49</sup> Ibid

<sup>50</sup> Cook, D., Brydges, R., Hamstra, S., Zendejas, B., Szostek, J., Wang, A., Erwin, P. & Hatala, R. (October 2012). *Comparative Effectiveness of Technology-Enhanced Simulation Versus Other Instructional Methods: A Systematic Review and Meta-Analysis*. *Simulation in Healthcare*. *Society for Simulation in Healthcare*, 7(5), p. 1

<sup>51</sup> Dunleavy, M., Dede, C., & Mitchell, R. (2009). Affordances and limitations of immersive participatory augmented reality simulations for teaching and learning. *Journal of Science Education and Technology*, 18, 7–22., p. 18

cognitively complex problem-solving context.”<sup>52</sup> A case study examining student learning with AR concluded it provided “unique potential for learners to experience intellectually productive problems... in a psychologically safe space where they can try new ideas... and learn through failure.”<sup>53</sup> The use of AR in education is relatively new but preliminary research suggests improved engagement and learning outcomes. Simulation research shows statistically significant positive effects on student outcomes and provides **strong evidence of effectiveness**; AR is a new innovation in simulation, providing **strong theory** for the program design.

*iii. Use of Evidence in Program Design* – These evidence-based design elements will be incorporated into both program development and delivery strategies (see Table 7). PLA, career pathways, student support, and simulation learning all have strong or moderate evidence of effectiveness. The consortium will employ a variety of activities to **replicate** or **adapt** these key elements of the project. For instance, colleges will modularize and stack courses and credentials, contextualize learning, embed industry standards and credentials into pathways, and provide opportunities for work-based learning to expand or enhance career pathways. Support services, including intrusive advising, coaching, SI, and/or learning communities, will be offered at each campus and tailored to the programs and populations at hand. Statewide support services to help prepare participants for healthcare careers will include the development of a Culture of Healthcare course and Digital Literacy for Healthcare course.

Using strong to moderate evidence-based elements as a foundation, *ACT for Healthcare* will also **implement innovative** or **new strategies** in areas supported by evidence of promise or strong theory. For example, the consortium will develop a statewide pathway for veteran medics

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<sup>52</sup> Squire, K., & Klopfer, E. (2007). Augmented Reality Simulations on Handheld Computers. *Journal of the Learning Sciences*, 16(3), 371-413. , p. 374

<sup>53</sup> Ibid, p. 406

to earn a credential in nursing (**evidence of promise**), building on the larger element of PLA (**moderate evidence of effectiveness**). And, while colleges will expand or enhance simulation learning (**strong evidence of effectiveness**) on their campuses, the consortium will create AR learning experiences (**strong theory**) for integration into simulation activities.

**Table 7: Use of Evidence-Based Design Elements in Program Development and Delivery Activities**

Evidence-Based Design Element	Grant-Funded Activities (Shading indicates statewide activities)	Consortium Members Implementing Activities														
		Blackhawk (BTC)	Chippewa (CVTC)	Gateway (GTC)	Lakeshore (LTC)	Madison (MC)	Mid-State (MSTC)	Milwaukee (MATC)	Moraine Park (MPTC)	Nicolet (NTC)	Northcentral (NTC)	Northeast WI (NWTC)	Southwest (SWTC)	Waukesha County (WCTC)	Western (WTC)	WI Indianhead (WITC)
Prior Learning Assessment	Medic to LPN/RN Pathway Development	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Common Computer Assessment	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Career Pathways	Expand/Build Capacity in Pathway Programs	X	X	X		X	X	X	X	X	X			X	X	X
	Curriculum Development		X	X	X	X	X	X			X	X	X	X	X	X
	Modularizing/Stacking Courses and Credentials		X	X		X				X			X			X
	Contextualized Learning Activities		X							X		X	X			X
	Embedding Industry Standards/Credentials	X	X	X			X	X			X		X		X	X
	Work-Based Learning Activities or Clinical	X	X	X	X	X		X			X	X	X	X		X
Student Support	Comprehensive Support Services	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Digital Literacy for Healthcare Course	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Culture of Healthcare Course	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Simulation Learning	Augmented Reality Learning Experiences	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Expand/Enhance Simulation	X	X	X	X	X		X			X	X		X	X	X

**b) Career Pathways (Core Element 2)**

*ACT for Healthcare* will focus on the development, enhancement and implementation of career pathways in healthcare programs, providing a clear sequence of education coursework and/or training credentials aligned with employer-validated standards and competencies, while integrating academic and occupational skills training at each institution.

Since 2007, WTCS has partnered with DWD on the RISE initiative to promote the development of adult career pathways in Wisconsin. RISE project goals were to: 1) Develop and refine prototype career pathway models and industry-driven pathway training curricula; 2) Realign state-level program and policy to support those pathways in Wisconsin; and 3) Implement pathways in regions throughout the state.<sup>54</sup> Much has already been accomplished in Wisconsin's career pathway design efforts; a proposal to exceed the funding cap for advancing state career pathways systems (Option 1) is attached to this application to further align systems and strategies and take current designs to scale.

*i. Accelerating and Contextualizing Remedial Coursework* – Many of Wisconsin's TAA-eligible workers come from the manufacturing industry; most are low-skilled and lack confidence in their academic abilities. A cornerstone of the RISE model is its emphasis on incorporating and contextualizing basic skills into occupational course content in order to accelerate progression through remedial material. “By using contextualized learning principles, Wisconsin's technical colleges integrate basic academic preparation into skills instruction. As a result, students can more easily understand the relevance of math, reading, and other core academic skills to their career aspirations.”<sup>55</sup> *ACT for Healthcare* will incorporate RISE

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<sup>54</sup> RISE Partnership Website (2012). About the RISE Partnership. Retrieved online at <http://risepartnership.org/>.

<sup>55</sup> Foy, M. and Schwarm, K. (2014). Career Pathways Are Essential Workforce Solutions. Community College Daily, from the American Association of Community Colleges. Article published on February 13, 2014 and retrieved online at: <http://www.ccdaily.com/Pages/Workforce-Development/Career-pathways-are-essential-workforce-solutions.aspx>.

practices and strategies for contextualizing remedial programming in occupational courses. The most common strategy for the consortium will be modeled on I-BEST, where content is delivered by an occupational instructor and basic skills education instructor together to the same group of students, placing basic skills in the appropriate context for work in healthcare fields. This decreases time in remediation and improves learning. *ACT for Healthcare* colleges will offer boot camps and bridges to deliver basic skills education or general education content such as math, reading, and writing prior to enrolling in occupational courses.

**ii. Comprehensive and Personalized Student Support Services and Career Guidance** – TAA-eligible workers, veterans, and other adult learners need support to navigate the college environment. Consortium members will incorporate comprehensive, personalized support services to students, including: intrusive advising, coaching, supplemental instruction, peer mentoring/tutoring, and/or learning communities (see Table 8). Tailored services offered to participants will provide population-specific results, focusing on needs regarding technology, academic remediation, basic skills, and familiarity with available resources.

**Table 8: Student Support Services Offered by Consortium Members to Project Participants**

Support Service	College(s) Offering Service	Barrier(s) Addressed
Tutoring	Blackhawk; Gateway; Nicolet; Waukesha; Western	Academic preparation; basic skills
Supplemental Instruction	Blackhawk; Northeast; Waukesha; Chippewa; Wisconsin Indianhead	Social engagement; academic preparation
Learning Communities	Blackhawk; Northcentral; Moraine Park	Social engagement
Computer Literacy	All Consortium Members	Technology skills; confidence
Student Success Coaching/Intrusive Advising	Gateway; Milwaukee; Madison; Mid-State; Nicolet; Northeast; Western; Lakeshore; Northcentral; Blackhawk; Mid-State; Moraine Park	Social engagement; academic preparation; basic skills; confidence; navigating postsecondary environment
Career Pathways/Academic Bridges/Contextualized Learning	Madison; Northeast; Southwest; Wisconsin Indianhead; Chippewa	Academic preparation; basic skills

Career guidance will also be provided, either through career advising/counseling for participants on campus, or by leveraging workforce development resources to support students. Member colleges will also develop and deploy a “Culture of Healthcare” course for use in

statewide healthcare programming. This course will prepare students for clinical experiences and careers in healthcare by addressing areas such as patient confidentiality, active listening, customer service, proper attire for healthcare personnel, and other various “soft skills” associated with healthcare settings, which may be dramatically different for many participants.

**iii. Prior Learning Assessment** – Wisconsin’s TAACCCT Round 2 project, *Making the Future*, has contracted with CAEL to provide analysis, guidance, and recommendations on improving credit for prior learning (CPL) and credit for prior experience (CPE). CAEL has visited with consortium colleges, facilitated workshops and trainings, and will provide a final report to propose system-wide recommendations on awarding CPL and CPE tying directly to competencies and/or certifications offered.<sup>56</sup> Like Wisconsin’s INTERFACE (Round 3) project, *ACT for Healthcare* will apply, as appropriate, recommendations for grant-funded programs. Lessons learned from *Making the Future* and INTERFACE will inform and shape this project’s approach to prior learning assessment, supporting a statewide process for awarding CPL/CPE.

In addition, the *ACT for Healthcare* consortium will partner with the Wisconsin Department of Veterans Affairs (DVA) to create a statewide career pathway for veterans. In September of 2013, the National Governors Association selected Wisconsin and five other states to participate in the *Veterans Licensing and Certification Demonstration Policy Academy*, which aims to ease veterans’ transition from military service to civilian life and meaningful employment. Emerging from the policy academy is a plan to build an accelerated pathway to licensure and employment for veterans as Licensed Practical Nurses (LPN).

Of Wisconsin veterans exiting the military last year, 480 individuals left a primary job in healthcare, including occupations such as Health Care Specialist, Hospital Corpsman, Field

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<sup>56</sup> Northeast Wisconsin Technical College (2012). *Making the Future*, DOL TAACCCT Round 2 Project Narrative.

Medical Service Technician, and Practical Nurse.<sup>57</sup> These service members have valuable skills in healthcare fields, but may lack an industry-recognized credential. In an analysis by the National Council of State Boards of Nursing, 79 topics in a standard LPN program were compared with topics in military healthcare support training. The study concluded that “programs should develop bridge programs that are based on individual assessments of each veteran and geared towards helping these individuals acquire the knowledge, skills, and abilities needed to practice as [a nurse] safely without repeating previously acquired content.”<sup>58</sup> Thus, the *ACT for Healthcare* consortium will work with DVA to serve Wisconsin veterans through the development of a statewide career pathway from military medic to LPN or Registered Nurse (RN). The pathway will include prior learning assessments to gauge current knowledge, skills, and abilities, and determine placement in the pathway for each veteran enrolled in the program. A letter of commitment from DVA to this end is available upon request.

**iv. Competency-Based Programs** – Use of technology in healthcare is rapidly growing. With the adoption of electronic health records (EHR), nearly every healthcare job in the United States requires interaction with computerized technology. However, TAA-eligible workers and other low-skilled adults are often deficient in digital technology skills.<sup>59</sup> A study of digital literacy in higher education recommends: “by analyzing the digital literacy competence of students and identifying barriers that hamper them from attaining these skills, educators can find solutions.”<sup>60</sup> In the *ACT for Healthcare* project, consortium members will address the need for digital literacy through the development of a competency-based Digital Literacy for Healthcare course. This

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<sup>57</sup> Wisconsin Department of Veterans Affairs (2014). Separating Wisconsin Military 2012-13, DRS70996 Report.

<sup>58</sup> National Council of State Boards of Nursing, Inc. (2013). NCSBN Analysis: A Comparison of Selected Military health Care Occupation Curricula with a Standard Licensed Practical/Vocational Nurse Curriculum.

<sup>59</sup> U.S. Department of Commerce (2011). Fact Sheet: Digital Literacy. Retrieved online at: [http://www.commerce.gov/news/fact-sheets/2011/05/13/fact-sheet-digital-literacy#\\_edn10](http://www.commerce.gov/news/fact-sheets/2011/05/13/fact-sheet-digital-literacy#_edn10).

<sup>60</sup> Shariman, T.P., Razak, N.A., & Noor, N.R.M. (2012). Digital Literacy Competence for Academic Needs: An Analysis of Malaysian Students in Three Universities. *Social and Behavioral Sciences*, 69, 1489-1496.



course will enhance students' understanding of technology in the healthcare industry.

*v. Modularized Curricula* – Several *ACT for Healthcare* consortium members will develop or enhance modularized curriculum as part of this project. For instance, Nicolet Area Technical College will modularize the three-credit Certified Nursing Assistant program curriculum into competencies, then create or assign assessments to approximately 30 separate competencies within the program. In addition, the consortium will modularize curriculum within the veteran medic to LPN/RN pathway to provide maximum flexibility as colleges assess and award credit for prior learning/experience to veterans.

*vi. Incorporation of Interconnected Credentials* – *ACT for Healthcare* will incorporate interconnected credentials into career pathways at consortium colleges (see Table 9), stacking, latticing, and embedding them to allow for streamlined progression and maximum mobility/portability. Credentials will include certificates, technical diplomas, and associate degrees. All credentials will be completed in two years or less, and new credentials will undergo standard WTCS approval and modification processes.

Credential	Length of Program	New/Offered	College(s)
Allied Health Geriatrics Advanced Technical Certificate	1 semester	New	NTC
BSN Preparation Certificate	1 year	New	NATC
Central Service Technician	1 semester	Offered	MSTC
Dementia Care Advanced Technical Certificate	1 semester	New	NTC
Dental Assistant Technical Diploma	1 year	Offered	GTC
Dental Hygienist Associate Degree	2 years	Offered	MC
Emergency Medical Technician	1 year	Offered	GTC
Geriatric Nursing Advanced Technical Certificate	1 semester	New	NTC
Gerontology Certificate	1 semester	New	WTC, WITC
Gerontology Associate Degree	2 years	New	WITC
Gerontology Specialist Certificate Embedded Technical Diploma	1 year	New	WITC
Hazard Analysis and Critical Control Points (HACCP) Certificate	1 semester	New	SWTC
Interventions to Reduce Acute Care Transfers (INTERACT) Certificate	1 semester	New	NTC
Laboratory Food Science Technician Diploma Embedded Technical Diploma	1 year	New	SWTC

Licensed Practical Nurse Technical Diploma	1 year	Offered	CVTC, WCTC, LTC, NWTC, GTC
Massage Therapy Assistant Technical Diploma	1 year	Offered	MC
Medical Assistant Technical Diploma	1 year	Offered	MC, NWTC, MPTC, MATC
Medical Coding	1 year	New	MSTC
Medical Insurance Certificate	1 semester	New	MC
Medical Office Receptionist Certificate	1 semester	Offered	CVTC, MATC
Nursing Assistant	< 1 semester	Offered	CVTC, NATC, MC
Nursing Associate Degree	2 years	Offered	LTC, WCTC, MC, MSTC
Palliative Care Advanced Technical Certificate	1 semester	New	NTC
Paramedic Technician Technical Diploma	1 year	New	BTC
Paramedic to Nursing Associate Degree	2 years	New	MC
Personal Care Worker to Certified Nursing Assistant	1 year	Offered	WTC
Pharmacy Services Management Associate Degree	2 years	Offered	LTC
Pharmacy Technician Technical Diploma	1 year	Offered	LTC
Physical Therapist Assistant Associate Degree	2 years	Offered	MC
Respiratory Therapy Technician Associate Degree	2 years	Offered	MSTC, MC
Substance Abuse Peer Specialist	1 semester	New	WTC
Surgical Technologist Tech Diploma/Associate Degree	1 or 2 years	Offered	GTC, MSTC, MC

**vii. Employer and/or Industry Association Involvement** – Consortium members will engage

more than 45 local and regional employers to assist in the development of career pathways.

Employer partners, along with healthcare program advisory committees, will help align program content with job requirements, provide feedback on learning technologies, and serve as sites for clinical and other work-based learning experiences. The engagement of employers and industry representatives in the *ACT for Healthcare* project is critical to its success overall, but especially in the identification of industry-relevant courses and credentials in healthcare pathways.

*ACT for Healthcare* will also work with regional WIBs to identify credentials valuable to a broader audience of employers. Each WIB is part of a regional healthcare workforce alliance, including workforce system partners, employers, and other leaders in the industry. The consortium colleges will draw on the expertise of these alliances in career pathway activities.

**viii. Supporting Transferability and Articulation Across Programs and Institutions** –

Consortium colleges have made it a priority to improve the transferability of non-credit and credit courses into, across, and out of WTCS. The number of students transferring into and

within the WTCS colleges increased from 6,964 in 2001-02 to 10,193 in 2010-11.<sup>61</sup> In June 2014, the University of Wisconsin (UW) System Board of Regents approved the Universal Credit Transfer Agreement between the UW System and WTCS. This agreement enforces a statutory requirement from 2013 Wisconsin Act 20, which requires the two systems to “enter into and implement an agreement that identifies core general education courses [that] are transferable and would satisfy general education requirements at the receiving institution or college.”<sup>62</sup> This agreement ensures that project participants would be guaranteed seamless transfer of between 34-48 general education credits between WTCS and UW institutions.

Additionally, there are nearly 1,100 program-to-program transfer agreements between WTCS colleges and the UW System four-year universities.<sup>63</sup> Of these, nearly 500 are articulation agreements for healthcare programs. Each consortium college has staff dedicated to the development and maintenance of articulation agreements with four-year educational partners, which is a central component of advancing students through career pathways and into more advanced education and careers. The process of developing articulation agreements includes an in-depth review of occupational and general education courses, credit requirements, program competencies, accreditation standards, and clinical/on-the-job experience. Following approval, the articulation agreements are published on both institutions’ websites and featured in program planning resources, as well as promoted by academic advisors and other college personnel.

Colleges will continue to work to establish new or enhance existing articulation agreements with four-year institutions in targeted healthcare programs. For example, Wisconsin

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<sup>61</sup> WTCS Office of Instruction (2012). Transferring Credit from University of Wisconsin System, Wisconsin Association of Independent Colleges and Universities, & Other Postsecondary Institutions.

<sup>62</sup> University of Wisconsin System Board of Regents Education Committee (2014). Universal Credit Transfer Agreement between the University of Wisconsin System and the Wisconsin Technical College System (Approval).

<sup>63</sup> WTCS Transfer Agreements (2014). Transfers Within Systems. Retrieved online at: <http://www.witechcolleges.org/transfer/agreements.php>.

Indianhead Technical College will create a pathway from Registered Nurse (RN) to Bachelors of Science in Nursing (BSN). The RN to BSN pathway is critical: “To respond to [the] demands of an evolving health care system and meet the changing needs of patients, nurses must achieve higher levels of education and training... Nursing education should therefore include opportunities for seamless transition to higher degree programs.”<sup>64</sup>

**c) Advanced Online and Technology-Enabled Learning (Core Element 3)**

*i. Incorporation of Technology into Program Design and Delivery* – “Simulation is broadly defined as an educational technique in which elements of the real world are integrated to achieve specific goals.”<sup>65</sup> The spectrum of simulation sophistication in healthcare education spans simple reproduction of body parts to complex human interactions portrayed by high-fidelity human patient simulators.<sup>66</sup> All *ACT for Healthcare* consortium colleges utilize a variety of healthcare simulation technologies. Simulation experiences provide opportunities for the integration of clinical experiences in realistic, non-threatening environments, exposure to critical scenarios that students might not otherwise encounter, and the ability to make mistakes without increasing patient risk. Simulation also allows for repetition in practice and a space to debrief and reflect on the experience.<sup>67</sup>

One barrier in simulation learning is a lack of a sense of reality in the scenario.<sup>68</sup> In other words, there is too much “pretending” in simulation; students struggle to believe in the scenario, thus limiting its value as a learning tool. *ACT for Healthcare* will address this by developing and

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<sup>64</sup> National Academy of Sciences, Institute of Medicine. (2011). *The Future of Nursing: Leading Change, Advancing Health*. Washington, DC: The National Academies Press.

<sup>65</sup> Arthur, C., Levett-Jones, T., and Kable, A. (2013). Quality Indicators for the Design and Implementation of Simulation Experiences: A Delphi Study. *Nurse Education Today*, 33(11) 1357-1361.

<sup>66</sup> Bradley, P. (2006). The History of Simulation in Medical Education and Possible Future Directions. *Medical Education*, 40: 254-262.

<sup>67</sup> Arthur, C., Levett-Jones, T., and Kable, A. (2013). Quality Indicators for the Design and Implementation of Simulation Experiences: A Delphi Study. *Nurse Education Today*, 33(11) 1357-1361.

<sup>68</sup> CVTC Institutional Research Department (2014). WTCS Simulation Survey.

integrating augmented reality (AR) into simulation scenarios to improve their overall quality and effectiveness. The consortium will work with ARIS (Augmented Reality and Interactive Storytelling), housed at University of Wisconsin-Madison. ARIS is an open-source platform for creating and playing mobile games, tours, and interactive stories. Using GPS and Quick Response (QR) codes, ARIS players experience a hybrid world of virtual interactive media placed in physical space.<sup>69</sup> Distinct from virtual reality, where users are immersed in a virtual environment, AR allows users to see the real world with virtual objects superimposed upon or composited with it. AR provides an additional “layer” to the story being told in simulation.

AR learning experiences will be incorporated into 150 simulation scenarios using ARIS technology, increasing the scenarios’ authenticity and value for students. Creation of these experiences will involve three components: 1) simulation scenarios (i.e. curricula); 2) development of sound, graphics, text, or videos to augment the simulation scenarios; and 3) mobile devices to run the application. Using a tablet or other mobile device, healthcare students will scan a QR code to see an image of the simulated scenario, making it more tangible. For instance, rather than simply being told to pretend that a mannequin is presenting a specific type of wound, students can actually see the wound through their device (Figure 1). ARIS will also allow for online game design of simulation curricula as needed, connecting a series of events and student choices to determine medical outcomes.

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<sup>69</sup> ARIS (2014). ARIS Mobile Learning Experiences Website. Retrieved online at: <http://arisgames.org/>.

**ii. Building On Existing Technology-**

**Enabled Learning** – The development of AR learning experiences for use in simulation will improve the fidelity of simulation learning throughout the consortium, regardless of the program or the sophistication of available technology. In partnering with ARIS, an open-source platform, *ACT for Healthcare*



**Figure 1: Augmented Reality in Simulation**

programmers will have access to thousands of other games and clients in the ARIS environment. The ARIS platform allows and encourages interaction amongst educators and game designers to collaborate and share strategies for effective use of the technology. Content created with ARIS will be hosted on their server and available to the public. A letter of commitment from ARIS is available upon request.

*ACT for Healthcare's* simulation curricula will be created using the Worldwide Instructional Design System (WIDS) and will be made available in the curriculum repository, accessible by all college partners. Consortium member Fox Valley Technical College (FVTC) will serve as the subject matter expert for independent review of new or modified curricula prior to finalization. Following review by FVTC, all curricula will be posted online as open educational resources (OER) per TAACCCT program requirements.

**d) Strategic Alignment with Workforce System and Other Stakeholders (Core Element 4)**

**i. Coordination with Governor's Economic Development and WIA-WP Integrated Plans -**

The Wisconsin Economic Development Corporation (WEDC), whose Board of Directors is chaired by Governor Scott Walker, is the lead economic development agency in the state. WEDC

is focused on achieving the Governor's goal of creating 250,000 Wisconsin jobs by January 2015. WEDC's 2014 strategic plan was guided by four principles to achieve this goal, two of which align with this project: 1) Engage Business and 2) Measure and Be Accountable. The consortium actively supports WEDC's goals to advance industry or business consortia opportunities; align maps, metrics, and strategies of key economic development partners; align workforce and economic development regions; and develop cross-agency, rapid response capability to produce custom solutions to advance key industry and business consortia.<sup>70</sup>

*ACT for Healthcare* will align with the Wisconsin Workforce Investment Act-Wagner Peyser (WIA-WP) integrated workforce plan for 2013-17. The project supports the plan's priority in "improving the alignment between the skills needed by private sector employers and the education and job training systems that provide the pipeline of workers."<sup>71</sup> Through its many strong relationships with employers and advisory committees, this project will prepare participants with skills and knowledge relevant to the healthcare industry. Employer partners will provide feedback and guidance in the development of curriculum and career pathways at each institution, and in the development of statewide curriculum for the project.

**ii. Coordination with the Public Workforce System** – The consortium will collaborate with public workforce systems at the state and local levels, including DWD, the Wisconsin Workforce Development Association (WWDA), job centers, and regional WIBs. Letters from DWD, WWDA, and eight WIBs are attached to this proposal. Efforts from the TAACCCT Round 3 project, INTERFACE, to host regional strategic planning meetings of workforce system partners will also continue. *ACT for Healthcare* will build on the INTERFACE regional model by

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<sup>70</sup> WEDC (2014). WEDC Strategic Plan 2014. Retrieved online at: <http://inwisconsin.com/inside-wedc/transparency/plans/>.

<sup>71</sup> Wisconsin Department of Workforce Development (2013). Workforce Investment Act, Wagner-Peyser Act, Agricultural Outreach Plan, Program Year 2013-17.

convening five regional collaborative planning teams of workforce and industry partners twice per year to discuss strategic alignment related to work-based training opportunities, emerging industry trends, relevant credentials and certification exams, and challenges and opportunities.

Regional WIBs will also act as liaisons between the consortium colleges and regional healthcare workforce alliances. WTCS colleges collaborate with regional WIBs on a regular basis; all Wisconsin WIBs are required to have at least one technical college representative as a member of the board. Consortium members will work alongside their regional WIB in the *ACT for Healthcare* project, but in different capacities, depending on the local need and planned activities. Several colleges will contract with their WIBs for specific services, such as: referring eligible candidates to the program; co-enrolling program participants into WIA programs as appropriate; providing supportive services which may include case management, career guidance, counseling, work readiness assessments, etc.; facilitating employer engagement in the healthcare sector; coordinating with industry representatives through regional healthcare alliances; identifying skills and competencies needed in the industry; and connecting consortium colleges with resources and contacts in DWD, the healthcare industry, and the TAA program.

**iii. Coordination with Other Organizations** – Consortium colleges will coordinate with local and regional philanthropic organizations, business-related and other non-profit organizations, community-based organizations, and/or labor organizations related to the healthcare field to leverage resources, garner feedback, and serve students. All new or modified curriculum will be developed in the Worldwide Instructional Design System (WIDS), a division of the WTCS Foundation, Inc., a non-profit organization. Colleges will also coordinate with specific labor organizations or accrediting bodies in pathway and credential development or curriculum modularization. The consortium will work with ARIS, a non-profit open-source platform, to



develop augmented reality in simulation. Furthermore, the consortium will collaborate with the Wisconsin Department of Veterans Affairs, the Wisconsin Board of Nursing, and the Wisconsin Nurses Association (WNA) to design and implement a veteran medic to LPN/RN pathway.

Consortium colleges may also coordinate with the Board of Nursing and the WNA to develop a RN to BSN pathway.

**e) Alignment with Previously-Funded TAACCCT Projects (Core Element 5)**

Notably, all 16 Wisconsin technical colleges have partnered on two previously-funded TAACCCT projects (*Making the Future* and *INTERFACE*), which have informed nearly every facet of *ACT for Healthcare*'s development and will continue to guide the project post-award. The *ACT for Healthcare* project will also benefit from the experience and knowledge of other previously-funded TAACCCT projects from across the country.

Northeast Iowa Community College's *Bridges2HealthCare* consortium project (Round 1) includes colleges from Iowa, Minnesota, and Wisconsin. Several colleges will employ some of *Bridges2HealthCare*'s successful initiatives, including healthcare academies and a student success model incorporating coaches/advisors/navigators. *Bridges2HealthCare* will also provide guidance in expanding and enhancing simulation.

Northeast Wisconsin Technical College's *Making the Future* consortium project (Round 2) will share resources in credit for prior learning, as well as data collection/sharing processes between WTCS, consortium members, and workforce system partners.

Northcentral Technical College's *INTERFACE* consortium project (Round 3) will mentor *ACT for Healthcare* in implementing an electronic employment results scorecard and the coordination of regional strategic team meetings between the consortium, workforce system partners, and other stakeholders. In addition, *INTERFACE* will incorporate healthcare careers

into a statewide website for career pathways being developed in its project and will inform statewide courses developed in this project.

Ozarks Technical Community College's MoHealthWINS consortium project (Round 1) is a statewide project focused on healthcare in Missouri. MoHealthWINS will provide *ACT for Healthcare* with information and best practices in healthcare training, specifically in intrusive student support and credit for prior learning, as well as the development of the Culture of Healthcare course.

Fox Valley Technical College's AMP PLUS single institution project (Round 2) will support the augmented reality learning experiences by providing expertise in developing mobile learning technologies.

#### **f) Sector Strategies and Employer Engagement (Core Element 6)**

*i. Sector Identification* – The *ACT for Healthcare* project will meet employers' workforce needs through active collaboration with the healthcare industry (NAICS code 62). Sector strategies, or Wisconsin Industry Partnerships (IPs), are designed to “reform, modernize, and streamline the connections between training and skill systems, workers who need skills, and employers who need qualified workers.”<sup>72</sup> IPs work in conjunction with career pathways to strengthen Wisconsin's economy, employers, and employees. All of Wisconsin's 11 regional WIBs have a healthcare IP underway, six of which are well-established. One of Wisconsin's regions, the Milwaukee 7 Region, is designated as a “Manufacturing Community” by the Investing in Manufacturing Communities Partnership (IMCP).

*ii. Employer and Industry Representative Engagement* – Each consortium member has engaged at least two employers and one regional industry representative directly connected to its

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<sup>72</sup> Center on Wisconsin Strategy (COWS) (2013). Employers Take the Lead: A Report on Wisconsin's Industry Partnership Project. Retrieved online at: <http://www.cows.org/data/documents/1489.pdf>.

respective healthcare program focus. Employers and regional industry representatives have committed to support the consortium by: assisting in the development of career pathways that provide exit points to employment and opportunities for job growth; identifying necessary skills and competencies needed in the workforce; providing insight and feedback to curriculum development and program design; and supporting credit for prior learning strategies. Employer partners will also contribute to consortium-wide activities, including the development of the Culture of Healthcare course and the veteran medic to LPN/RN pathway. Relationships with industry partners will continue throughout the project period, with regular program advisory committee meetings, consortium meetings, and five regional strategic team meetings twice per year (see section 2D).

**iii. Additional Role(s) of Employers and Industry Representatives** – Thirty-seven of the employer and industry partners have also committed to engaging with project participants by providing work-based learning opportunities such as clinical experiences, internships, tours, or job shadowing. Securing clinical sites for healthcare students can be a particular challenge for technical colleges, and employer commitment to this end is valuable. Moreover, 38 partners have committed to giving preference to employing and/or promoting candidates who have received an industry recognized credential through the *ACT for Healthcare* programs.

**g) Project Work Plan**

The work plan (Table 10) outlines a comprehensive approach to implement the *ACT for Healthcare* project across the 16 WTCS colleges, attaching costs to activities consistent with the proposed budget. Deliverables, including intellectual property, are identified with dates for expected delivery to DOL. All project activities will be completed in the first 36 months of the project period, with the final 12 months dedicated to evaluation activities. Participants will be enrolled in education and training programs at each member institution no later than 18 months following the grant award date. An Interim Project Manager will direct initial start-up activities.

<b>Table 10: ACT for Healthcare Work Plan</b>							
<b>Goal 1: Increase attainment of degrees, certifications, certificates, diplomas, and other industry-recognized credentials that match the skills needed by employers to better prepare TAA-eligible workers, veterans, and other adults for high-wage, high-skill employment or re-employment in the healthcare industry.</b>							
<b>Activities</b>	<b>Implementer(s)</b>	<b>Costs</b>	<b>Time</b>			<b>Deliverables</b>	
<b>Strategy 1.1: Expand capacity of Wisconsin technical colleges to create and implement career pathways in healthcare (Core Elements 1, 2, 4, 5)</b>	a) Develop, modify, contextualize, or chunk curriculum based on program and pathway to lead to occupations in the healthcare industry	All Colleges; Employers; FVTC (3 <sup>rd</sup> party review)	<b>Strategy Total:</b> \$6,726,064 <b>Equipment:</b> \$407,770	<b>State Date:</b> Jan 1, 2015 <b>End Date:</b> Sep 30, 2016	<ul style="list-style-type: none"> <li>▪ Industry-driven roadmaps with on and off points to healthcare careers published</li> <li>▪ 32 different credentials developed and/or offered to participants</li> <li>▪ 96 new or modified courses (226 credits)</li> </ul>		
	b) Organize pathways by modularizing curricula and stacking and laticing credentials to increase portability and transferability	All Colleges; Employers	<b>Year 1:</b> \$2,298,546 <b>Year 2:</b> \$2,098,025 <b>Year 3:</b> \$2,230,065 <b>Year 4:</b> \$111,427	<b>Milestones:</b>			
	c) Train participants for high-demand careers in healthcare fields	All Colleges; Workforce Partners		<ul style="list-style-type: none"> <li>▪ Develop curriculum (Y1-2)</li> <li>▪ Enroll participants into pathways (Y2-3)</li> <li>▪ Establish articulation agreements (Y3)</li> </ul>			
	d) Collaborate with four-year colleges and universities to increase articulation agreements in healthcare programs	All Colleges; 4-year Partners					
	e) Offer work-based learning opportunities to participants	Employers; Workforce Partners					
<b>Strategy 1.2: Improve student success in healthcare programs (Core Elements 1, 2, 5)</b>	a) Offer comprehensive support services to students, including intrusive advising, coaching, supplemental instruction, etc.	All Colleges; Workforce Partners	<b>Strategy Total:</b> \$3,703,117 <b>Equipment:</b> \$0	<b>State Date:</b> Jan 1, 2015 <b>End Date:</b> Sep 30, 2017	<ul style="list-style-type: none"> <li>▪ Support services established at each college</li> <li>▪ RISE programs, boot camps established at 5 colleges</li> </ul>		
	b) Contextualize programming to accelerate completion and improve outcomes	All Colleges; Workforce Partners	<b>Year 1:</b> \$831,984 <b>Year 2:</b> \$1,348,543 <b>Year 3:</b> \$1,322,590 <b>Year 4:</b> \$0	<b>Milestones:</b>			
<b>Strategy 1.3: Offer career guidance for students in healthcare programs (Core Elements 1, 2, 5, 6)</b>	a) Develop and deliver a statewide Culture of Healthcare course	All Colleges; Workforce Partners; Employers	<b>Strategy Total:</b> \$950,068 <b>Equipment:</b> \$0	<b>State Date:</b> Oct 1, 2015 <b>End Date:</b> Sep 30, 2017	<ul style="list-style-type: none"> <li>▪ Culture of Healthcare curriculum in WIDS</li> <li>▪ Digital Literacy for Healthcare active in WIDS</li> </ul>		
	b) Develop and deliver a Digital Literacy for Healthcare course	All Colleges; Workforce Partners; Employers	<b>Year 1:</b> \$260,264 <b>Year 2:</b> \$351,390 <b>Year 3:</b> \$338,414 <b>Year 4:</b> \$0	<b>Milestones:</b>			
<b>Goal 2: Introduce or replicate innovative and effective methods for designing and delivering instruction that address specific industry needs and lead to improved learning, completion, and other outcomes for TAA-eligible workers, veterans, and other adults.</b>							

Activities		Implementer(s)	Costs		Time		Deliverables
<b>Strategy 2.1: Enhance simulation learning and technology in healthcare programs across the state (Core Elements 1, 3)</b>	a) Incorporate augmented reality into statewide simulation curriculum	CVTC; Healthcare Faculty at All Colleges; ARIS; FVTC (3 <sup>rd</sup> party review)	<b>Strategy Total:</b>	\$1,300,956	<b>State Date:</b> <b>End Date:</b> <b>Milestones:</b>	Jan 1, 2015 Sep 30, 2017 ▪ Design curriculum & AR content (Y1-2) ▪ Implement AR simulations (Y2-3)	▪ 150 augmented reality learning experiences available on ARIS server
			<b>Equipment:</b>	\$105,897			
			<b>Year 1:</b>	\$605,996			
			<b>Year 2:</b>	\$331,321			
			<b>Year 3:</b>	\$329,104			
			<b>Year 4:</b>	\$34,534			
<b>Strategy 2.2: Establish statewide systems for awarding credit for prior learning (Core Elements 1, 2, 5)</b>	a) Design and implement a statewide VA Medic to LPN/RN career pathway	All Colleges; DVA; Employers	<b>Strategy Total:</b>	\$773,485	<b>State Date:</b> <b>End Date:</b> <b>Milestones:</b>	Oct 1, 2016 Sep 30, 2017 ▪ Develop curriculum (Y1) ▪ Implement assessment (Y2-3)	▪ Computer assessment offered at each college ▪ Medic to LPN/RN pathway signed agreement
	b) Establish a statewide online common computer assessment for pre-entry into healthcare programs	All Colleges	<b>Equipment:</b>	\$0			
			<b>Year 1:</b>	\$112,132			
			<b>Year 2:</b>	\$282,958			
			<b>Year 3:</b>	\$298,804			
			<b>Year 4:</b>	\$79,591			
<b>Goal 3: Demonstrate improved employment outcomes.</b>							
Activities		Implementer(s)	Costs		Time		Deliverables
<b>Strategy 3.1: Align efforts of educators, employers, and workforce systems to better connect participants to jobs (Core Elements 4, 5, 6)</b>	a) Coordinate with the previously-funded TAACCCT Round 3 grant, INTERFACE, to execute regular, regional strategic team meetings of technical colleges, industry partners, sector alliances, and workforce system partners to maximize resources and avoid duplication	CVTC; NTC (INTERFACE lead); Workforce Partners; Employers; All Colleges	<b>Strategy Total:</b>	\$310,621	<b>State Date:</b> <b>End Date:</b> <b>Milestones:</b>	Feb 1, 2015 Jul 31, 2017 ▪ Schedule meetings and invite participants (Y1-3) ▪ Establish meeting agenda (Y1)	▪ Bi-annual meetings in 5 regions each year
			<b>Equipment:</b>	\$0			
			<b>Year 1:</b>	\$58,500			
			<b>Year 2:</b>	\$82,500			
			<b>Year 3:</b>	\$84,030			
			<b>Year 4:</b>	\$85,591			
<b>Strategy 3.2: Disseminate statewide relevant program graduate employment data (Core Elements 4, 5, 6)</b>	a) Enhance the Wisconsin Employment Scorecard developed in INTERFACE to provide additional and more streamlined data on WTCS programs and career pathways throughout the state	CVTC; WTCS	<b>Strategy Total:</b>	\$200,000	<b>State Date:</b> <b>End Date:</b> <b>Milestones:</b>	Oct 1, 2016 Sep 30, 2017 ▪ Include additional data elements (Y2) ▪ Disseminate & publish data (Y3)	▪ Employment Results Scorecard
			<b>Equipment:</b>	\$0			
			<b>Year 1:</b>	\$0			
			<b>Year 2:</b>	\$75,000			
			<b>Year 3:</b>	\$75,000			
			<b>Year 4:</b>	\$50,000			

### 3) OUTCOMES AND OUTPUTS

ACT for Healthcare will track and report all outcome measures for 2,452 program participants.

The consortium will use data to continuously assess the project and improve it as necessary.

#### a) Analysis of Outcome Projections

i. *Outcome Projections* – The project outcomes in Table 11 encompass participant targets for each consortium member college, the total an aggregate of all participants, regardless of educational program or institution.

<b>Table 11: ACT for Healthcare Program Outcome Measures</b>			
	<b>Outcome Measure</b>	<b>Targets for all Participants</b>	
1	<b>Total Unique Participants Served</b> Cumulative total number of individuals entering any of the grant-funded programs offered	Year 1: 499 Year 2: 966 Year 3: 987	<b>Total:</b> 2452
2	<b>Total Number of Participants Completing a TAACCCT-Funded Program of Study</b> Number of unique participants having earned all of the credit hours (formal award units) needed for the award of a degree or certificate in any grant-funded program	Year 1: 226 Year 2: 571 Year 3: 765	<b>Total:</b> 1562
3	<b>Total Number of Participants Still Retained in Their Program of Study or Other TAACCCT-Funded Program</b> Number of unique participants enrolled who did not complete and are still enrolled in a grant-funded program of study	Year 1: 171 Year 2: 370 Year 3: 357	<b>Total:</b> 898
4	<b>Total Number of Participants Completing Credit Hours</b> Total number of students enrolled that have completed any number of credit hours to date	Year 1: 348 Year 2: 846 Year 3: 1043	<b>Total:</b> 2237
5	<b>Total Number of Participants Earning Credentials</b> Total number of participants earning degrees and certificates in grant-funded programs of study	Year 1: 234 Year 2: 595 Year 3: 796	<b>Total:</b> 1625
6	<b>Total Number of Participants Enrolled in Further Education After TAACCCT-Funded Program of Study Completion</b> Total number of students who complete a grant-funded program of study and enter another program of study	Year 1: 43 Year 2: 204 Year 3: 215	<b>Total:</b> 462
7	<b>Total Number of Participants Employed After TAACCCT-Funded Program of Study Completion</b> Total number of students (non-incumbent workers only) who completed a grant-funded program of study entering employment in the quarter after the quarter of program exit	Year 1: 88 Year 2: 259 Year 3: 317 Year 4: 79*	<b>Total:</b> 743
8	<b>Total Number of Participants Retained in Employment After Program of Study Completion</b> Total number of students (non-incumbent workers only) who completed a grant-funded program of study and who entered employment in the quarter after the quarter of program exit who retain employment in the second and third quarters after program exit	Year 1: 61 Year 2: 205 Year 3: 238 Year 4: 76*	<b>Total:</b> 580
9	<b>Total Number of Those Participants Employed at Enrollment Who Received a Wage Increase Post-Enrollment</b> Total number of students who are incumbent workers and who enrolled in a grant-funded program of study who received an increase in wages after enrollment	Year 1: 37 Year 2: 198 Year 3: 260 Year 4: 129*	<b>Total:</b> 624

\*Year 4 numbers are follow-up only.

*ii. Targets* – Targets are derived by individual consortium members taking into account multiple factors, including: size of the consortium member institution, capacity of educational programs (including laboratory/classroom space and clinical site availability), TAA-eligible and other adult workers in the district, retention/graduation rates, financial resources available, etc. Institutional research and instructional offices at each college developed realistic and attainable outcomes based on factors listed above and others unique to their institutions.

*iii. Balance of Deliverables and Outcomes* – The participant outcomes are well-balanced with the project deliverables. *ACT for Healthcare* will serve 2,452 participants and will deliver 96 new or modified courses (226 total credits), as well as 150 augmented reality learning experiences for use in simulation activities.

**b) System of Process for Tracking and Reporting Outcome Measures**

*i. Existing Tracking Procedures* – WTCS colleges have established guidelines for collecting and reporting data to the system office on an annual basis through the Client Reporting process, which compiles data on enrollment, transition, retention, graduation, completion, and college operations. Data in the Client Reporting System is used for federal and state reporting, data analysis, and budgeting. Client data includes student demographic information and data related to all services provided by colleges.

Client Reporting data is available via online databases to all consortium members. All colleges operate enterprise resource planning (ERP) systems, such as Banner or PeopleSoft, which contain tracked and reported information about students, staff, finance, grants, and operations. WTCS colleges collect and track data from these and other resources, such as the National Student Clearinghouse; the WTCS and Wisconsin Department of Public Instruction (DPI) State Longitudinal Data Systems; WTCS graduate, employer, and longitudinal surveys;

and DWD workforce information systems. WTCS, DWD, and DPI have formal data sharing agreements and continue to strengthen these processes as part of Wisconsin's previously-funded TAACCCT grant projects, *Making the Future* and INTERFACE.

**ii. Plan to Address Gaps in Tracking** – Wisconsin's two previously-funded TAACCCT grant projects created processes to access person-level Unemployment Compensation data collected by DWD through WTCS, which has a data sharing agreement in place with DWD. Using multiple identifiers, DWD can extract individual-level data for students including employment and earnings. Access to this data will enable *ACT for Healthcare* project leaders and the external evaluator to calculate employment rates, average earnings, and employment retention for project participants. This will be included in the employment results scorecard.

Through this previous work, WTCS colleges are experienced in collecting, analyzing, and reporting data for project participants on their individual campuses. Upon award of the grant, the Project Manager will identify any changes in data requirements between Rounds 2, 3, and 4. The Project Manager will distribute consortium member-level data tracking and reporting requirements so institutional data processes can be modified to meet them. Institutional data will be submitted to the *ACT for Healthcare* external evaluator and Project Manager via Secure File Transfer Protocol (SFTP), as in *Making the Future* and INTERFACE. The lead institution, Chippewa Valley Technical College (CVTC), and all consortium members will comply with the Family Education Rights and Privacy Act (FERPA) in student reporting, as well as all other applicable state and federal regulations.

**c) Using Data for Continuous Improvement**

**i. Plan for Formal Data Reviews** – The consortium will partner with WTCS and the INTERFACE grant team to enhance the online employment results scorecard being developed



for the TAACCCT Round 3 grant, per DOL requirements. Using information gathered regularly from individual colleges and DWD, the scorecard will provide information to students about healthcare careers and educational programming, including graduation, employment, and employment retention rates; average earnings of completers; and transfer rates. This data will help CVTC to monitor performance and make adjustments to programs in response.

Furthermore, consortium members conduct continuous quality improvement through individual accreditation processes, internal scorecards, environmental scans, and the WTCS Quality Review Process (QRP). QRP is used to measure and benchmark data elements for programs, including enrollment, course completion, graduate placement, and retention. QRP is used to guide performance improvement, encouraging a critical analysis of data to determine the root cause of performance gaps, as well as identify and evaluate strategies to improve performance.<sup>73</sup> All WTCS programs undergo a quality improvement review (plan, review, study, adjust) at least once every five years. *ACT for Healthcare* programs studied in QRP during the grant period will be included for the project management's and external evaluator's review.

Continuous improvement efforts in this project will be led by the project's manager, who will engage with each consortium member's evaluation and project liaisons to assess and modify local programs as necessary. Recommendations for program changes will be shared with college presidents, executive leadership, and other key personnel. All consortium-wide improvements and enhancements will be coordinated by the Project Manager, and communicated to the external evaluator. Changes will be communicated to the consortium in meetings, progress reports, and other regularly scheduled project activities/events.

**ii. Sustainability Plan** – *ACT for Healthcare*'s strategies will establish programs and

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<sup>73</sup> WTCS (2013). Quality Review Process Data System Fact Sheet. Retrieved online at: <http://mywtcs.wtcsystem.edu/data-systems-grp/qrp>.

infrastructure to improve education and training in healthcare careers, with sustainability of such initiatives at the forefront throughout the design and implementation process. By leveraging existing resources, partnerships, and previously-funded TAACCCT projects, the consortium will maximize the impact of proposed activities while ensuring their longevity. All curriculum and technology-enhanced learning components will be available to the public following development and indefinitely thereafter. Methods of data collection and sharing will be enhanced through the project and will continue after the project period. All activities will further serve to enhance communication between consortium members for future work together.

Tangible elements such as the employment results scorecard, the veteran medic to LPN/RN pathway, articulation agreements, and credit for prior learning recommendations will boost the colleges' ability to serve students and improve efficiency throughout the state's postsecondary educational systems. Furthermore, relationships forged with employers, industry representatives, and workforce system partners through the project will broaden the scope of recruitment efforts and support increased retention of students through comprehensive and personalized student support services.

#### **4) ORGANIZATIONAL PROFILE**

Chippewa Valley Technical College (CVTC) will serve as the *ACT for Healthcare* consortium lead and fiscal agent. CVTC has extensive experience in administering federal grants and has the capacity to effectively manage the programmatic, fiscal, and administrative aspects of the proposed project. CVTC has been a consortium member on three previously-funded TAACCCT grant projects totaling over \$50 million, with \$3.8 million managed directly by the college.

##### **a) Professional Qualifications of Project Staff**

The *ACT for Healthcare* project will leverage the skills and expertise of existing human

resources at all member institutions. Several positions are planned to ensure efficient and effective project management. All project staff will be employees of CVTC. CVTC's Director of College Effectiveness will act as Interim Project Manager until a full-time manager is hired.

The *ACT for Healthcare* **Project Manager** will be responsible for all goals, strategies, and activities described in the work plan (see Section 2). The Project Manager will report to CVTC's Director of College Effectiveness and will act as the primary point of contact for DOL. He/she will oversee all consortium project meetings and regional strategic team meetings, as well as coordinate with project staff from previously-funded TAACCCT grants to exchange data, best practices, and other resources. The position will require a Master's Degree in Business Administration or a related field, with at least five years of strong project management experience. Preference will be given to individuals with experience in education, workforce development, grant management, and federal regulations.

A part-time **Administrative Assistant** will be hired to assist the Project Manager and other staff with scheduling meetings and events, communicating with consortium members, and general administrative support. The Administrative Assistant position will require an associate's degree in a related field, and a minimum of three years' experience in an office environment.

The part-time **Accounting Assistant** will provide oversight of project expenditures and sub-recipient disbursements to consortium members. The Accountant must have an associate's degree and a minimum of three years' experience in general ledger recording, grants reporting, and financial and accounting services, preferably within an educational setting. Preference will be given to applicants with a background in federal reporting and fiscal regulations.

A full-time **Simulation Curriculum Specialist** will develop and compile simulation scenarios and associated AR content for use in the ARIS platform. This position will require a

bachelor's degree in a healthcare education field, a master's preferred. At least three years' experience with teaching using simulation, curriculum development, and project management will be required. A part-time **Augmented Reality Programmer** will assist the Simulation Curriculum Specialist in the design of the AR learning experiences for statewide simulation curriculum. The Programmer must have an associate's degree in programming or a related field with experience in mobile application development and game design.

A part-time **Outreach Coordinator** will advance the goals, strategies, and activities of *ACT for Healthcare* by communicating and promoting project successes, milestones, and key accomplishments. The Outreach Coordinator will work closely with the statewide Marketing Consortium, a support service organization that works with the 16 college presidents to identify and direct large initiatives related to strategic planning, to ensure that project outreach strategies align with existing approaches. The Outreach Coordinator will hold a bachelor's degree in marketing or a related field, with five years' professional experience.

#### **b) Management Structures**

The attached organizational chart outlines the relationship of consortium members to project staff and the position of project staff in the lead institution. Each consortium member will identify a project manager, evaluation liaison, and financial liaison within the first quarter of the project. These three primary points of contact will work with the Project Manager to ensure effective and consistent communication between consortium colleges and CVTC.

#### **c) Systems and Processes**

As the lead applicant and fiscal agent in the *ACT for Healthcare* project, CVTC is poised to administer TAACCCT program funding with accuracy and expediency. The college has an Aa1 bond rating from Moody's Investors Service and abides by all federal and state regulations for

financial borrowing, spending, auditing, and reporting. CVTC and all consortium members are obligated to meet specific statewide standards for general financial management, which include an annual audit and financial statement reporting, outlined in the WTCS Financial and Administrative Manual (FAM). CVTC has established processes for fiscal compliance in grants. CVTC's Business and Finance office, alongside the project Accounting Assistant, will ensure funds are expended and all fiscal obligations are met in accordance with DOL requirements.

*i. Timely Reporting and Grants Management Practices* – The Accounting Assistant will adopt CVTC's grant management practices in this project, preparing expense reports, processing purchase requisitions and invoices, disbursing funds, and working directly with the Project Manager to effectively manage consortium project funds, as well as those of the 15 other consortium members. CVTC, nor any of the consortium members, has been delinquent in grant reporting to any federal agency, including ETA, in the past 10 years.

*ii. Procurement Processes, Systems, and Procedures* – FAM outlines procurement processes for all consortium members based on Wisconsin state law and the Code of Federal Regulations. Procurement processes include open and free competition, bid/RFP procedures, awarding responsible contractors, sole source and emergency procurements, competitive selection, cost/benefit analysis, state/government contracts, specific brand name instructional equipment, and consortium fiscal agents.<sup>74</sup>

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<sup>74</sup> WTCS (2014). Financial and Administrative Manual, Procurement, (191-206). Retrieved online at: <http://mywtcs.wtcsystem.edu/wtcsinternal/cmspages/getdocumentfile.aspx?nodeguid=5e891d3c-0ae0-4ae1-88a1-d841fea085c1>.