NEED

Skilled workers in Healthcare Information Technology (HCIT) are urgently needed by healthcare providers statewide. With the implementation of the Affordable Care Act (2010), the demand for well-trained frontline workers has increased. Current program models incorporate a two year associate degree program in Health Information Technology (HIT); however, this educational support fails to alleviate workforce gaps completely. As HIT evolves, the transformational opportunities it presents continue to grow exponentially. Access to health information through technology, including internet and mobile applications suggest a future of personalized healthcare delivery requiring little, if any, in-person interaction with healthcare providers. This technological trend will request greater employable skills among frontline workers. According to Burning Glass Technologies (2015), 568 current job titles existing statewide require knowledge of Structured Query Language (SQL) computer programming.

Demand for skilled workers in these sectors continues to rise faster than supply, resulting in an increased wage premium for educated workers. Current unemployment rates of two percent or less in this area for college graduates is impressive. Evidence is not conclusive; however, it is evident that HIT occupations are experiencing serious labor shortages. Employment growth has been rapid among computer engineers, database administrators, computer support specialists and computer programmers.

While developments in Healthcare Information Technology offer tremendous opportunities, it is incorrect to assume that all frontline workers will hold necessary skill sets needed for evolving opportunities of “up-skilling” or meeting new job performance criteria. Jobs in nonprofessional, non-managerial occupations continue to require increasing levels of training. Many jobs require more than minimum competency level skills, including those not formally emphasized in school. These skills include, for example, understanding knowledge of a system and its interrelated procedures, reacting constructively to positive or negative criticism, working well as a team member, using information systems, setting priorities, and demonstrating strong work habits. As frontline workers transition to work environments using computer information and health information systems, foundational knowledge must be made accessible to ensure a successful workforce. According to Code.org (2015), there are currently 78,756 available jobs related to computing, not to mention that the field is growing 4.1 times faster than the state average.

This project will focus on developing skills for the incumbent worker specifically related to coding and programming. By creating a certificate sequence of bundled short-term courses designed to develop software coding/programming skills, students/participants will be to enter into and compete for jobs in the broad occupational areas of data science and user interface (UI) visualization, as well as the high demand area of programming languages.

In an analysis of three quality bootcamp providers, CourseReport.com, CODEcamp, Tradecraft, and General Assembly discuss the unique approach to learning computer programming. In addition, CODEcamp offers a series of 4-week evening courses and one-day intensive trainings to improve current skills or to learn new
technologies. Training consists of lectures and hands-on projects taught by software professionals. Tradecraft, designed by industry experts, consists of a fulltime, 12-week immersion program designed for sales and business development professionals. General Assembly offers another fulltime immersive-type program, which includes longform courses, classes, and workshops addressing recent and relevant skills ranging from web development and user experience design to business fundamentals and data science to product management and digital marketing.

Each bootcamp offers either a 4- or 12-week immersive training program. Programs are designed by industry experts, scheduled during days and evenings, and organized for in-person instruction. Tradecraft and General Assembly incorporate computer programming, business knowledge, and industry skills required of an industry vertical. Similar to these bootcamp models is the Healthcare Information Technology Statewide Training Model which combines computer coding skills with the industry vertical of Health Care.

This project will develop a five-course certificate that includes Computer Information Systems (CIS), HIT, and Health Sciences as a short-term, one-time training. Non-traditional semester course structures (eight weeks) with various modes of delivery will be made available, including:

1st course 8-weeks – Medical Terminology
2nd course 8-weeks – Computer Information Systems/ Essentials of IT
3rd course 8-weeks – SQL for Healthcare
   SQL is a special-purpose programming language designed for managing data held in a relational database management system (RDBMS), or for stream processing in a relational data stream management system (RDSMS).
4th course 8-weeks - Business Intelligence Tool (e.g., Crystal Report)
   Set of techniques and tools for the transformation of raw data into meaningful and useful information for business analysis purposes. BI technologies are capable of handling large amounts of unstructured data to help identify, develop and otherwise create new strategic business opportunities.
5th course 8-weeks - HIT/ Electronic Health Record (HER)/ Privacy and Security.
   Students will pay $46 per unit to register; and, because this field is so new, data do not yet exist to confirm student earnings. In other words, data collection is emerging.

RESPONSE TO NEED

The “Healthcare Information Technology Statewide Workforce Training Model” will address the increasing need for skilled workers in the health care information field. As the trend increases to access healthcare information electronically, the demand for a strong supply of skilled workers continues to rise. The Deputy Sector Navigators for the Health and Information & Communication Technologies sectors have merged with industry and education to address the needs identified in Health Information Technology
and Healthcare Information Technology. This collaboration has joined together experts from industry, local and national associations, and community college educators to identify skill gaps, coordinate competencies, and align curriculum. This collaboration has generated a focused delivery of HIT and HCIT programs and recognized the training needs for an incumbent workforce, including the fact that:

• Employers are open to a wide-range of certificates and/or degrees to assist with preparation for employment; however, “readiness to work is as important as technical knowledge.”
• Online programs with great demand (e.g., 11,000 plus unduplicated students per year) exist at some colleges, while most other colleges facilitate significantly smaller programs.
• Employers would like to help shape instruction to ensure that curricula remain relevant and robust.
• Organizations like Healthcare Information and Management Systems Society (HIMSS) and The American Health Information Management Association (AHIMA) are actively developing partnerships with employers and higher education organizations to provide both credit and non-credit programs.
• HIT/HCIT’s future success requires ongoing regional discussions between educators and employers.

To address the risk of non-completion, various strategies have been discussed to increase student completion, including the development of a short-term, eight-week certificate model (e.g., credit, not-for-credit or non-credit). Emphasizing “stackable” courses, incumbent workers can enroll in various courses and complete several or all courses associated with the industry-identified certificate. By providing content delivery through various formats and non-traditional structures, students are provided options that best fit their learning styles. In addition, developing a common curriculum, this statewide certificate model will allow students to complete coursework at partnering colleges, all of which will apply towards the final certificate/badge.

Partnerships will also lower the risk of execution. Each respective partner, for example, will reach out to their local advisory board committees, workforce investment boards, and chambers of commerce—each of whom will play an integral part in the project’s outreach and marketing strategies. The DSN will work with regional DSNs from partnering colleges to assist industry partners in identifying incumbent workers who will participate in the pilot of this certificate model. Each faculty champion will also play a key role in the project, providing students and employers with local resources and support. As a result of open access, orientation sessions will provide students with certificate information. Industry can identify organizations seeking trained workers. It is the goal of the project that as students register for classes, industry partners will help students gain internship or work experience. The mastery of a skill-set, as well as the ability to meet industry competencies is paramount to this certificate program.

When recruiting for course enrollment, a case management model will be used for incumbent workers to seek the guidance and assistance required to complete the five-course certificate program. The case manager will offer resources such as one-on-one counseling/advising sessions, seminars, workshops, and referrals that contribute to student success. Regional workshops and industry specialists will be acquired to provide
face-to-face mentorships for students interested in HIT. Partnerships developed with Workforce Investment Boards will provide workers with additional resources and support. Screening tools will be taken under consideration, as prescribed by the industry panel to solicit the right candidate for the certificate program. Use of programs that may measure level of interest in programming will be considered (e.g., CodeAcademy.org)

The intent of the project is to have each of the three partnering colleges identify a group of 12-15 students, while taking into consideration a variable of 15 percent. With the help of faculty and industry champions, as well as with the use of the case management model, this percentage will be minimized with the availability to complete the certificate by taking courses at partnering colleges. (Ideally, it would be best to create a cohort. Because of regulations from the California Community College Chancellor’s Office, building and maintaining a “cohort” is difficult to form.)

Through a multi-college, multi-region collaboration, a short-term intensive training model will be developed. This project proposes an immediate means to address skillgaps by identifying the incumbent workforce and the foundational skills and knowledge needed to “up-skill” their employability. This will be achieved by offering an extensive training program with a customized curriculum that can be used as a statewide model. The second way this project addresses the shortage is to align with current approved curriculum, joined with industry experts, and align a five-course certificate program that will provide industry certification badging. These courses will provide a six to twelve month timeframe for completion and will depend on whether one’s local or partnering college offers to complete the certificate. Course delivery will be offered through continuing education and or credit sections valuing three units or more, depending on the specific college. This project will support the California Community College Chancellors Office, Doing What Matters for Jobs and the Economy framework with oversight of the South Central Coast Region, Deputy Sector Navigator (DSN) for Information & Communication Technology/ Digital Media and Health.

This project will also focus on metrics used to measure student success, quality of service, leading indicators of curriculum alignment to labor market needs, and student momentum points. Skill panels will convene to produce deliverables, including development of curriculum to workforce skills common to competitive and emerging regional industry sectors and clusters. Outcomes will align skill-sets within a program (or set of courses) to Healthcare Information Technology (LI 1). Skill identified include soft skills (e.g., Prepare for Change, Communications, Innovation and Transformation, and Intelligence of Data); IT skills (e.g., computer programming, software—applied, user interface build, system interaction, IT construction/ design); and blended skills (e.g., terminology, customer service skills, clinical documentation, data governance, risk management/ security). (See Appendix B)

In addition, this project will further develop instructional packages focusing on the technical skill(s) specific to emerging and/or changing occupations in the Healthcare IT sector. Outcome develop will include a five-course certificate model and include statewide dissemination in courses that include Medical Terminology, Computer Information Systems Course/ Essential of IT, SQL for Healthcare, Business Intelligence Tool (e.g., Crystal Report), and HIT/ EHR Course/ Privacy and Security (LI 2, MP 29),
thus producing a stackable course delivery program leading to certificate acquisition supported by industry.

Course delivery modes will vary from campus-to-campus, as credit, not-for-credit, or non-credit coursework is made available. All programs and courses will contribute to workforce skill development for Healthcare IT that focus on addressing a workforce skills gap and/or occupational shortage (LI 2). The statewide support from associations and industry share the values of this short-term training program to meet the needs of the incumbent workforce.

The project will use technical assistance providers (TAPs) from various areas that the CCCCO provides. Career Café will be integral in outreach to faculty and counselors, especially linking Healthcare IT information on the website. Centers of Excellence will be solicited to assist with labor market data and to help develop regional and statewide maps and surveys of the Healthcare IT fields. TAPs will also be used for advisement in facilitating the statewide rollout of this certificate program model, including areas of curriculum and contract education.

CTE Enhancement funds will not be leveraged at this time for this project. However, discussions include the career pathway for HIT/HIM. Capital investment is premature for this project at this time; however, the need for industry experts in areas of content and skills reflect the focus of the project. Several industry partners share a joint interest in this area of support with letters to provide content expertise and advisement.

Finally, many champions arose from the statewide convening and vowed active partnerships in developing programs such as the short-term training certificate to better prepare the workforce in Healthcare IT. These include the Healthcare Information and Management Systems Society (HIMSS) and The American Health Information Management Association (AHIMA) in addition to California Primary Care Associations (CPCA) interests for their constituents alike, including champions like Mathew Williams.

Each respective college has selected a regional champion(s) for this project, and has the support of the academic dean in said divisions, including:

- College of the Canyons: Victor Jadaon, Professor, Computer Information Technology (CIT) Department; Gina Roscigno, Professor, Medical Office Procedures/Terminology and Finance
- Saddleback College: Safiah Mamoon, BS, RHIT, CPC, HIT Department Chair/Program Director
- Santa Barbara City College: Esther Frankel, Professor, Computer Information Systems (CIS) Department
- San Diego Mesa College: Connie Renda, MA, RHIA, CHDA, Assistant Professor and Program Director, Health Information Technology
- California State University, Northridge: Brian Malec, MSHA Graduate Coordinator

PARTNERSHIPS

Partnerships within the application are based on regional and statewide planning, while Health Information and Computer Information Systems programs have existing industry advisory boards. These industry experts will provide the expertise in the development of the short-term training certificate based on identified industry needs. Area Workforce Investment Boards and other entities will provide input to industry-driven
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courses to assure support and accede to the development of the certificate in Healthcare Information Technology. Key players will consist of those from the statewide advisory panel that will reconvene during this grant project to provide oversight from a global and statewide perspective. Further, this panel, which also consists of large HIT and HCIT national organizations, will assure that knowledge, skills, and abilities are not compromised and meet national standards and competencies.

A multi-college partnership application, as outlined in the letters of support, will include the grant host of College of the Canyons (Santa Clarita Community College District), as well as Saddleback College (South Orange County Community College District), and Santa Barbara City College (Santa Barbara Community College District). Colleagues from California State University, Northridge (e.g., Department of Health Science and Health Administration Program) and Mesa College (San Diego Community College District) will also contribute to the creation of the model curriculum. Collectively, each of these institutions houses a current HIT program and all offer Medical Terminology, while others offer CIS course delivery.

Two of the three HIT programs are accredited though the Commission on Accreditation for Health Information and Information Management Education (CAHIIM), with the status of one college pending accreditation review. These partnerships provide program and delivery value, since industry can see that programs are aligning with current association guidelines and criteria. CSUN offers undergraduate and graduate degrees in Health Administration and a certificate in Health Informatics. This partnership will especially help align training for the incumbent workforce and create mid- to late-career opportunities for educational advancement, thus ensuring a quality trained workforce knowledgeable of desired industry competencies.

Each program offering the model will provide local outreach activities and focus on training the incumbent workforce. The project will work with the Deputy Sector Navigators for Health and Information & Communications Technologies, creating a broadband platform to reach the industry. Additionally, use of the statewide panel will provide further program development for potential student internships for those completing the certificate program.

PROJECT MANAGEMENT

Day-to-day project management and implementation will be the responsibility of Ms. Paula Hodge, Deputy Sector Navigator of Information & Communications Technologies and Digital Media (ICT/DM), who will serve as the Project Director. She will oversee project staff and ensure implementation of project services and activities. Ms. Hodge will report directly to Mr. Joe Klocko, Dean of Economic and Workforce Development at College of the Canyons, the host college for this project. (Ms. Hodge has full access to senior management at the district level.) The project will be guided by the Region 6 ICT/DM and Health Deputy Sector Navigators and Advisory Committees composed of leading regional and statewide industry partners, educators, and COC and regional college personnel. To leverage resources and create synergy, the Economic Development Division at COC includes the Advanced Manufacturing, Advanced Technology and New Media Incubators, Employee Training Institute, the
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Fast Track Institute, Small Business Development Center, and the Santa Clarita WorkSource Center.

The Deputy Sector Navigators are area experts. Ms. Hodge, COC’s designated Deputy Sector Navigator has extensive public and private corporate experience in information technology. She most recently served as the IT director of the Braille Institute, a major educational nonprofit. In that role, Ms. Hodge used her technical and business insight to steer the organization’s technical advancement in data, voice, and infrastructure. Key responsibilities included orchestrating collaboration and partnerships with numerous business partners and internal stakeholders. Ms. Hodge was responsible for managing the creation of education materials, training educators in the use and understanding of new technology, and deploying these cutting edge technologies into the classroom environment. She served as a subject matter expert providing training and expertise on advanced accessibility technology for the City of Los Angeles, AT&T, and California Court system.

In addition, regional network connections within industry will provide access to 1) prospective students for outreach and recruitment, 2) facilities for training, and 3) surplus equipment to support program implementation. In addition, this network will facilitate advisory board participation; promote links to regional economic development efforts; support targeted program participants; provide feedback to ensure continuous improvement of performance-based training; identify guest speakers and specialists for classroom and laboratory activities; and, most importantly, advance job opportunities for program graduates through the use of professional contacts and databases.

MANAGEMENT NARRATIVE

This project will be hosted at College of the Canyons and housed in COC’s Economic Development Division under the direction of Mr. Joe Klocko, Dean of Economic Development, who will also serve as the project’s supervising administrator. Mr. Klocko is a seasoned industry and college administrator with twenty-five years of industry experience in Advanced Manufacturing and Education and 10 years of experience working within the community college system. He has administered state and federal grants, as well as developed award-winning educational programs. Mr. Klocko reports directly to COC’s Chancellor, Dr. Dianne Van Hook. Previously the Deputy Sector Navigator for Advanced Manufacturing, Mr. Klocko is familiar with the mission and goals of the Doing What Matters for Jobs and the Economy framework, as well as the Launchboard data collection tool to be used for this project. In addition, all three Deputy Sector Navigators have successfully completed the onboarding for the DWM framework and the leadership academy presented by the California Community College Association for Occupational Education and the California Community College Chancellors Office.

As the grant Project Director, Ms. Hodge is familiar with how to address regulatory requirements, implement data collection requirements, identify fiscal accountability guidelines, and meet timelines, all of which are part of this reporting process. Current Deputy Sector Navigator grants associated with the DSN for ICT/DM and Health include grant funding cycles from SB 1402 funds.
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Provide an organizational chart for operating the project.

Letters are attached, including “intent-to-participate” letters of participating colleges and letters of support from employers outlining the match.

PARTNERSHIP AND SCALABILITY
College of the Canyons will employ a multi-level strategy in the dissemination of the results and products generated by this Healthcare Information Technology Statewide Workforce Training Model. All information prepared for dissemination will be forwarded to the ICT/DM Sector Navigator for approval, as required. Project product and results will be disseminated as follows:
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• Program descriptions/ course sequences--SCCRC and HWI web site; CCC EWD sector web site link; department web pages; COC catalog; pdf documents.
• High school outreach and enrichment program materials--SCCRC web site (links); high school web pages; robotics club web pages; pdf documents.
• Instructional materials (selected)--SCCRC and HWI web site; department/instructor web pages; pdf documents; local/regional faculty training workshops.
• Evaluation data, student outcomes, program success--SCCRC web site (general outcomes); sector reports; sector meetings; regional, statewide educational conference presentations; statewide Launchboard; journal articles; industry and business association presentations.
• Industry impacts, skill standards, productivity, growth data--SCCRC web site (selected data); industry and business association presentations; industry and business articles (online, copy); CCC EWD sector web site (as requested).

Note: Hard copy materials of all products and results will be available on an “as requested” basis. Electronic dissemination will improve efficiency and reach of dissemination activities and reduce costs.

This project will be based on the immediate needs of the industry and incumbent workforce, in that the intent is to deliver courses, in an in-time, in-demand alternate format to the traditional college semester. The implementation of the pilot courses is designed to impart information in five 8-week courses taught over 40 weeks. Students will be able to apply previous coursework, if articulated with the courses assigned to the certificate structure. If a student has previously taken a medical terminology course, they do not need to retake the course but can “stack” the course with the four new courses to obtain the certificate.

The project director will distribute grant materials or products through the Statewide HWI board, WIOA advisory boards, and Statewide Health and ICT Deputy Sector Navigators meetings. In addition, materials will be made available to regional consortia of the partnering colleges.

The nature of this certificate/badge already exists throughout multiple industry sectors (Health and ICT), while scalability across regions is possible by leveraging existing curricula across multiple regions. Funding will allow further scaling and support curriculum modification to ensure a statewide adaptation and model curriculum for Healthcare Information Technology.

INTEGRATION & SUSTAINABILITY

The Project Director is currently part of the ICT/DM Sector Navigator team. Ms. Hodge participates in weekly statewide strategic planning meetings and comes face-to-face with the team throughout the year. The Project Director also consults with the Sector Navigator of ICT/DM on regional and statewide projects, and he has submitted his letter of support for this grant project.

Colleges will be able to sustain these programs as credit, not-for-credit or non-credit courses for the student and incumbent workforce; and, depending on industry
highdemand needs, workforce contract education can be negotiated. Courses will be
developed based on Academic Senate and Curriculum Committee guidelines
governing credit, not-for-credit and non-credit courses. Courses will continue to be
scheduled by colleges after the duration of the grant in order to sustain the certificate
program.