



Disease Intervention Specialist Certification Project

Final Report to the Centers for Disease Control and Prevention

Prepared by the Public Health Accreditation Board

June 2017



*Advancing
public health
performance*

Table of Contents

- Section I** **Introduction and Overview of the DIS Certification Project.....3**
 - *Process Model for Organizing the DIS Certification Project.....*
 - *Definition of a DIS.....*
 - *Definition of Certification.....*
 - *Definition of Recertification.....*
 - *Anticipated Benefits of DIS Certification.....*
 - *Drivers and Incentives for DIS Certification.....*
 - *Anticipated Barriers and Challenges for DIS Certification.....*

- Section II** **Project Deliverables.....10**
 - *DIS Job Task Analysis.....*
 - *Template DIS Functional Job Description.....*
 - *Enumeration of the Current DIS Workforce.....*
 - *The DIS Registry.....*

- Section III** **Management, Administration, and Legal Considerations.....19**
 - *Selection of An Organization to Administer and Manage the DIS National Certification Program.....*
 - *Relationship of Accreditation of the Certifying Body to the Certification of the Individual.....*
 - *Certification Process.....*
 - *Volunteers.....*
 - *Trademarks, Certification Marks, and Copyrights.....*
 - *Americans with Disabilities Act.....*
 - *Costs of the DIS National Certification Program.....*
 - *Financing and Sustainability.....*

- Section IV** **Marketing the DIS National Certification Program.....25**
 - *Know the Target Audience.....*
 - *Engage the Target Audience.....*
 - *Develop Communications that Highlight Certification’s Value.....*
 - *Raise Awareness of the Certification Entity.....*

- Section V** **Describing and Analyzing the Three Potential Models for DIS Certification.....29**
 - *Test-Based Certification Model.....*
 - *Portfolio Review Certification Model.....*
 - *Unit-Based Certification Model.....*
 - *Analysis and Comparisons of the Three Potential Models of DIS Certification.....*

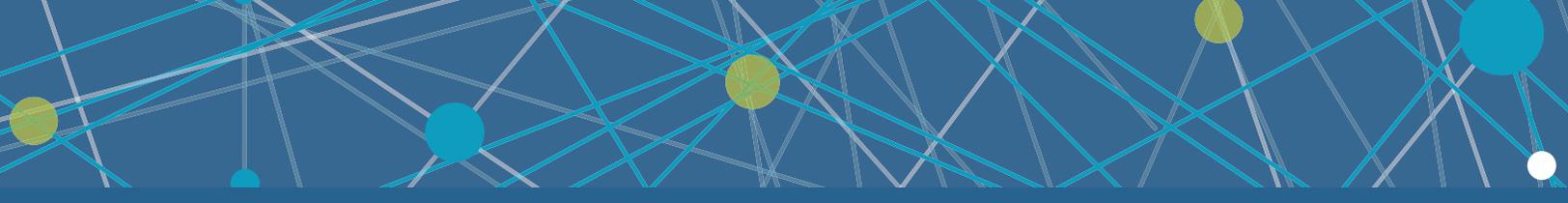
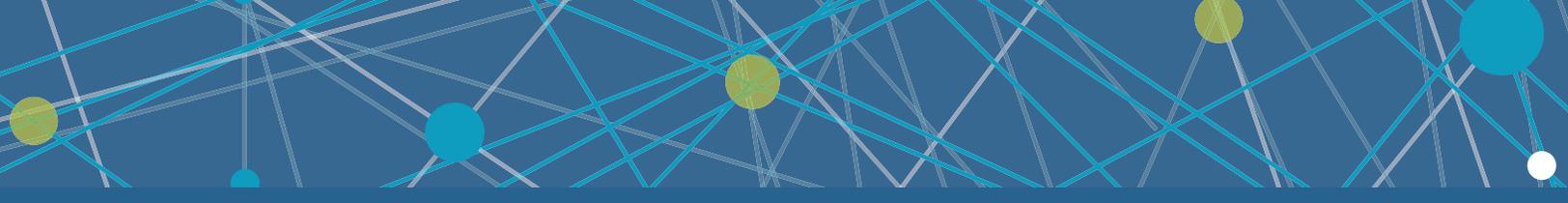


Table of Contents cont.

Section VI	Foundational Support Areas for DIS Certification48
	<ul style="list-style-type: none">• <i>Important Considerations Related to DIS Education and Training.....</i>• <i>Current Training and Present State of Training.....</i>• <i>Performance Standards for the Health Departments in which the DIS Work..</i>
Section VII	Observations, Conclusions, and Recommendations from the Assessment Phase of the DIS Certification Project.....55
	<ul style="list-style-type: none">• <i>Observations and Conclusions.....</i>• <i>Short-Term Recommendations.....</i>• <i>Long-Term Recommendations.....</i>

This publication was supported through funding from the Centers for Disease Control and Prevention (CDC) through Cooperative Agreement CDC-RFA-OT13-130104CONT16. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the CDC.



SECTION I:

Introduction and Overview of the DIS Certification Project

Disease Intervention Specialists (DIS) have long been a critical part of public health, working directly with communities. Historically DIS have worked in sexually transmitted disease programs (STD), HIV programs, and tuberculosis control programs (TB), but now work in a variety of other disease areas, including other infectious disease outbreak and emergency response where their on-the-ground investigative skills and community engagement play a key role in public health improvement. Many health departments across the country have someone performing DIS job functions. Increasingly, DIS are also needed as patient navigators and networkers to ensure patients are linked to care through expanded relationships with health care providers. DIS are a critical part of the public health infrastructure and in building the link to health care into the future.

In 2013, International Credentialing Associates (ICA) was contracted by the National Association of County and City Health Officials (NACCHO) to conduct the Disease Intervention Specialist (DIS) certification feasibility assessment. Purposes of this assessment were to describe the current and future directions of the DIS profession and determine how certification would impact DIS; determine the financial burden and proposed budget for creating and sustaining a certification program; assess the organizational capacity necessary to create and maintain a certification program; connect with key stakeholders in both the public health and certification industries to obtain guidance for best practices; and, develop a business plan with recommendations for how to proceed post-feasibility assessment. Based on the feasibility assessment, ICA recommended that Centers for Disease Control and Prevention (CDC) pursue the development of a DIS certification. The 2013 feasibility assessment is included in Appendix A.

In September 2014, the CDC funded the second phase of the DIS Certification Project, and the Public Health Accreditation Board (PHAB) became the coordinating organization. This phase of the DIS Certification Project, called the Assessment Phase, was designed to explore and determine the best model for DIS certification as well as those activities that are foundational for any national certification program. The goal of certification of the DIS workforce is to improve public health services provided to communities by DIS through a high quality, standardized approach to the professional development of this workforce. Certification can standardize and validate the knowledge, skills, and abilities of DIS; drive the standardization and improvement of training; increase the quality and consistency of service delivery; and, increase recognition of the skills and abilities of DIS.



During this phase, partners and consultants working on the DIS Certification Project have completed the following deliverables:

- DIS Job Task Analysis;
- Template DIS functional job description for health department use;
- Enumeration of the DIS workforce (NACCHO);
- DIS workforce registry (National Coalition of STD Directors, NCSD);
- Description of three potential models for national certification;
 - A test-based model, which describes certification of an individual as being able to competently complete a job or task based upon an examination and/or the completion of a program of study;
 - A portfolio review-based model which typically requires verification that an individual has met

- predetermined and standardized criteria through the review of a collective body of work;
- A unit-based model which typically requires verification that the individual has met criteria of nationally recognized, practice-focused, and evidence-based standards by combining the performance of the individual with the performance of the unit, and documentation against standards is submitted together and reviewed together;
- Recommendations for continuing education and training; and,
- Complementary reports on the future education of the DIS workforce and the alignment between academic BSPH and MPH competencies with the DIS job task analysis and the alignment with the related foundational program management expectations and the Public Health Accreditation Board (PHAB) health department accreditation standards and measures.

The project was designed to be a comprehensive, inclusive effort to develop recommendations to strengthen and formalize the role of DIS. It has been informed by members of a PHAB DIS National Advisory Committee; a group of DIS Subject Matter Experts (SME); and national partner organization representatives. The names and affiliations of each of those groups are included in Appendix B. Each of the project deliverables, and the final recommendations for development and implementation of the DIS national certification program, are described in detail in the remainder of this report.

Process Model for Organizing the DIS Certification Project

The Assessment Phase of the DIS National Certification Project was a comprehensive, inclusive effort to develop recommendations to strengthen and formalize the role of DIS in areas such as STD, HIV, TB, and other communicable diseases; and emergency preparedness and response. Components of the project included conducting a job task analysis to articulate the essential tasks, knowledge, skills, and abilities of the DIS roles; enumerating the DIS workforce; establishing a national registry for DIS; examining three potential models for DIS certification; informing a comprehensive framework for future DIS education and training; and, describing the alignment between DIS national certification and public health department performance. As the Assessment Phase began, a process model for organizing the work was developed and is depicted below.



Definition of a DIS

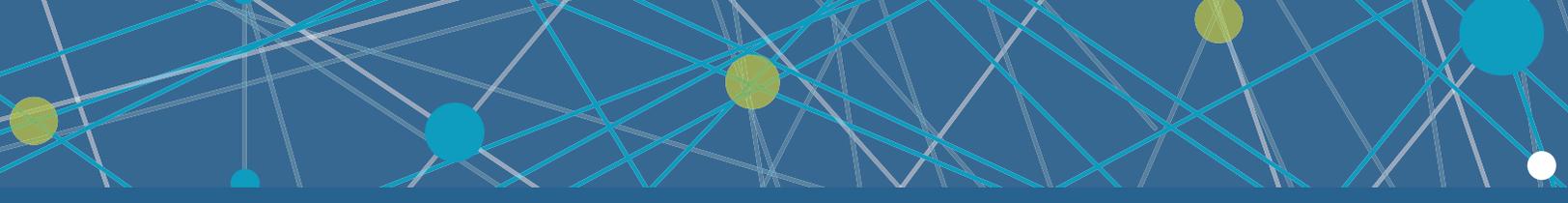
The DIS role was initially established to work in the field of STD and HIV prevention. However, these public health professionals have ground-level investigative skills that have also become key components of HIV-related services; tuberculosis outbreak response; HIV exposure notification; other infectious disease control efforts; and, emergency preparedness and response. DIS are non-licensed public health professionals with applied expertise in client centered interviews; collection of enhanced surveillance and community assessment data; partner services, including contact tracing; field investigation and other field-based activities, including specimen collection, directly observed therapy, community outreach; collaboration with medical providers, and navigation of health care systems to ensure patient evaluation and treatment; and, mobilization for outbreak investigation and emergency response. DIS have expertise in essential skills such as communication, interviewing, counseling, case analysis, and provider and community engagement. As the health care landscape evolves, DIS are needed even more as patient navigators and network builders to ensure patients are linked to care through expanded relationships with health care providers. DIS are a critical part of the public health infrastructure and in building the link to health care into the future.

During the 2013 feasibility assessment, the following job titles were identified as being used in various locations to describe the job duties associated with the DIS:

- Communicable Disease Specialist
- Communicable Disease Investigator
- Disease Control Investigator
- Disease Prevention Specialist
- HIV/STD Counselor
- HIV/STD Program Manager
- Linkage to Care Coordinator
- Public Health Advisor
- Public Health Associate
- Public Health Inspector
- Public Health Program Representative
- STD Health Navigator
- Testing and Referral Coordinator

Definition of Certification

The working definition of certification for this project was a voluntary process by which a non-governmental agency grants a time-limited recognition to an individual after verifying that he or she has met predetermined and standardized criteria. An organization grants this recognition to an individual after verifying that he or she met eligibility criteria and passed an assessment. Certification is different than licensure, which is more typically awarded at the state level by a governmental or quasi-governmental regulatory body for the purposes of granting legal entry into practice (i.e. physicians, nurses, social workers, dentists, etc.).



Definition of Recertification

Since certification is anticipated to be time-limited (three to five years typically), recertification is a natural part of the process. A recertification program for professionals who have attained the DIS certification which uses a classic education and experience-based professional development model is the most appropriate approach to consider. This process will involve the DIS certification managing organization creating a category structure whereby professional development units (PDUs) can be earned. Typically, credits are earned both for educational experiences (e.g., attending courses, attending conferences, independent study), giving back to the profession (e.g., teaching courses, writing articles on issues related to the DIS profession), and DIS experience (e.g., hours spent actively practicing as a DIS). While a three-year cycle is the most common in the certification industry, a more frequent recertification cycle can be considered if it is needed due to the pace of changes in the profession and frequency of individuals leaving the profession. The final recertification cycle, and its requirements, will be developed along with the initial certification requirements so that potential applicants will know the full range of requirements early. However, the requirements for recertification will be published when the certification requirements are published so that potential applicants will know the full range of requirements early.

Anticipated Benefits of DIS Certification

DIS personnel, their supervisors, and CDC program leadership will want to understand the anticipated benefits of DIS certification since this concept is new to the field. The following anticipated benefits were identified during the 2013 feasibility assessment and confirmed during this Assessment Phase of the project:

- Increase visibility of the DIS profession.
- Increase the professional reputation and prestige of the DIS profession by setting minimum bounds for competence.
- Increase the recognition of individual performance and achievement.
- Provide a baseline for DIS competency nationwide by creating a certification with minimum experience and competency requirements.
- Decrease the variation in knowledge, skills, and abilities currently found within the DIS profession thereby standardizing the performance expectations.
- Increase confidence level of clients and other members of the community in the work that DIS do.
- Increase dedication to the profession and decrease turnover, potentially creating a public health career path for DIS.
- Increase recognition and transference of skills between states/jurisdictions, thereby decreasing training and development time for DIS transferring between jurisdictions.
- Increase practice efficacy by standardizing the job duties, roles, and responsibilities of the DIS which can then lead to the development of standardized approaches to evaluating the effects of their work, including patient outcomes.
- Increase the demand for continuing education, as training and education requirements are defined for certification, and certification becomes more accepted in the practice community.
- Motivate DIS to continuously learn and refine their skills as they prepare for recertification.
- Ensure that DIS are up-to-date on public health research trends related to their work.
- Support networking of DIS professionals, which in turn increases their sharing of best practices, other knowledge acquisition, and skill development.

Drivers and Incentives for DIS Certification

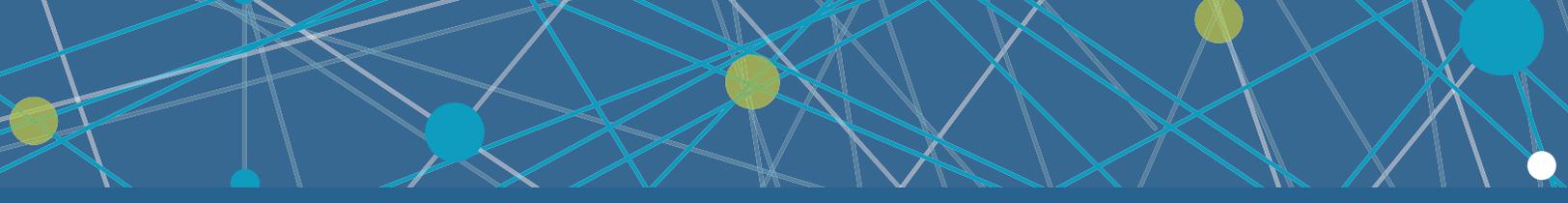
Based on observations about other national certification programs in their early years of implementation, there are several potential drivers and incentives that influence the ultimate success of the certification program. Drivers and incentives were noted as:

- Individuals becoming certified results in some individual recognition such as salary differentials; promotion/hiring preferences; etc.
- Individuals preparing for certification receive support for that preparation such as professional development support and/or paid time away from work.
- Individuals paying certification fees receive some financial support.
- Employees demonstrate value for the certification by supporting individual professional development toward recertification.
- Certified individuals have access to a common learning community of other similarly certified individuals.

Anticipated Barriers and Challenges for DIS Certification

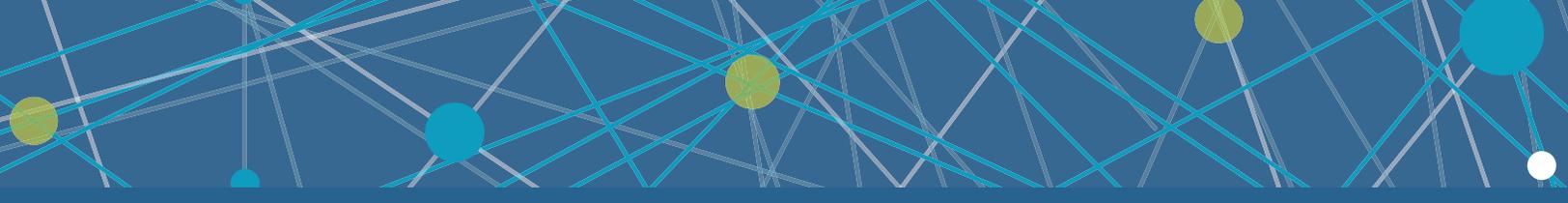
Based on observations about other national certification programs in their early years of implementation and input from the PHAB National Advisory Committee, national partner organizations, and subject matter experts, there are several anticipated barriers and challenges for national DIS certification as noted below.

- The DIS workforce (DIS and their supervisors) will need to buy into the idea of certification for a voluntary program to be successful.
- DIS certification will require some changes in practice, and resistance to those changes may occur.
- Variations in workload and case priorities across jurisdictions will be a challenge to the development of a test-based model.
- Health departments that may have limited resources or that may have more limited roles for the DIS (such as smaller health departments and/or those in rural and frontier settings) should seek ways to partner with other health departments to give DIS adequate job experiences to support their certification efforts.
- Access to the training that may be required for DIS to be eligible for certification must be ensured. This access means that all DIS, regardless of their employment setting, can have equitable opportunities for certification.
- It will take two years for the program to be developed and operational. Regardless of the model, the start-up costs are estimated to be at least \$150,000-\$300,000.
- Ongoing operational costs for the first five years (the tipping point at which revenue could positively affect the bottom line) are estimated at \$175,000-\$200,000.
- Given the small number of DIS to be certified, sustaining the program over time will require some ongoing investment by CDC programs.
- There is a legal liability associated with establishing and maintaining a certification program.
- Creating and sustaining the value of certification can be a challenge.



SECTION II:

Project Deliverables



There are three categories of the project deliverables that provide information for the assessment phase of the DIS certification process: initial and supporting activities (job task analysis, enumeration of the DIS workforce, and establishment of the DIS registry); analysis of the three potential models or approaches to DIS certification; and, two related foundational support activities. Each of these categories are described in this section, with technical reports and other supporting documentation included as appendices, as appropriate.

DIS Job Task Analysis

PSI Services LLC (PSI) conducted a Job Task Analysis to be used in the discussions about developing the DIS certification program. This Job Task Analysis (JTA) was conducted to obtain information about the tasks performed in the DIS job role and the knowledge statements needed to support the performance of these tasks. Certification development organizations conduct job analysis studies to identify the critical practices of a profession. A job analysis study is also referred to as a role and function study, practice analysis, job task analysis, or role delineation study. Job analysis studies are a method of identifying information about a job role, which is then used to establish the necessary and important requirements to ensure that practitioners in the role have the requisite knowledge for competent practice. The JTA process for DIS certification was conducted in accordance with industry requirements to ensure the development of content-valid and legally-defensible examinations. A three-phase approach identified the tasks and knowledge necessary for competent performance of DIS across various settings and professional disciplines.

- Phase I: Research included outline detailing domains, tasks, and knowledge statements for DIS competency using literature reviews and the 2013 feasibility assessment.
- Phase II: Refinement included review and revisions to task and knowledge statements through multiple, iterative reviews by two groups of currently employed DIS who served as subject matter experts.
- Phase III: Validation included a voluntary, pilot survey to further refine the DIS task and knowledge statements. Over 400 DIS participated in this public survey to validate tasks, knowledge, and skill statements and rank in order of importance and frequency performed.
- Phase IV: Perform appropriate statistical calculations to determine the validity of job tasks and knowledge ratings. Analysis of the results from all four phases formed the current JTA.

Once the JTA public survey was completed, PSI calculated frequency distributions, means, standard deviations, and modes for the task and knowledge importance ratings, task and knowledge frequency ratings, and content coverage ratings. PSI reviewed the demographic questions to determine which comparative analyses may identify differences between groups on importance and frequency ratings of task and knowledge statements. Analysis of variance (ANOVA) and t-tests were conducted to determine whether any significant differences between statements' importance or frequency ratings were observed. In addition, means and standard deviations were calculated for each demographic subgroup across the task and knowledge statements.

The DIS JTA public survey yielded 495 responses, which is an outstanding response rate in the certification industry. The figure below provides a profile of the survey respondents.

Profile of the JTA Survey Respondents	
Job Title	<ul style="list-style-type: none"> Disease Intervention Specialist (51% of respondents)
Time Spent Providing Disease Intervention Services	<ul style="list-style-type: none"> 91% - 100% (49%) More than 60% (65%)
Primary Work/Practice Setting	<ul style="list-style-type: none"> Local Agency (49%) State Agency (40%)
People Conducting DIS Activities in Organization	<ul style="list-style-type: none"> 2 to 3 (22%) 6 to 9 (19%)
Years Performing DIS Work	<ul style="list-style-type: none"> 6 to 10 (21%)
Which Disease Currently Working With	<ul style="list-style-type: none"> Syphilis (22%) HIV (21%)
Geographic Location	<ul style="list-style-type: none"> Responses from 40 states and Puerto Rico, nine states, and District of Columbia not represented
Highest Academic Degree	<ul style="list-style-type: none"> Bachelor's degree (55%)
Age	<ul style="list-style-type: none"> 51-55 (16%) 26-55 (76%)
Gender	<ul style="list-style-type: none"> Female (70%)
Ethnicity	<ul style="list-style-type: none"> White (Non-Hispanic) (42%)

Since the JTA forms the basis for the test specifications, it is important to understand how DIS certification JTA survey respondents characterized the JTA results.

- All survey respondents indicated that the tasks and knowledge statements sufficiently covered the necessary content for a test.
- 56 of the 57 (98.25%) task statements drafted by the job analysis taskforce were rated by the sample of practitioners as sufficiently important to retain in the final test specifications.
- 102 of the 103 (99.01%) knowledge statements drafted by the taskforce were rated by the sample of practitioners as sufficiently important to retain in the final test specifications.

Respondents indicated that the final JTA tasks and knowledge statements sufficiently described the job tasks and duties of the DIS. A summary of the description of the job tasks, knowledge, skills, abilities, and work activities of a DIS based on the JTA process and content expert reviews follows.

Tasks

1. Planning and Preparation for Case and Field Work

- » Gather, assess, and review client and community information using various investigation procedures including interviewing or data mining
- » Assess and prioritize intervention activities
- » Maintain field supplies and comply with field safety plans

2. Investigation Activities

- » Conduct investigations using various investigation methodologies (e.g. including field investigations, investigations using electronic tools, and site assessments)
- » Document intervention activities in a timely manner per local protocol
- » Maintain confidentiality of sensitive client and protected health information

3. Client Encounters and Interviewing

- » Verify the client's identity during client encounters or prior to disclosing confidential information
- » Notify and educate clients concerning test results, disease exposure, environmental risk, and other relevant health information
- » Conduct comprehensive interviews employing effective communication skills
- » Ensure and promote a confidential and comfortable environment for client communications
- » Inform clients of the importance of seeking care and refer them to the appropriate community or medical resources
- » Collaborate with clients to gather information on an environmental risk history, risk reduction plan, third parties at risk, or venues where the client or others may have been exposed to diseases
- » Identify client barriers to needed interventions to conduct partner/contact notification, and/or coordinate solutions to those barriers

4. Surveillance Support Activities

- » Collect surveillance information from surveillance systems, management systems, and/or community surveillance information, and conduct data entry of client interviews and investigation activities to identify emerging issues with client population

5. Health System Collaboration and Quality Improvement

- » Collaborate with service providers to ensure entry into care and continuity of care
- » Serve as a local resource for public health information or recommendations to the community and providers
- » Conduct and contribute to provider and laboratory education, health department improvement activities, and other means to improve the quality of care

6. Clinical Support Services

- » Verify that clients received testing, adequate treatment, and follow-up services as appropriate
- » Provide clinic testing and treatment follow-up services in accordance with local protocol and CDC recommendations

7. Testing and Field Services

- » Identify and respond appropriately to unsafe situations

- » Participate in event-based and targeted testing, screening, or outreach
- » Administer, and/or deliver testing, test results, and/or treatment to clients
- » Collect or transport specimens and serve public health orders per jurisdiction protocol

8. Case Analysis

- » Determine disease intervention time frames, procedures, and objectives
- » Recognize or address gaps in information elicited and conduct client interviews to collect necessary information
- » Review available case information and conduct case analysis to determine case priority level, disease staging classification, and/or additional steps for intervention

9. Outbreak Response and Emergency Preparedness

- » Participate in preparedness training
- » Support health emergencies and outbreak response initiatives by participating in interventions and active data collection
- » Coordinate with government agencies and health officials

JTA Knowledge, Skills and Abilities

<i>Knowledge</i>	<i>Skills</i>
<ul style="list-style-type: none"> • Ethical and professional conduct • Privacy practices and reporting procedures • Counseling techniques • Universal safety precautions and protocols • Disease characteristics, treatments, and prevention strategies • Community resources and stakeholders • Health care program policies and procedures • Clinic or laboratory policies and procedures • Disease testing locations and protocol • Cultural competency 	<ul style="list-style-type: none"> • Active listening • Critical thinking • Work efficiencies (e.g., multitasking, time management, prioritization, organization) • Problem solving • Investigation/ notification protocols • Motivating clients • Establish and maintain collaborative relationships • Case management • Data collection and entry • Use of navigational tools • Conflict management and resolution • Applicable disease intervention assessments • Communication techniques and procedures • Test technologies and interpretation • Specimen collection, handling, and processing • Situational awareness
<i>Abilities</i>	
<ul style="list-style-type: none"> • Adaptability to changing environment • Non-verbal communication 	

Work Activities- Work activities that are used to perform the tasks of a DIS

- Analyze data or information
- Obtain information
- Interpret the meaning of information for others
- Use technology and related tools
- Make decisions and solve problems
- Think creatively
- Document/record information
- Communicate with persons outside organization
- Organize, plan, and prioritize work
- Establish and maintain interpersonal relationships
- Estimate the quantifiable characteristics of products, events, or information
- Schedule work and activities
- Evaluate information to determine compliance with standards
- Perform administrative activities

Tools & Technology- Technological tools and software that are used to perform the tasks of a Disease Intervention Specialist

<i>Tools used by DIS</i>	<i>Technology used in DIS work</i>	<i>Important additional considerations</i>
<ul style="list-style-type: none">• Desktop computers• Personal computers• Mobile devices	<ul style="list-style-type: none">• Spreadsheet software• Word processing software• Internet browser software• Data base user interface and query software	<ul style="list-style-type: none">• Valid driver's license if required to drive vehicle• Access to personal car or applicable transportation• Car insurance if required to drive vehicle• Emergency response availability based on jurisdictional expectations

It is anticipated that eligibility for DIS certification, regardless of the certification model chosen, would require the following:

Minimum Eligibility

- High school diploma or General Education Development (GED) equivalent with up to two years of applicable community experiences in counseling or health outreach.

Preferred Eligibility

- Associate degree or equivalent with up to one year of applicable community experience in counseling or health outreach.
- Bachelor's degree or higher from an accredited college or university. No experience required.

Additional formalized training relative to the DIS role may also be required for eligibility to become nationally certified. See the foundational support elements at the end of this report for more details. The educational recommendations are designed to be a minimum standard that is inclusive of as much of the current workforce as possible, and is written in the context where there is currently no formal preparation curriculum within colleges and universities.

Template DIS Functional Job Description

While the format and information from the JTA should be used as the foundational basis for the certification model, a functional or template job description developed from the JTA can be useful to health departments that are interested in developing or revising their internal DIS job descriptions to closely align with the JTA. A sample template DIS job description based on the JTA is included in Appendix C.

Enumeration of the Current DIS Workforce

The size of the DIS workforce, a previously undocumented number, was a critical piece of information needed for the development and assessment of the three certification models. Specifically, this information has implications for analysis and forecasting the costs, implementation, and sustainability of the certification program. Enumerating the number of DIS in the U.S. public health workforce was also instrumental in ensuring that the certification program meets the needs of DIS, health departments, and other partners and stakeholders. Throughout the process, the enumeration number identified through this process was used for forecasting costs, describing anticipated barriers, and for assessing some of the continuing education needs and issues.

Enumeration Methods

Enumeration was conducted via an online survey that was developed and administered by NACCHO, in partnership with NCSO, PHAB, and CDC. The survey was conducted in two phases from June to August 2016. The survey methodology was designed to be as accurate, comprehensive, and efficient as possible, and took into consideration differences across the country in how DIS positions are staffed, organized, and managed.

In Phase 1, the survey was administered to all 50 state health departments and six territorial health departments. To account for the potential inability of a state health department to provide the information being requested, the survey instrument began with the following question: *Is your health department able to provide, with relative certainty, the total number of DIS positions within the state?* If the health department responded that it was not able to provide the information being requested, the survey ended and the health department was informed that the information would be collected from local health departments within the state. For states with a city or county health department that receives direct funding from the CDC for STD and/or HIV prevention (California, Georgia, Illinois, Maryland, New York, Pennsylvania, and Texas), a follow-up question was asked to determine whether the state enumeration would include DIS positions supported by the directly funded city or county health department. If the health department responded that the city or county would not be included in the state enumeration, that health department was included in Phase 2.

NACCHO collaborated closely with NCSO to support Phase 1 survey administration. The survey was sent to the NCSO member (i.e., STD program manager) in each of the state and territorial health departments. In Phase 2, the survey was sent to all local health departments in states that could not or did not respond during Phase 1, as well as to the directly funded city and county health departments that were not included in their states' response. The survey was sent to the NACCHO member (i.e., local health official) in each of the local health departments. Four states were included in Phase 2. Responses in Phase 2 were weighted to account for non-response within each state. Weighting was conducted to establish statewide estimates for the total number of DIS.

Enumeration Criteria

For the enumeration survey, DIS was defined as “a number of non-licensed public health job titles and classifications that perform a similar scope of work and require similar knowledge and skills.” The functions and programmatic areas of work were described as follows:

The functions and responsibilities of DIS include a broad scope of disease investigation and client interviewing activities. Other activities performed by DIS include partner services, contact tracing, field investigation in outbreaks and emergency preparedness, community outreach, collaboration with health care providers and navigation of health care systems, and collection of enhanced surveillance and community assessment data.

Additionally, the following criteria were provided for inclusion or exclusion in the enumeration:

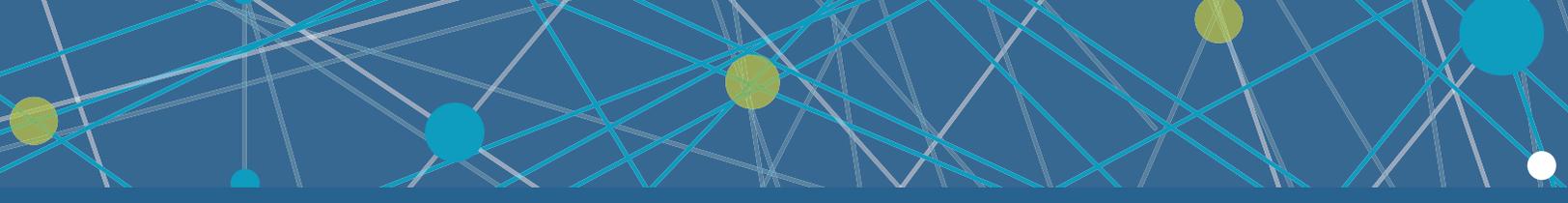
- Include all DIS that support your health department’s STD and HIV programs.
- Include the total number of positions/individuals who function as DIS, not the total FTE.
- Include individuals regardless of their employment category (i.e., full-time, part-time, contract).
- Include individuals regardless of the funding source(s) that supports the position.
- Include all filled and unfilled DIS positions.
- [For state health departments only] Include all DIS positions as defined above, including those at the local, district, regional, and state level, as well as health department-funded DIS positions that work in a community health center or other setting (i.e., community-embedded DIS, or CEDIS).
- [For local and territorial health departments only] Include all DIS positions as defined above, including health department-funded DIS positions that work in a community health center or other setting (i.e., community-embedded DIS, or CEDIS).
- Do not include community health workers, epidemiologists, and public health nurses.
- Do not include federal assignees, such as Public Health Advisors and Public Health Associate Program associates.
- Do not include DIS supervisors in the count of DIS positions. There will be a separate question for enumerating the number of DIS supervisor positions.

Enumeration Results

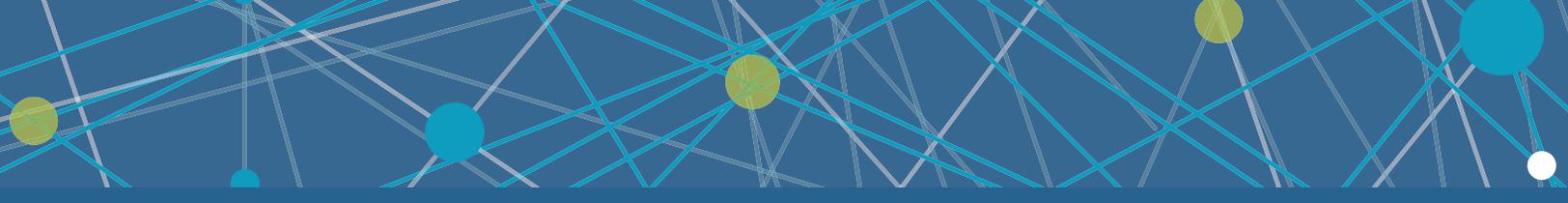
Enumeration of the DIS workforce identified 1,661 positions, of which 1,404 were filled at the time of survey completion. In addition to the number of DIS, 402 DIS supervisor positions were enumerated. Information was also collected to get a sense for turnover among DIS and how many DIS were hired over the past five years. Over the past five years, respondents reported hiring 403 DIS (respondents were told not to distinguish between hiring for vacant positions or new positions) and that 778 DIS had vacated their position. Since the completion of the NACCHO enumeration survey, the NTCA has estimated the number of TB-only DIS to be 540-575 positions.

The DIS Registry

A DIS registry has both short-term and long-term value as it relates to the development and implementation of a national DIS certification program. Initially, the registry can be used to inform DIS of the certification program and to ascertain their potential interest in becoming certified. It can also be used to distribute information about the final eligibility requirements for the certification program, as well as education,



training, and technical assistance opportunities that are available to them. In May 2015, NCSD conducted a survey of all STD directors for programs directly funded by the CDC Division of STD Prevention to conduct STD prevention activities. The survey requested the first and last names, and email addresses of all full and part-time DIS within their jurisdictions. Of the 65 states, cities, and territories funded by CDC, 62 provided the names and email addresses of at least one DIS in their project area. In addition, as new applications for membership at NCSD are received on an ongoing basis, the DIS Registry is updated with the names of new members that indicate that they are DIS. As of December 2016, there were 2,226 people listed in the registry. NCSD will be conducting a review of this list during 2017, and periodically thereafter, to ensure that the list is complete, and accurately reflects any turnover at the state and local levels.



SECTION III:

Management, Administration, and Legal Considerations

Selection of an Organization to Administer and Manage the DIS National Certification Program

For the next two phases of this project (development and implementation) to occur, an organization should be selected to administer and manage the DIS national certification program. One of the first decisions to make in setting up a national certification organization is whether to contract with an existing national certifying body or to establish a new national certifying body. Whichever is selected, it is critical that the organization be properly organized and governed to protect the integrity of the certification program, as well as the perception of the certification by applicants, employers, funders, and the public in general. Several legal factors should be considered when examining corporate organization and governance as related to certification.

Certification programs are typically registered under Internal Revenue Service (IRS) 501(c)(6). In most cases, a 501(c)(3) who has a different mission than certification would tend to establish a subsidiary organization to oversee the national certification program. In terms of the non-profit corporate status, the IRS has stated that establishing and maintaining a certification program is typically not consistent with a 501(c)(3) organization. The IRS maintains that “certification primarily provides a private benefit to the certified professionals and mostly furthers the common business interests of those individuals”. Exceptions are permitted where a certification program has significant, demonstrable public benefits. Certification programs are typically registered under 501(c)(6). The IRS does state that a 501(c)(3) organization may maintain a certification program if it is insubstantial to its overall operations. However, the IRS has not provided guidance regarding what factors define a program as insubstantial (e.g., revenue, expenses, staff size). An existing 501(c)(3) organization considering adding DIS certification to its current scope of work would need to seek legal counsel regarding the most appropriate mechanism to do so. In most cases, a 501(c)(3) who has a different mission than certification would tend to establish a subsidiary organization to oversee the national certification program.

The certification organization should have, as its governing entity, a board of directors. The board of directors would be legally responsible for the sound operation and administration of the national certification program. If the national certification program is part of an existing 501(c)(3), that board of directors can serve in this governing capacity. However, it is highly recommended that the organization purchase appropriate liability insurance to manage the risk to the board of directors for its decision-making.

Duties of the board of directors, at a minimum, would include:

- Attendance at board meetings, with appropriate minutes of their decision-making
- Review of the articles of incorporation, bylaws, and board policies
- Disclosure and management of conflicts of interest
- Access to appropriate legal advice and counsel
- Obtain and review audited and unaudited financial reports of the organization
- Ensure fiduciary responsibility for the organization

Relationship of Accreditation of the Certifying Body to Certification of the Individual

The National Commission for Certifying Agencies (NCCA) Standards for the Accreditation of Certification Programs describes the necessity of governance policies and procedures that protect against undue influence that could compromise the integrity of the certification process. The governance structure should provide for autonomy in its decision-making regarding the most important aspects of the certification program. Those aspects include eligibility; development, administration, and scoring of the assessment instruments; selection of personnel; and overall operational processes. Bylaws of the governing entity should reflect the autonomy of these components of a national certification program.

A major key to ensuring a national certification program's overall integrity and credibility is for the administering organization to be accredited. Accreditation for professional or personnel certification programs provides impartial, third-party validation that the program has met recognized national and international credentialing industry standards for development, implementation, and maintenance of certification programs. There are two potential approaches to accreditation of a national certification program. The National Commission for Certifying Agencies (NCCA) Standards for the Accreditation of Certification Programs and the American National Standards Institute (ANSI). As the DIS national certification is implemented, it is essential that the DIS certification program be managed by an organization that can ensure its compliance with national accreditation standards.

The NCCA Standards for the Accreditation of Certification Programs were created in the mid-1970s. They were the first standards developed by the credentialing industry for professional certification programs. The NCCA Standards were developed to help ensure the health, welfare, and safety of the public. They highlight the essential elements of a high-quality program. The NCCA standards are consistent with The Standards for Educational and Psychological Testing (AERA, APA, & NCME, 1999) and are applicable to all professions and industries. Certification organizations that submit their programs for accreditation are evaluated based on the process and products and not the content; therefore, the standards are applicable to all professions and industries. Program content validity is demonstrated with a comprehensive job analysis conducted and analyzed by experts, with data gathered from stakeholders in the occupation or industry. NCCA accredited programs certify individuals in a wide range of professions and occupations including nurses, automotive professionals, respiratory therapists, counselors, emergency technicians, crane operators and more. To date, NCCA has accredited approximately 330 programs from more than 130 organizations.

The second national accrediting organization is ANSI. The Institute oversees the creation, promulgation and use of thousands of norms and guidelines that directly impact businesses in nearly every sector: from acoustical devices to construction equipment, from dairy and livestock production to energy distribution, and many more. ANSI is also actively engaged in accreditation—assessing the competence of organizations determining conformance to standards. ANSI accreditation provides assurance that standards, goods, and services meet essential requirements throughout the global supply chain—engendering consumer trust and fostering competitiveness.

Increasingly, procurement authorities, government agencies, and program/scheme owners are specifying accreditation to demonstrate the technical competence and impartiality of conformance services and processes. These assessments enhance confidence between buyers and sellers as they mitigate risk. ANSI bases its accreditation standards for national personnel certification programs on the International Standards for Standardization (ISO).

If CDC were to pursue the accreditation of the DIS certification program through ANSI, for example, additional costs would be required as well as the recommended initial steps:

- Designate a project manager for the accreditation process and have them attend an ANSI personnel Certification Accreditation workshop to further familiarize themselves with the accreditation standards.
- Review the operational support model for compliance with ANSI ISO 17024 accreditation standards and update any administrative functions which may not follow the standards.
- Contract with an accreditation specialized consultant to conduct an audit to determine the organization’s compliance. ANSI may be contacted to perform a pre-assessment where an ANSI assessor will audit the organization for compliance with ANSI standards.
- Complete an ANSI preliminary application and submit the supporting documents, as well as any additional documents as requested. Additional documents may be required to respond to standard non-conformities that are identified by ANSI assessors during the review process.

PSI Services, LLC, estimates the costs of accreditation through ANSI to be as follows:

Accreditation Costs	
Administrative Costs	Internal to the organization; depends on billing rate of staff involved
Certification Audit	\$25,000
ANSI Pre-assessment	\$1,250
ISO 17024 Application Cost	Varies; Estimate minimum of \$22,000
	\$48,250

The standards of accreditation for national certification programs describe the following key elements of a sound certification program:

- Clear delineation of the education and/or experiential requirements that define eligibility to go through the certification process;
- Early and clear delineation of the requirements, including the time frame, for recertification;
- Certification requirements clearly based on a valid and reliable job task analysis;
- Selection of a passing score that ensures acceptable performance or proficiency of the applicant;
- Clear policies regarding grandfathering for those who have achieved the level of competence required by experience, references, or history of practice;
- Clear policies and procedures for appeals; and,
- Clear policies related to disciplinary procedures for the certified individual.

A major deliverable of this project is the development of an implementation plan, which is being completed by PSI and Seacrest Company. The implementation plan will be based on accreditation standards. As another deliverable of this project, a Request for Information (RFI) is being distributed by Seacrest Company to ascertain potential interest on the part of certifying organizations in managing the DIS certification program. Analysis of information received in that process will be provided to CDC separately.

Certification Process

This report describes three different models or approaches to national DIS certification. Each of the models has its own certification process nuances, but there are some overarching considerations in the administration and management of a national certification program, regardless of the model chosen. These elements are derived from the standards for national certification programs. Hale (2012) described the elements of a national certification program as noted in the table below:

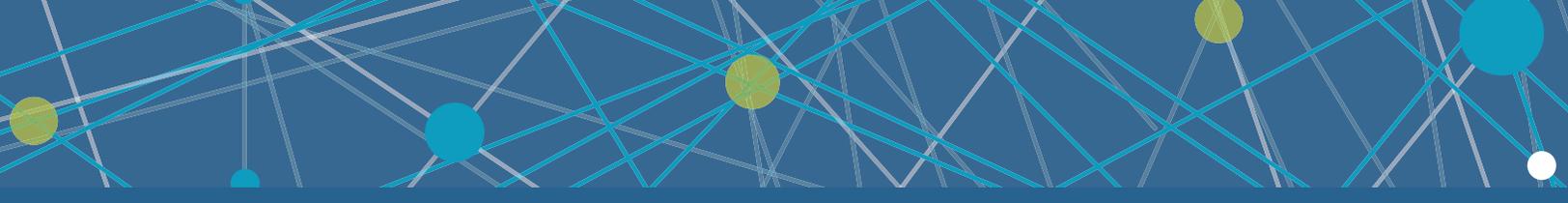
Essential Element	Description
Certification Requirements	<ul style="list-style-type: none"> • Clear delineation of the education and/or experiential requirements that define eligibility to go through the certification process • Clear policies regarding grandfathering for those who have achieved the level of competence required by experience, references, or history of practice
Program Standards	<ul style="list-style-type: none"> • Early and clear delineation of the requirements, including the time frame, for recertification • Certification requirements clearly based on a valid and reliable job task analysis
Program Tests	<ul style="list-style-type: none"> • Selection of a passing score that ensures acceptable performance or proficiency of the applicant
Preparation and Remediation	<ul style="list-style-type: none"> • Opportunities for training, education, and experience that will be provided to help candidates meet the standards and fulfill the requirements • Establishment of an appropriate firewall between those who train candidates to meet the requirements and those who administer the certification program
Governance	<ul style="list-style-type: none"> • Group of individuals who will provide oversight and stewardship of the program, set policies, and evaluate the program's performance • Clear policies and procedures for appeals • Clear policies related to disciplinary procedures based on misconduct
Public Relations and Communications Plan	<ul style="list-style-type: none"> • How information about the purpose and potential benefits of the program will be disseminated

Volunteers

Most certification programs involve the engagement of volunteers in the roles of members of the board of directors; members of expert panels for standard setting and/or test item writing; reviewers of practice in the case of portfolio or unit-based models; and other similar roles. The Federal Volunteer Protection Act, adopted in 1997, limits the liability of a volunteer when serving a non-profit organization. Volunteers are typically not liable if they are acting within the scope of the activity, and the harm was not caused by willful or criminal misconduct, gross negligence, or reckless misconduct. This protection is available to volunteers who only receive reimbursement for expenses and do not receive direct compensation for their work.

Trademarks, Certification Marks, and Copyrights

National certification organizations should also pay close attention to the registration of their certification trademark. This element is important for two reasons. The first is that a trademark adds to the credibility of the certification itself and therefore, it assists in the marketing of the certification product. Secondly, it provides for control of when and how the certification mark is used. For a certification mark to be



trademarked, it must be registered with the United States Patent and Trademark Office. Going through the trademark process requires that the certifying organization develop clear policies and procedures regarding the conditions under which the certification is used as well as the circumstances that would constitute illicit use of the certification. The national certification organization will also want to copyright its material to ensure that the intellectual property is preserved and protected. Since most of the materials will be developed by volunteers, the national certification organization should develop clear transfer policies and procedures to protect its most valuable asset. If tests are used, a special process is in place at the United States Copyright Office to obtain copyright protection for the examination.

Another step in the protection of the intellectual property and an examination is the adoption of a policy that requires applicants to sign an agreement that they will not disclose in any form any examination question, in part or in whole. This policy should also be displayed at the time of the examination.

Americans with Disabilities Act

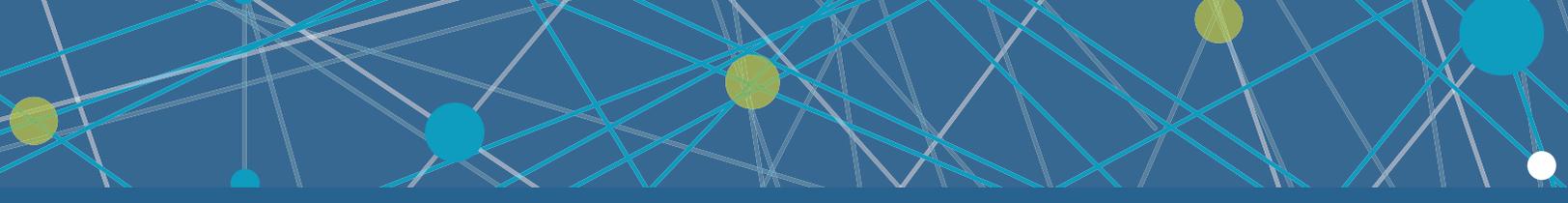
A national certification program should follow the Americans with Disabilities Act (ADA) of 1990. This act prohibits discrimination and ensures that any person who otherwise meets the eligibility criteria is offered the same opportunity to be certified as anyone else. Therefore, the program must develop policies and procedures to ensure reasonable accommodations for those individuals who request them. The costs of those accommodations must also be borne by the program and not by the individual. Examples of reasonable accommodations are use of interpreters; examinations available in braille or readers provided; and longer amounts of time to complete examinations, etc. The primary consideration is that the accommodation be made to ensure that the certification requirement measures the individual's aptitude regardless of any impaired sensory, motor, or speaking skills. It is not unusual for certification programs to require advanced notice of the need for reasonable accommodations as well as the submission of appropriate documentation of their disability.

Costs of the DIS National Certification Program

Development, implementation, and maintenance costs have been forecasted for each model based on the best available evidence. Some of that evidence included interviews with several national certification programs. Each of them indicated the need to prepare for significant start-up costs, especially if a new organization is being established. They also advised that the time frame for starting a new national certification program can be three to four years. Of course, both the start-up costs and the time frame could be significantly reduced if an existing national certification program is contracted to manage the process. Costs included in this report are estimates and can be updated once the administering organization is chosen.

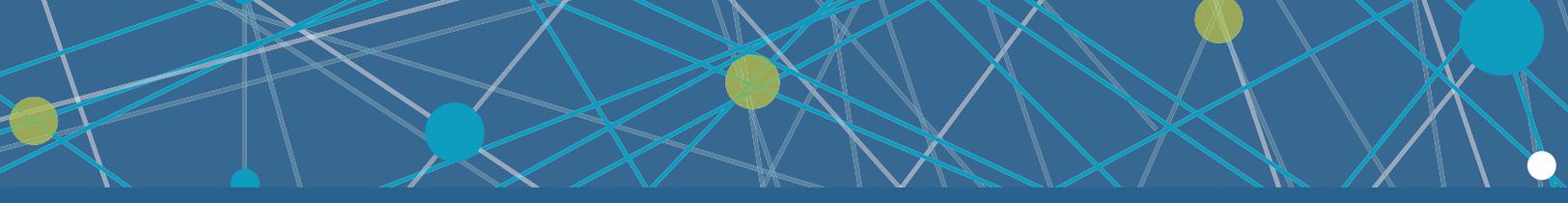
Financing and Sustainability

Most national certification programs have been initiated with grant funding until a fee structure for the certification can be established. Even then, fees alone may not provide for long-term sustainability. This is especially the case if the target population for the certification is a small number of individuals. Some national certification programs offer other services in addition to the certification to ensure appropriate financial solvency. The other services often include education services, conferences, or something similar. If other services relate to the certification process, such as technical assistance in preparing for the certification, then, an appropriate firewall should be developed between the technical assistance and the administration of the certification process, including the final decisions regarding certification status.



SECTION IV:

Marketing the DIS National Certification Program



A marketing plan is essential for any new national certification process. This is especially important if the certification is voluntary. A comprehensive marketing plan should include the benefits of certification; the eligibility and requirements of the certification process; the costs of the certification process; and other major elements. If possible, assistance from a marketing firm should be obtained as the program is initiated so that appropriate messages can be tested and utilized at various stages of the certification program development. Several strategies to be included in a marketing plan emerged from conversations with various entities who have started national certification or accreditation programs where the concept of national recognition against standards was totally new. This section of the report identifies elements with strong potential for inclusion in a marketing approach for national DIS certification.

Know the Target Audience

It can be assumed that most of the DIS who practice in the U.S. today are not familiar with certification or its potential impact on their job. Because of that lack of familiarity, it is possible that simply hearing about the development of a national certification program could evoke some anxiety about the process and how it might affect their job security in the future. Therefore, it might be helpful early in the process to engage a marketing firm to survey the DIS (either through electronic means, focus groups, or a combination of both) to ascertain their level of certification understanding. Conducting a survey of this nature would not only serve to provide a baseline of information for the national certifying body to use in developing the certification program, but would also have the indirect effect of educating more of the DIS workforce about certification. Potential objectives of the survey might be to:

1. Identify messaging concepts with the greatest potential to motivate DIS to seek certification;
2. Better understand the expectations that DIS might have of a national certifying body;
3. Assess DIS familiarity with and likelihood of seeking certification, as well as how their supervisors and/or health department directors may influence their decision to do so; and,
4. Identify the potential barriers for DIS to seek certification.

Engage the Target Audience

During this Assessment Phase, some of the DIS workforce (the target audience) has already been engaged as they participated in the two subject matter expert panels for the Job Task Analysis; on the unit-based Think Tank group; and on the National Advisory Committee. However, these combined only included approximately 30 individual DIS. More than 400 participated in the Job Task Analysis survey, which adds to the number who have assisted in the assessment project. While that is a good start, there is still work to be done to engage a higher percentage of the total DIS workforce in the national certification movement so that they can become champions for certification. Depending on the chosen model of certification, there are several potential ways that additional DIS can participate in the program's development. DIS can serve as item writers for a test-based approach; as beta-testers for a test-based approach; as experts to develop the review criteria for a portfolio and unit-based approach; as peer reviewers for the portfolio and unit-based approach; and as partners in selected aspects of the training and education for any of the three models. Then, as the first DIS are certified, their success stories can be used in webinars, videos, and presentations at local, state, regional, and national conferences.

Develop Communications that Highlight Certification's Value

Communications for outreach and certification education of the DIS workforce and their supervisors would be most effective if those messages were developed based on the findings from the survey and focus groups noted above. At the very minimum, other certification entities have found that the following emphasis areas are often helpful when introducing a new certification program.

- The workforce may be most effectively engaged by messages that position national certification as a tool for improvement.
- Messaging may be most engaging to the extent that it also taps into intrinsic motivators including the desire to serve the public better; however, these should not be framed as the ultimate goals of national certification.
- Messages should use language that is clear, direct, down to earth, and practical.
- Messages should be bolstered by supporting evidence, when applicable. Since there is no historical evidence of the benefits of certification for this workforce, it might be useful to pull evidence from similar types of public health workers where there are studies indicating the benefits of certification.
- Care should be taken not to over-promise what certification will mean to an individual (i.e., pay raises, etc.)
- Related, but various messages may be developed that are targeted for the workforce themselves as well as for their supervisors.

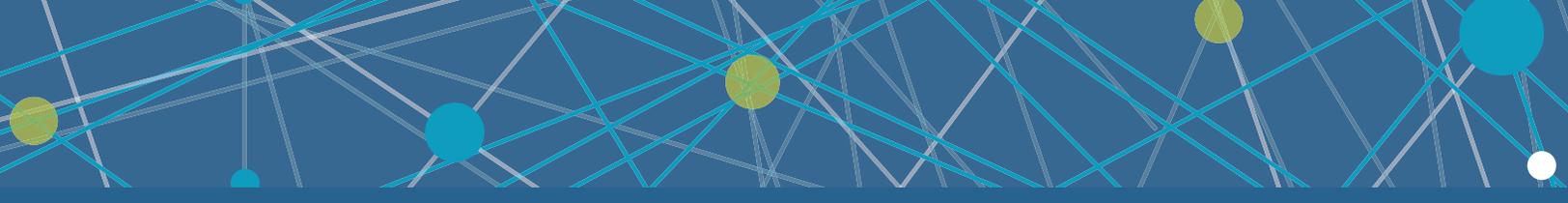
Raise Awareness of the Certification Entity and Process

Bolster target audience knowledge of the national certification entity

In other sectors, the likelihood to seek national certification can correlate with familiarity with certification; this link suggests that communicating with constituents about the national certification entity, its role in that process, and what national certification will entail may be an effective means of increasing interest in, and pursuit of, certification. Based on the survey of DIS, it will be essential to ascertain their knowledge of what to expect from the national certification body and its role in the certification process – namely, as an establisher of standards, a guide and an organization that will provide information, and potentially help DIS to fully understand the certification process. In addition, supervisors and health department directors will need to understand how national certification will impact their DIS workforce and their service delivery to the public. Given the important decision-making role that boards of health play, some attention should be given to developing communications for boards of health as a key secondary audience.

Develop a certification brand identity

Regardless of whether an existing national organization is chosen to implement DIS certification or whether a new national organization is developed to perform those functions, a communications/marketing firm should be engaged to draft an initial brand platform for DIS certification. Once finalized, this will serve as the strategic foundation for logo and tagline development, as well as all communications materials and messages. Using the brand position and target audience survey findings as a guide, the firm would then develop key messages for inclusion in all relevant communications materials, including the final certificate awarded to those DIS who achieve national certification. One potential component of this brand could be digital badges. A digital badge can be a validated indicator of accomplishment, skill, quality, or interest that can be earned in many learning environments. Open digital badging makes it easy for anyone to issue, earn, and display badges across the web—through an infrastructure that uses shared and open technical standards. Benefits associated with digital badges include the ability to capture the complete learning



path, so it “travels” with the user wherever they decide to display the badge. The digital badge carries information about assessment, evidence, and other metadata required by the badge. Digital badges can signal achievement to potential employers; motivate engagement and collaboration; improve retention and leveling-up in learning; support innovation and flexibility in the skills that matter; and, build and formalize identity and reputation within learning communities.

The world is changing fast and, today more than ever, traditional modes of assessment fail to capture the learning that happens everywhere and at every age. Digital badges are a powerful new tool for identifying and validating the rich array of people’s skills, knowledge, accomplishments, and competencies. Digital badges inspire new pathways to learning and connect learners to opportunities, resources, and one another. Digital badges are popular now to recognize achievement; to serve as alternative records of achievement for diplomas; and, to serve as records of demonstration of competencies. A new DIS national certification program should consider whether the use of digital badging is appropriate for this recognition.

Develop an online home

Once a formal communications and outreach plan has been developed, the national certification entity will then need to develop a primary “home” for communicating about the national certification program; resources to prepare for the certification; process for applying for certification; and, general national certification procedures. Websites and social media marketing can be key tools for the national DIS certification program to deploy in marketing and outreach of the program, and a new DIS certification website should be established. Even if an existing organization is selected to administer the national DIS certification program, new website content will need to be developed and launched.

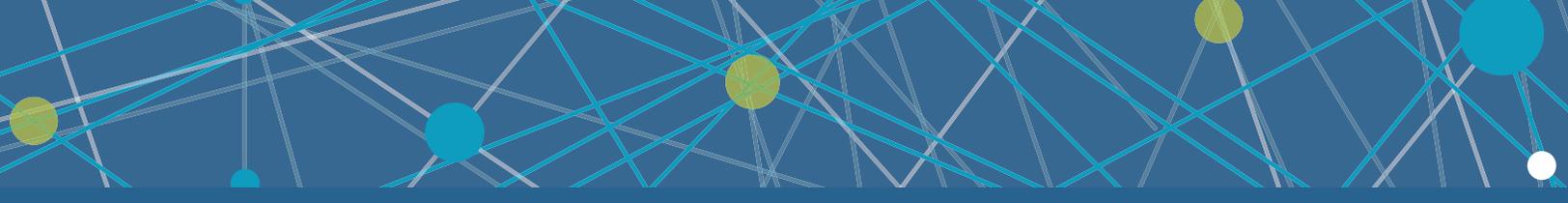
Engage stakeholders

Key talking points and periodic communications with stakeholders will be important to implement so that the national DIS certification program has support from other public health organizations and leadership. Those organizations include, at a minimum:

- » The American Public Health Association (APHA)
- » The Association of Schools and Programs of Public Health (ASPPH)
- » The Association of State and Territorial Health Officials (ASTHO)
- » The National Association of County and City Health Officials (NACCHO)
- » The National Coalition of STD Directors (NCSD)
- » The National Alliance of State and Territorial AIDS Directors (NASTAD)
- » The National TB Controllers Association (NTCA)
- » The Society for Public Health Education (SOPHE)
- » Various offices and programs at the Centers for Disease Control and Prevention (CDC)

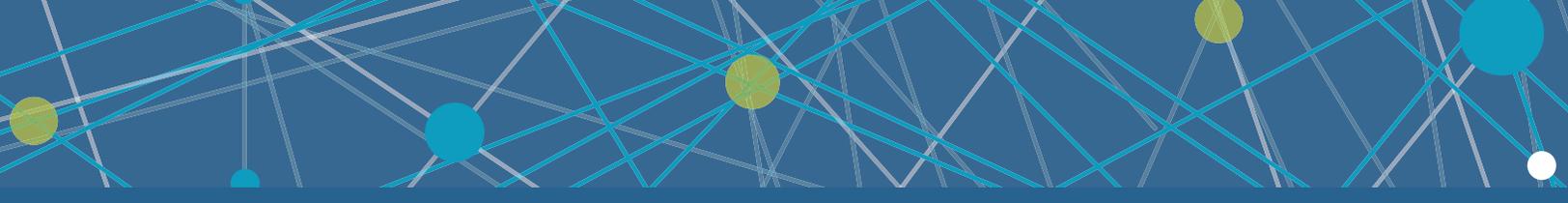
Get the word out

Once the formal communications plan has been completed, information about the national program should be disseminated in as many appropriate venues as possible. Consistent messaging would be based on the communications plan, and a standard set of communications materials (i.e. presentations; videos; infographics; etc.) should be used so that the target audience gets the information as many ways as many times as possible. Presentations in local, state, and national newsletters; at local, state, regional, and national conferences; and, in as many other related venues as possible should be done in the first few months that the program is under development. As various stages of program development are completed, that new information should be disseminated as widely as possible.



SECTION V:

Describing and Analyzing the Three Potential Models for DIS Certification



A review of other national certification model options that could be considered for DIS certification revealed three potential approaches. The three potential models included: a test-based model, which describes certification of an individual as being able to competently complete a job or task based upon an examination and/or the completion of a program of study; a portfolio review-based model which typically requires verification that an individual has met predetermined and standardized criteria through the review of a collective body of work; and, a unit-based model which typically requires verification that the individual has met criteria of nationally recognized, practice-focused, and evidenced-based standards by combining the performance of the individual with the performance of the unit, and documentation against standards is submitted together and reviewed together. This section provides an overview of each of the models, with some comparison indices presented at the end of the section. Related technical reports for each model are located in the corresponding appendices, as noted.

Test-Based Certification Model

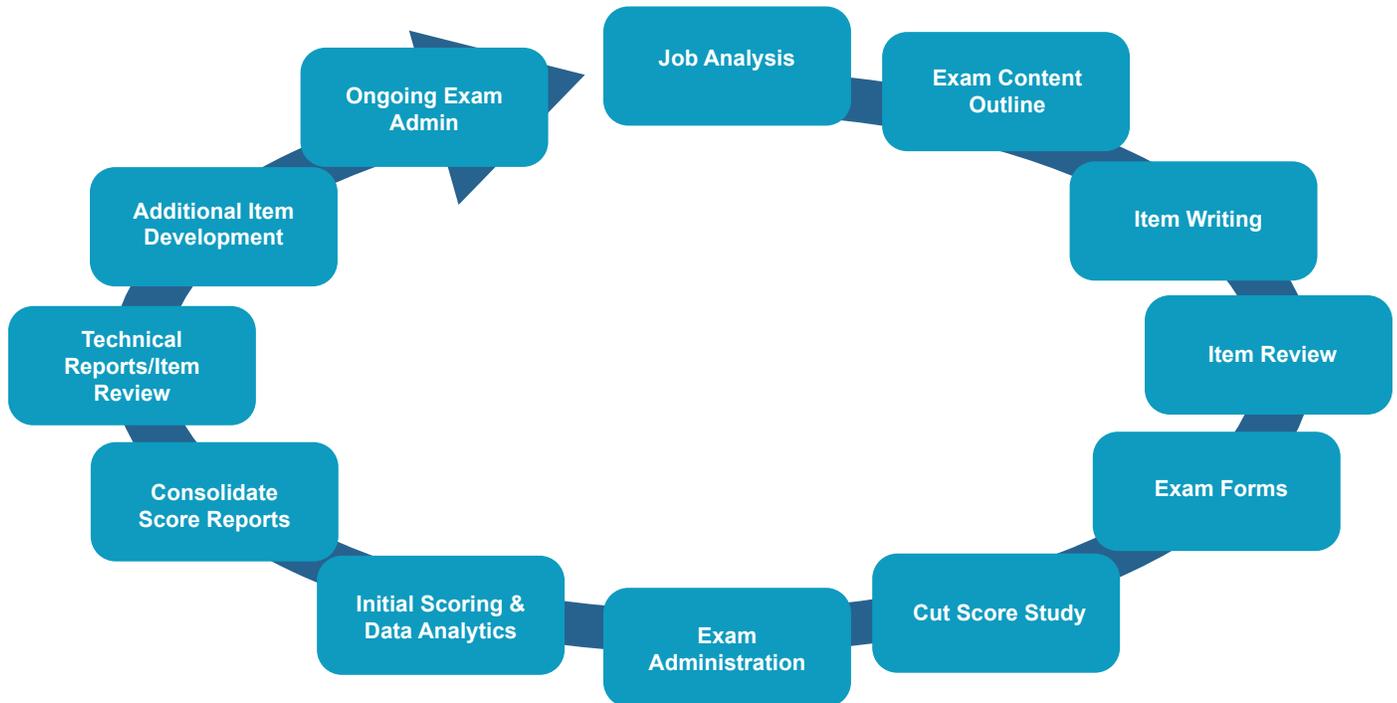
A test-based approach, or model, of national certification is the most common model in place in the certification industry today. The basic premise of a test-based model is that applicants who meet the eligibility criteria take a comprehensive exam that measures the knowledge, skills, and application of tasks identified in the JTA. Successful passing of the test leads to individual certification. Advantages of a test-based certification model include its general acceptance based on common understanding of taking a test to measure knowledge; a long-standing track record of credibility, validity, and reliability; a straightforward, individual path to certification that is transferable across work places, geographical boundaries, and billing requirements; and, measurement of a standardized, legally defensible body of knowledge.

There are several steps in the development of a test-based model for certification. A brief description of these steps notes the following key activities in test certification development:

- Develop **exam content outline** and exam specifications developed with the results of the 2016 JTA. Review the results of the 2016 job analysis survey with subject matter experts to finalize exam weights, item types, and exam length.
- Create a cohesive list of reference materials which can be used to develop legally defensible test items.
- **Item writer** training and item development provides subject matter experts with guidelines and procedures for writing an effective test item. Subject matter experts then receive writing assignments and feedback for items based on the item writing training.
- **Item review** and initial exam form assembly provides a review of newly developed items, evaluating each item based on accuracy, quality, etc. Reviewed items are then used to develop exam forms congruent with the content outline.
- Initial **exam publication** involves a beta test administered to a preliminary group of examinees during an examination administration window. Examinee scoring for the beta exam is withheld until the point at which a standard setting or cut score study can be conducted.
- A statistical analysis is conducted on the results of the exam administration. These statistical results will be used to update item's status in the item bank. The statistical analysis of items is reviewed by subject matter experts in the process of creating a passing standard or **cut score**.
- Finalized exam forms will be reviewed and developed based on the constraints of the exam content outline. **The exam is then administered.**
- Annual upkeep for the exam includes the statistical analysis of test and pre-test items, as well as **additional item writing and review** to maintain the health of the item bank.

- Review model for acceptance based on accreditation standards.
- **Manage the test-based model** by repeating the cycle to keep the test fresh, credible, and applicable to contemporary DIS practice.

The diagram below (Seacrest Company, May 2017) summarizes these steps.



Disadvantages of a test-based certification model were identified as individual test-taking anxiety, especially for individuals who have not been a student for a period of time; tests can be complex and costly to administer and keep relevant (updating the foundational JTA is an ongoing part of keeping the test current with practice); some content might not apply to all DIS work situations, although this variability can be addressed with subject-specific modules attached to a test on the basic knowledge; the small number of DIS might make it difficult to find a vendor who is willing to administer and manage the test over time; and, this model can be subject to criticism that the applicant can prepare for and master the test, but still not be proficient in the skills required for the job. Additionally, individual costs to take the test can be a barrier for some DIS.

In terms of the anticipated costs for establishing a test-based model for DIS national certification program, PSI provided a financial analysis using the results of NACCHO's enumeration study as a basis for the expected numbers of DIS to be certified. PSI developed the DIS certification financial analysis through using industry best practices and variables such as market size, awareness, and purchase intent. The variables were used to develop an evolving financial model which accounts for the test-based and overall administrative expenses for the first five years of the certification program. The following tables are highlights of the financial analysis.

Table 1 displays the estimated cost of developing the DIS certification including the Exam Development, Marketing, and Publishing components. The total presented accounts for the cost and investment for the certification prior to launch and does not account for costs relating to the continued administration of the certification.

Table 1. DIS Certification Program Development Projection for Test-based Model					
<i>Total Development Cost = \$295,831</i>					
Description	Development (approx. 8 months)	Testing (approx. 3 months)	Launch (approx. 3-6 months)	Line Subtotals	Assumptions (for comments)
Exam Development Services	\$28,000		\$16,300	\$44,300	Includes item development, exam assembly/review in Development. Item analysis, Standard Setting, scaling and equating in Launch
Exam Development Meetings	\$42,142		\$12,630	\$54,772	Four in-person development meetings (Job Analysis Task Force, Item Writing, Item Review, and Standard Setting)
Exam Development Meetings				\$135,159	Assumes a 16-month development timeline
Marketing			\$20,000	\$20,000	Marketing for launch only
Trademarking		\$5,600		\$5,600	Assumes trademark registration in U.S.
Exam Publishing		\$3,000		\$ 3,000	
Item Banking System	\$ -			\$ -	Assumes included in exam delivery contract
Certification Management System	\$25,000			\$25,000	
Scheme Committee	\$8,000			\$8,000	
Subtotal	\$103,142	\$8,600	\$8,930	\$295,831	
Phase Estimates					
Subtotals by Phases	\$103,142	\$8,600	\$48,930	\$295,831	

Table 2 represents the operating costs of the DIS certification after the program has been launched. The associated costs include personnel for operating the program, additional marketing expenses, a management system, and scheme committee costs. Additionally, exam development and validation meetings are accounted for on a two-year cycle with year one being less robust than the following exam development cycles. Yearly marketing expenses are also included in the operating expenses, which may decrease if the CDC maintains the DIS certification as a federal standard.

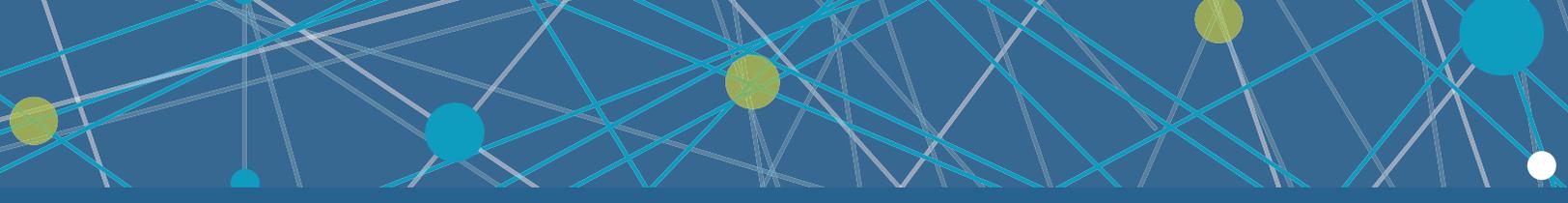
Table 2. Expected Post Launch Operating Expenses (Semi-variable and Fixed Costs)					
<i>Expected annual fixed costs and semi-variable costs for the new service and/or product.</i>					
	Year 1	Year 2	Year 3	Year 4	Year 5
Operations Role	\$40,129	\$41,333	\$42,573	\$43,850	\$45,165
Product Manager Role	\$61,240	\$63,077	\$64,969	\$66,919	\$68,926
Exam Development & Validation Meetings	\$18,000	\$ -	\$24,000	\$ -	\$24,000
Marketing Expenses	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Certification Management System	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Scheme Committee	\$ 8,000	\$8,000	\$8,000	\$8,000	\$8,000
Total Operating Exp.	\$172,369	\$157,410	\$184,542	\$163,769	\$191,091

Table 3 reviews the yearly cost by volume of delivering the DIS certification itself. The cost assumes a per exam delivery cost of \$42 with additional costs of postage and certification packages. The yearly costs are associated with the number of certificants estimated per year, as well as the cost of a three-year recertification cycle.

Table 3. Yearly Cost by Volume					
<i>Expected variable costs of producing the new service and/or product</i>					
	Year 1	Year 2	Year 3	Year 4	Year 5
Shipping/volume					
Total Cost/volume	\$26,923	\$11,611	\$10,250	\$8,039	\$11,343
Total Renewal Cost/volume	\$ -	\$ -	\$2,383	\$1,123	\$991
Total Variable Costs	\$26,923	\$11,611	\$12,633	\$9,162	\$12,334

Table 4 displays the yearly cash flow required as well as the revenue produced from the DIS certification. The annual cash flow displays the cost of the DIS certification after it has been adjusted for the annual revenue, while the cumulative cash flow shows the cost of the program over the next five years. It is of note that the certification makes a positive gross profit but operating costs are greater than yearly profit.

Table 4. Expected Case Summary						
Expected Case	0	1	2	3	4	5
Annual Revenue	n/a	\$91,018.07	\$42,877.19	\$59,956.11	\$40,099.81	\$51,080.94
Total Variable Costs	n/a	\$26,923.14	\$11,611.14	\$12,633.10	\$9,161.70	\$12,334.33
Gross Profit	n/a	\$64,094.92	\$31,266.04	\$47,323.01	\$30,938.10	\$38,746.61
Gross Margin (%)	n/a	70%	73%	79%	77%	76%
Total Operating Expenses	n/a	\$172,368.75	\$157,409.81	\$184,542.11	\$163,768.37	\$191,091.42
Operating Profit	n/a	\$(108,273.83)	\$(126,143.77)	\$(137,219.09)	\$(132,830.27)	\$(152,344.81)
Operating Margin (%)	n/a	-119%	-294%	-229%	-331%	-298%
Development Cost & Capital Investments	n/a	\$295,830.67				



A 2016 update of the DIS Feasibility Study is located in Appendix D.

Two test-based models of certification that are well known and utilized in the public health field include the Certified in Public Health (CPH), administered by the National Board of Public Health Examiners (NBPHE) and the Certified Health Education Specialist (CHES), administered by the National Commission for Health Education Credentialing (NCHEC). The NBPHE was established in September 2005 as an independent organization to ensure that public health professionals have mastered the foundational knowledge and skills relevant to contemporary public health through a voluntary certification exam and maintenance of certification program. The CPH exam covers the core areas of knowledge offered in CEPH-accredited schools and programs as well as cross-cutting areas relevant to contemporary public health. The examination was crafted to assess a person's knowledge of these competencies, regardless of his or her academic concentration. The CPH exam is a timed exam, consisting of 200 questions. An applicant has four hours to complete the exam. All questions on the exam are multiple choice and single-best answer. Questions include matching items; a series of questions related to a common vignette; and, associated pictorials or charts. The NCHEC exam certifies health education specialists, promotes professional development, and strengthens professional preparation and practice. The NCHEC charge is to develop and administer a national competency-based examination; develop standards for professional preparation; and, promote professional development through continuing education for health education profession.

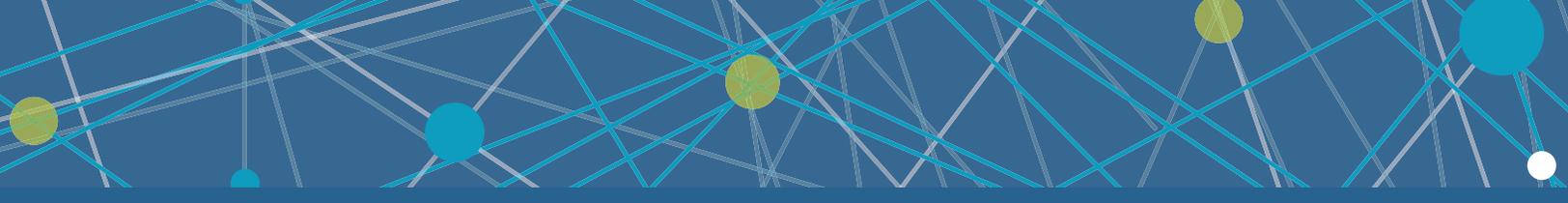
The CHES examination is a competency-based tool used to measure possession, application, and interpretation of knowledge in the Seven Areas of Responsibility for Health Education Specialists delineated by A Competency-Based Framework for Health Education Specialists 2015. The exam reflects the entry-level Sub-competencies of these Areas of Responsibility. Consisting of 165 multiple-choice questions (150 scored and 15 pilot tested), the CHES examination is offered in paper-and-pencil format at approximately 130 testing sites on college campuses throughout the U.S.

Portfolio Review Certification Model

PHAB engaged the American Nurses Credentialing Center (ANCC) to develop a report with recommendations regarding the feasibility of using a portfolio review approach, or model, for DIS certification. ANCC presented an alternative certification model in presenting an overview of their patented nursing portfolio model. The primary focus of certification through portfolio review process is based upon the collection and evaluation of documents that provide evidence of expertise in a specialty.

For nursing professions, certification through portfolio is an assessment methodology leading to ANCC board certification that does not require a traditional multiple-choice exam. Eligible applicants submit an online portfolio of evidence to document their specialized knowledge, skills, understanding, and application of professional nursing practice and theory. Portfolios must articulate performance in four domains of practice: Professional Development; Professional and Ethical Nursing Practice; Teamwork and Collaboration; and, Quality and Safety.

For this project, ANCC provided consultation regarding the applicability of the portfolio certification model to the DIS workforce. The pros and cons of the model were also considered. ANCC provided PHAB and its advisory council a general orientation and overview of the elements of a portfolio approach to certification as currently conducted by the ANCC. The ANCC Measurement and Certification Services departments reviewed elements of their existing nursing portfolio model for potential adaptation and implementation for DIS certification development. After thorough review and interpretation of the enumeration study and the



JTA, it was decided that a portfolio approach would have potential for assessing DIS field workers. The ANCC nursing portfolio would require adaptation to support the non-nursing DIS certification program. The proposed certification portfolio involves the collection and evaluation of documents including a 1,200-word written exemplar that provides evidence of knowledge, experience, and expertise in a medical or designated certification specialty.

In evaluating the work involved for DIS portfolio review certification development, a description of the ANCC portfolio process that included a general working timeline and cost estimates was developed and are included in a complete technical report in Appendix E. Since the ANCC portfolio methodology has been patented and focused on nursing, some modifications will be required if work on a DIS portfolio is to proceed. The description in the appended report includes an overview of procedures for DIS content expert recruitment, standard setting, and appraiser training.

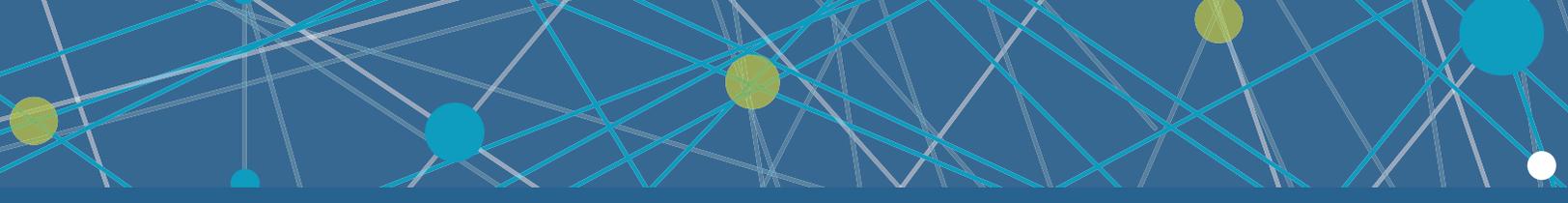
Portfolio development typically occurs over a nine-month period and involves the following activities:

- Recruitment of Content Expert Panel (CEP) and Portfolio Appraisers Panel (PAP)
- Scoring Criteria Development
- Standard-Setting
- Training of Portfolio Appraisers
- Program Launch

The primary responsibilities in DIS portfolio development are to identify eligibility criteria, adapt universal portfolio criteria to DIS, and to recruit a team of content experts who will oversee development of universal portfolio criteria and linkages to the content outline for the DIS assessment portfolio. In addition, an external validation panel (EVP) of DIS content experts must be designated to cross-validate the work of the CEP. The EVP provides additional independent validation of the portfolio criteria specifications and content outline. The typical size of the CEP is 10 members and for the EVP, 15 members. An additional 10 content experts will be needed for the PAP. They will be responsible for scoring the candidates' portfolios. It should be noted that content experts are not allowed to serve on the CEP or EVP, while simultaneously serving as a portfolio appraiser. The DIS portfolio specifications areas that will need to be developed include:

1. Major content domains to be assessed;
2. Competencies associated with the major universal content criteria;
3. Competencies (knowledge, skills) specific to the specialty;
4. Scoring elements specific to the specialty; and,
5. Score "3" descriptors specific to DIS, which will be described later in this report.

Advantages of a portfolio review certification model that were identified during this project include decreased test-taking anxiety on the part of the applicant; measurement of both the knowledge and its related skill application in current practice; the opportunity to measure the "softer" skills of the DIS; viewed as credible and transferable across work places, geographical boundaries, and billing practices; development of a portfolio that has benefit for the individual beyond certification; and, provides an opportunity to assist the DIS with review of their job in the context of national standards of portfolio review (individual feedback). Portfolio review or assessment is indicated as an alternative form of assessment for niche specialty areas where occupational populations are smaller and traditional testing methods are deemed less favorable due to smaller sample sizes. Portfolio assessment is an attractive



approach for occupational areas where formal academic training is not widespread, recognized, or is in a developmental phase. Portfolio assessment allows consideration for life work, professional experience, and occupational recognition to be considered for certification.

Disadvantages of a portfolio review certification model were also identified. In comparison to traditional tests, portfolio assessment programs are costly and involve greater complexities for developing valid and reliable products. Major obstacles to successful implementation of a DIS portfolio program would be the cost to develop the product and train appraisers, and, fees required of potential candidates to support the development and ongoing maintenance of the program. Some concerns were also raised about the written component of a portfolio review posing some unique challenges for applicants.

The smaller sample sizes typically encountered in alternate portfolio assessment programs pose unique challenges in meeting accreditation standards. For instance, common statistical measures reviewed in exam accreditation programs such as the Cronbach Alpha indicator of exam reliability are not applicable in portfolio assessment. Portfolio reliability and validity measures are dependent on consistency in scoring processes, score definitions, and rater uniformity.

Cost Estimates for DIS Certification Portfolio Development

ANCC projected costs for developing, implementing, and the ongoing maintenance of a portfolio review certification model in the following summary. A more detailed description of these costs can be found in the technical report in Appendix E.

ANCC was not able to provide details of ongoing administrative and maintenance costs because they only provide those in a formal business analysis document. However, conservative estimates of \$100,000-200,000 per year for the first three to five years and then decreasing slightly thereafter were based on the following activities:

- Initiating the portfolio review process and assessing the results
- Making changes to the program
- Annual training
- Development of recertification requirements
- Paying for the review process (appraiser costs, etc.)

Ongoing management of a portfolio review certification program will have some administrative/overhead costs that are unknown now because those will depend on the contract that is negotiated with the vendor at the time. Also, unknown is the individual fee for the portfolio review. Those fees are usually set based on the business plan for the certification program. For other portfolio reviews, individual fees can range from \$150-\$750 based on the specialty and the details of the portfolio requirements (i.e., whether an in-person interview is required as part of the review process).

Meeting Type	Hypothetical Meeting Dates	Number of Days	Number of Attendees (Estimated)	Costs (Travel, Accommodations, Fees)
Portfolio Job Analysis Meeting 1	TBD	3	10	\$13,000*
Portfolio Job Analysis Meeting 2	TBD	3	10	\$13,000*
Standard Setting (Portfolio Score "3" Descriptors)	TBD	3	10	\$13,000*
Portfolio Appraiser Training	TBD	3	10	\$13,000*
Facilitator days (1500/day)		12		\$18,000*
Recruitment (Volunteers, CEP, EVP, PA, EVP)				\$15,000
Portfolio Configuration				\$15,000
Estimated Costs				\$100,000
			Total Projected Costs	\$200,000
Appraiser Stipend per Portfolio Scored			TBD in Full Business Analysis and Dependent on Number of Candidates	
Annual DIS Registry Maintenance (Portfolio Applications, Submissions, Assessment Results, and Credentialing History)			TBD in Full Business Analysis	

*Unit Estimated Expenses Per Person Per Meeting: Airfare \$450; Transportation/Mileage \$125; Meals for 3 days \$225; Hotel for 2 nights \$500; Total \$1300

Unit-Based Certification Model

For purposes of this project, a unit-based model for DIS certification combines standards for health department performance in the program areas that DIS work in (STD, HIV, TB, etc.) with individual competencies and performance. This model assumes that individuals and the organizations in which they work are in alignment with the expectations of services to the clients and the public. This model is based in part on the ANCC’s Magnet recognition and certification of hospitals and nurses who work in them. A unit-based approach to certification has the potential to:

- Identify strengths in a specific practice area;
- Identify professional growth opportunities;
- Link current skills and abilities to critical job skills and performance plans;

- Assess learning needs prior to re-entering the workforce after a prolonged absence;
- Assess learning needs prior to transitioning from one area of practice to another;
- Form the framework for a professional development plan; and,
- Hold the practice environment partially accountable for the performance of the individual.

Based on the application of this model in areas other than public health, it has the potential to create baseline standards for the field, both at the unit/program and individual levels; establish a method to differentiate between employee skills; create a uniform set of standards for employment and for program funding, performance management, and quality improvement; and, link the work place with the individual in a way that can promote employee retention. A unit-based model does not have the same potential for anxiety over individual review as do the other two models reviewed.

PHAB held a think tank November 17-18, 2016, where representatives from the national partner organizations, selected DIS from various health departments, and selected program representatives from CDC came together to discuss the JTA components as well as health department program requirements. Since most health departments receive their guidance for program operations from federal Funding Opportunity Announcements (FOA), think tank participants reviewed those and other similar documents in considering this model. Elements that would be required should this model be chosen were identified by think tank participants as elements that are needed in the field anyway. Specifically, think tank participants recommended that performance standards for health departments to operate the programs in which DIS work be developed. Augmenting the FOA with specific, detailed performance standards would provide health departments with greater guidance in managing and administering the respective programs such as TB, STD, HIV, and general communicable disease.

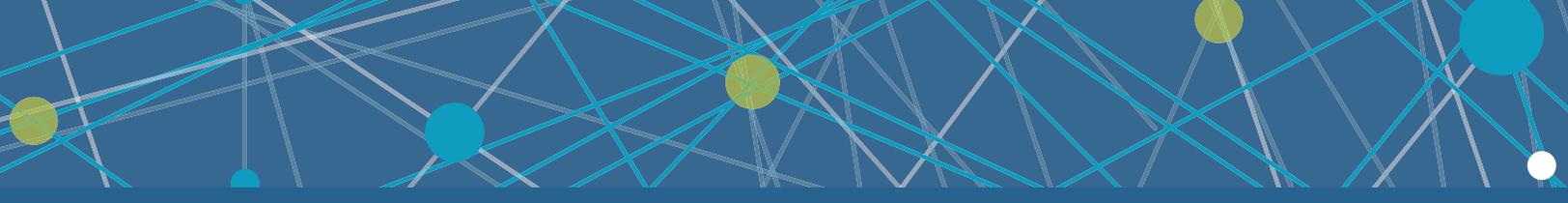
A unit-based approach to DIS certification has the following potential barriers:

- Isn't readily transferable when an employee leaves that work setting;
- Doesn't give as much specific individual recognition;
- Can be costly to maintain and update;
- Attention to individual performance when reviewing the DIS and the unit together can be challenging; and,
- Is very new, so it may not be as well understood as other models.

It is difficult to forecast the exact costs for development and implementation of a unit-based model for certification because there are not many examples from which to extract that information. The following costs are conservative estimates from PHAB, based on the best available information.

Development Costs (first one to two years) = \$200,000- \$300,000

- Identification of the evidence for practices, including best and promising practices;
- Development of measurable performance standards for the health department (state, local, tribal and territorial);
- Discussions with experts in the program areas and in the field to reach consensus about the performance standards that would be most useful for DIS certification;
- Development of the DIS Certification individual standards for certification (similar to portfolio); and,
- Alpha and beta testing of the standards and the entire review process.



Ongoing Maintenance/Administrative Costs:

The ongoing maintenance and administrative costs are unknown because it depends on how the individual component is blended into the unit-based review (whether that will look more like a test or a portfolio). It also will depend on whether the unit-based review would be absorbed into the existing accreditation program or would stand separately. These costs cannot be determined until more detail about the individual components of the model are determined.

To understand the CDC program requirements related to the most frequent programs in which DIS work, some information was provided from CDC program representatives and considered for this approach to certification. A summary of the information that was used as examples of the program requirements is noted in the following section.

Surveillance

Required activities include:

- » Ensure confidentiality and security guidelines for the collection, storage, and use of all surveillance data;
- » Improve the quality of case-based data collection to include routinely obtaining information on gender of sex partners, pregnancy status, HIV status, treatment given, patient address; and provider information;
- » Geocode case-based surveillance data to target interventions to providers serving a high volume of patients with STDs and to populations in geographic areas with high numbers of reported infections;
- » Conduct automated matching of STD and HIV cases for identification of syndemics and for targeting partner services for co-infected individuals to identify new HIV infections and other HIV infected individuals who are not in care; and,
- » Disseminate surveillance information with affected populations, communities, providers, and key stakeholders.

Monitor Screening Rates

Required activities include:

- » Measure annual Chlamydia screening rates among young females (15-24 years) enrolled in Medicaid programs and Title X and other family planning clinics, ideally using the Chlamydia HEDIS measure; and,
- » Measure annual syphilis and rectal gonorrhea screening rates among MSM seen in high-volume HIV care settings.

Assess Gaps in Safety Net Services

Required activities include:

- » Determine where uninsured clients, or underinsured, at-risk clients are receiving safety net services; and,
- » Identify the clinical and prevention service gaps for at-risk individuals who are receiving care (e.g., missed opportunities by providers, including safety net providers).

Monitor Antibiotic-Resistant Gonorrhea (GC), Congenital Syphilis and Other Emerging STD Threats

Jurisdictions with high gonorrhea morbidity or gonorrhea health disparities are required to:

- » Assess the proportion of GC cases that are treated correctly per current CDC STD Treatment Guidelines, stratified by provider type; and,
- » Determine the number of private or public health laboratories in the jurisdiction that have the capacity to conduct *N. gonorrhoeae* culture and AST. Specify the transport/culture media used. If AST is done, specify whether the method is disk diffusion (Kirby-Bauer), Etest, or agar dilution.

Screening and Treatment of Individuals per CDC guidance

Required activities include:

- » Increase Chlamydia screening rates among young females (15-24 years) seen in Medicaid programs and Title X and other family planning clinics, using the Chlamydia HEDIS measure;
- » Provide assistance (at least 13.5 percent

of the overall award amount) to non-profit organizations that have demonstrated their ability to provide such safety net STD clinical preventive services. This assistance could be used to screen and treat women and their partners for Chlamydia and gonorrhea to prevent infertility;

- » Increase syphilis and rectal gonorrhea screening rates among MSM seen in high-volume HIV care settings; and,
- » Increase the proportion of patients with GC that are correctly treated per current CDC guidelines in areas of high GC morbidity.

Partner Services/Outreach Services and Linkage to Care

Required activities include:

- » Increase the provision of targeted and effective health department DIS partner services for primary and secondary syphilis cases; HIV co-infected GC and syphilis cases; and, GC cases with possible GC treatment failure, or suspected or probable cephalosporin-resistant *N. gonorrhoeae* isolate using the criteria in the Cephalosporin-Resistant *N. Gonorrhoeae* Public Health Response Plan; and,
- » Link STD contacts newly diagnosed with HIV to HIV care.

Health Promotion and Prevention Education

Required activities include:

- » Maintain a website where surveillance information and basic information about STDs is available to the public, health care providers, health planners, and policy makers; and,
- » Collaborate with other organizations to implement STD health promotion and prevention education activities for safety

net or other clinical providers who see many at-risk patients.

Policy

Required activities include:

- » Monitor and evaluate impact of relevant policies;
- » Educate public, providers, and key stakeholders on the positive potential or proven impacts of policies on reducing sexually transmitted infections; and,
- » Work with external partners and other agencies within the executive branch of state or local governments to improve access and quality of STD prevention services through enhanced collaboration with primary care.

Improved TB Case Detection and Management

- Ensure case management and treatment of persons with active TB using adherence-promoting measures such as case review/cohort analysis, outreach staff who are culturally competent, extensive application of directly observed therapy (DOT), incentives, and enablers;
- Collaborate with HIV/AIDS programs to ensure that all newly diagnosed TB cases are tested for HIV and referred for HIV services if infected with HIV;
- Collaborate with partners at correctional facilities, homeless shelters, and substance abuse settings to ensure that all newly diagnosed TB cases are evaluated and treated for TB; and,
- Utilize, promote, and promulgate effective binational referral mechanisms for patients who may receive care along the U.S.-Mexico border or who may cross the border while taking treatment for TB.

Surveillance of TB Cases and Case Reporting

- Develop and implement active surveillance activities to ensure complete and timely reporting of persons with TB and with suspected TB;
- Provide HIV testing for all persons with TB disease at time of diagnosis; and,
- Ensure data security and confidentiality guidelines for HIV/AIDS, Viral Hepatitis, STD, and TB Programs are followed.

Contact Investigation

- Ensure that contact investigation activities are initiated and completed promptly; including interviewing TB cases or utilizing location-based methods to identify contacts, evaluating contacts for LTBI and disease, and ensuring that infected contacts begin and complete an appropriate course of treatment for LTBI; and,
- Assess reasons for cases with no contacts identified or a low number (< 3) contacts identified, delays in interviewing cases or evaluating contacts, low rates of

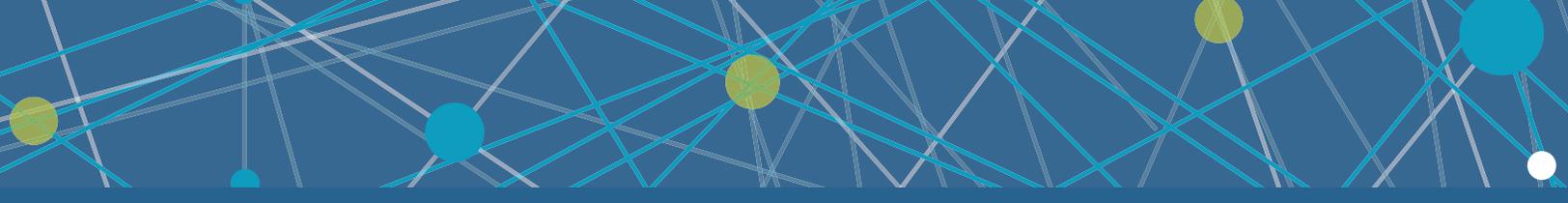
completion of LTBI treatment, and devise strategies for improvement.

Evaluation of Immigrants and Refugees with TB or LTBI

- Ensure that immigrants and refugees classified as A, B1, or B2 are located promptly and evaluated and treated appropriately;
- Targeted testing and treatment of LTBI
 - » Ensure that effective interventions are implemented to identify foreign-born and locally-determined high-risk populations for developing TB, and that they are evaluated and treated for TB and TB infection; and,
 - » Establish partnerships with HIV, diabetes, and/or other non-communicable disease program staff (e.g., smoking, alcohol abuse) to promote testing for TB infection and referral for TB services among those with HIV, diabetes, or other behavioral-risk factors which increase the risk of progressing from LTBI to TB disease.

The CDC TB Cooperative Agreement is set up to provide funding for state, local, and territorial programs to prevent, control, and ultimately eliminate TB in the U.S. in the following target populations:

- All persons with TB disease;
- Foreign-born persons residing in, or traveling to, the U.S.;
- Racial and ethnic minority populations;
- Persons living with HIV and/or diabetes mellitus; and,
- Persons working or residing in congregate settings (correctional facilities, homeless shelters).



In July 2010, the White House released the National HIV/AIDS Strategy (NHAS). NHAS outlines four interdependent goals for a coordinated national response to domestic HIV in the U.S.

The goals of NHAS are:

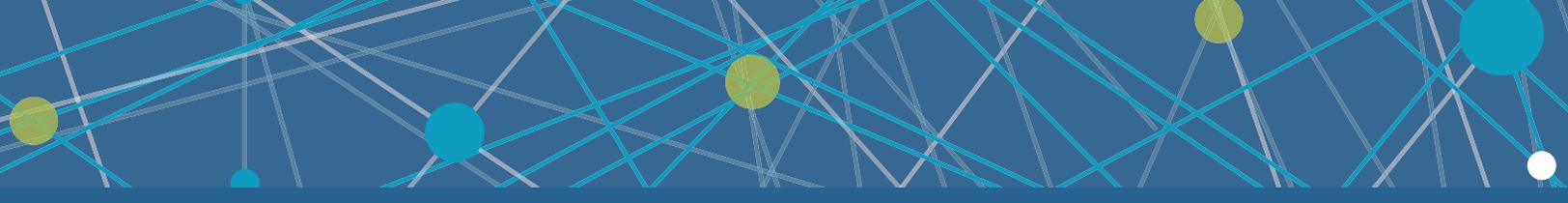
1. Reduce new HIV infections;
2. Increase access to HIV medical care and improve health outcomes for people living with HIV;
3. Reduce HIV-related health disparities; and,
4. Achieve a more coordinated national response to the HIV epidemic.

NHAS emphasizes monitoring and evaluation of the federal investment in HIV/AIDS, a theme consistent with the Division of HIV/AIDS (DHAP) Strategic Plan, which ensures program accountability and improved mechanisms to report progress toward achieving national goals. Stemming from NHAS, CDC is focusing on a High-Impact Prevention (HIP) approach, which includes geographic targeting of resources, and identifying the combination of approaches that demonstrate the greatest impact on decreasing HIV incidence. In January 2012, CDC started a new five-year HIV prevention funding cycle with health departments (HDs): Funding Opportunity Announcement (FOA) PS12-1201: Comprehensive Human Immunodeficiency Virus (HIV) Prevention Programs for Health Departments, to address the domestic HIV epidemic and maximize the effectiveness of current HIV prevention methods. The goals of PS12-1201 are:

- Reduce HIV transmission by building capacity of health departments to focus HIV prevention efforts in communities and local areas where HIV is most heavily concentrated to achieve the greatest impact in decreasing the risks of acquiring HIV;
- Increase HIV testing;
- Increase access to HIV medical care and improve health outcomes for people living with HIV by linking them to continuous, coordinated, and quality medical, prevention, and social services;
- Increase awareness and educate communities about the threat of HIV and methods for prevention;
- Expand targeted efforts to prevent HIV infection using a combination of effective, evidence-based approaches, including delivery of integrated and coordinated biomedical, behavioral, and structural HIV prevention interventions; and,
- Reduce HIV-related disparities and promote health equity.

General communicable disease expectations as currently described in the PHAB accreditation standards and measures, and developed in partnership with various program divisions within the CDC include the following health department requirements:

- Protocols for timely investigations of public health problems, environmental, and/or occupational health hazards;
- Procedures for the conduct of investigations;

- 
- Review of investigation reports against procedures (After Action Reports);
 - Laboratory testing for notifiable/reportable diseases;
 - Work with partners to conduct investigations and responses to outbreaks;
 - Protocols for containment/mitigation of public health problems/environmental public health hazards; and,
 - Tracking logs for assessing the health department's performance on these areas against their protocols and procedures.

A group of public health department representatives participated in a think tank session to consider the information about performance expectations for health departments, along with the DIS job task analysis. Based on those conversations, the groupings described on page 43 were discussed. The order of the groupings is not relevant.

DIS Job Task Analysis Broad Task Areas	Health Department Performance Area	Comments
Planning and Preparation for Case and Field Work	<ul style="list-style-type: none"> Field and case work specific guidance per program (STD, HIV, TB) 	Each program has specific field and case work guidance. DIS and the health department would need policies, procedures, processes, and interventions for each.
Investigation Activities	<ul style="list-style-type: none"> Ensure appropriate investigation procedures Provide timely documentation, reporting, and follow-up of investigations Maintain confidentiality (including HIPAA) Ensure training and tools for conducting investigations Identification of populations at higher risk for poorer health outcomes 	
Client Encounters and Interviewing	<ul style="list-style-type: none"> Conduct of client encounters and interviews specific guidance per program (STD, HIV, TB) 	Each program has specific client encounters and interviewing guidance. DIS and the health department would need policies, procedures, processes, and interventions for each.
Surveillance Activities	<ul style="list-style-type: none"> Ensure surveillance capacity Ensure response to outbreak capacity Access to appropriate lab services Access to epi and other surveillance support Appropriate IT systems to support surveillance Ensure reportable conditions per state and local regulations and laws Communicate public health threats to public Educate providers on reportable conditions 	
Health Systems Collaboration and Quality Improvement	<ul style="list-style-type: none"> Identify relevant partners and stakeholders Collaborate to achieve goals of programs Develop and implement QI plan Develop and implement performance management system Provide appropriate education and guidance to partners and stakeholders 	
Clinical Support Services	<ul style="list-style-type: none"> Ensure access to health care Provide case management per program guidance Serve as public health expert Collaborate with others to plan care provided Attention to health equity 	
Testing and Field Services	<ul style="list-style-type: none"> Testing, screening, and outreach per specific program standards (STD, HIV, and TB, Compliance with appropriate lab certification 	Each program has specific testing and field services interviewing guidance. DIS and the health department would need policies, procedures, processes, and interventions for each.
Case Analysis	<ul style="list-style-type: none"> Case analysis, disease staging, and intervention planned and executed per program specific guidance (STD, HIV, and TB) 	Each program has specific case analysis, disease staging, and interventions per their specific program guidance (STD, HIV and TB).
Outbreak Response and Emergency Preparedness	<ul style="list-style-type: none"> All-hazards EOP Collaboration with appropriate agencies Training and exercises of EOP Communications plan Surge capacity Redundant reporting systems 	

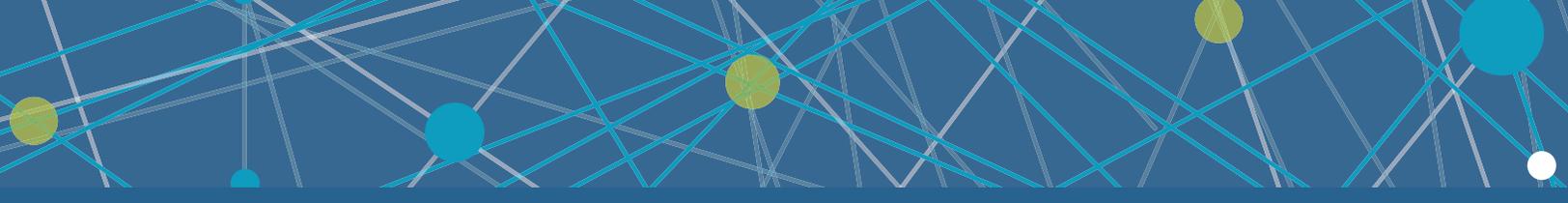
Analysis and Comparisons of the Three Potential Models of DIS Certification

After having assessed the three potential models for DIS certification, the PHAB National Advisory Committee, national partners, and the PHAB Board members and staff recommend that CDC proceed with the development of a test-based approach to certification. This recommendation was developed based on the observations about the various attributes of each model, as well as the initial rationale for DIS certification, described in the 2013 feasibility study. Those attributes included cost, transferability to other work settings, recognition by others (including potential payors), time to establish the certification program, understanding of the model by the DIS workforce, ability to measure the knowledge of the individual DIS, and ability to accurately measure the validity and reliability of the model. The recommendation was made after initial polling of the various stakeholders, with a follow-up poll approximately three weeks later to ensure confidence in the recommendation. Both polls indicated the test-based model was the most preferred; the unit-based model the second most preferred; and the portfolio review model the least preferred.

In further discussions about the secondary preferences for the unit-based model, the primary interest was in the relationship of the performance of the health department in managing the programs in which the DIS work. There was great interest in recommending that standards for health department performance be developed as a foundational support for DIS seeking certification. That recommendation, along with the planned approach for addressing this interest, is addressed under the Foundational Support section of this report.

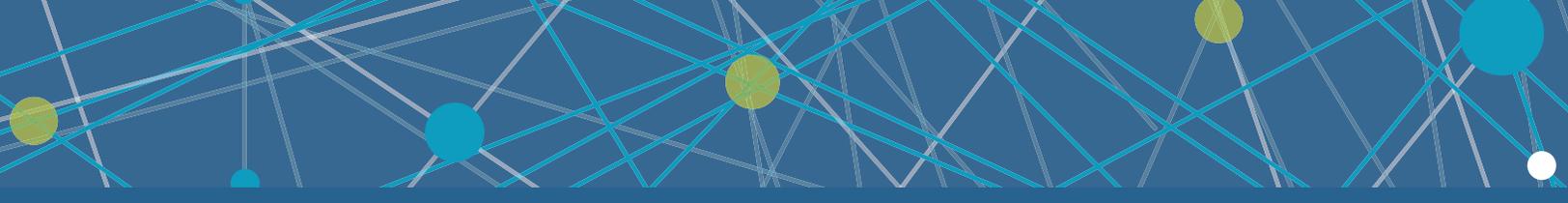
The test-based model was determined to have the greatest proven potential to align with the DIS certification stated goals of improving public health services provided to communities by DIS through a high quality, standardized approach to the professional development of this workforce; validation of the knowledge, skills, and abilities of DIS; standardization and improvement of training; increase the quality and consistency of service delivery; and, increase recognition of the skills and abilities of the individual DIS. The other two models, portfolio review and unit-based, had limited identified potential to achieve all the stated goals due to their newness and to their more subjective approaches to review for certification. A table summarizing the model comparisons by the eight identified attributes, is noted below.

Model Selection			
Model Attributes	Test-based Model	Portfolio Review Model	Unit-based Model
Alignment with DIS Certification Goals	Yes	Limited	Limited
Start-up Costs	\$295,000	\$150,000-\$200,000	\$200,000-\$300,000
Transferable to Other Work Setting	Yes	Yes	No
Recognizable by Others	Yes	Limited	No
Time to Establish the Certification Program	1-1.5 years	1-1.5 years	1-2 years
Understanding of the Model by the DIS Workforce	High	Limited	No
Ability to Measure the Knowledge of the Individual DIS	High	High, but includes “soft skills” as well as knowledge	Limited
Ability to Measure the Validity and Reliability	High	Limited	Limited



SECTION VI:

Foundational Support Areas for DIS Certification



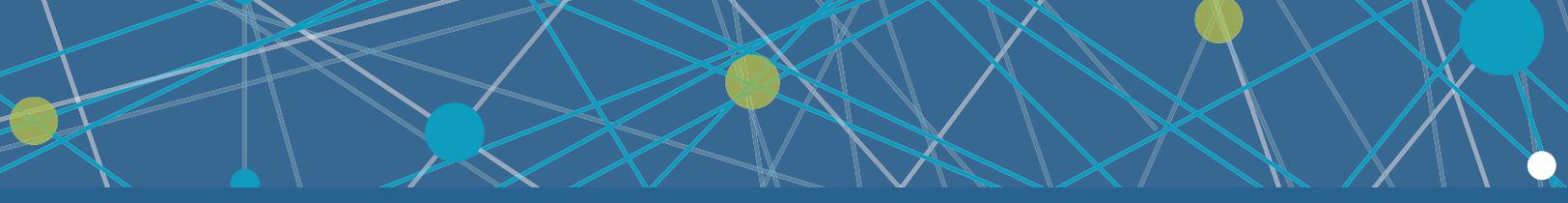
The PHAB DIS National Advisory Committee, subject matter experts, national partners, PHAB Board members, and staff identified two key foundational support areas that must be addressed if DIS certification is to be effective in accomplishing its intended goals. One of those areas is the availability of training for DIS who intend to participate in the national certification program. The second area relates to the setting of program standards specifically for assessing the performance of health departments who manage the programs in which DIS work. Both these areas are described in this section.

Important Considerations Related to DIS Education and Training

Baseline education and experience to determine eligibility for hire as a DIS has been a point of robust discussion with subject matter experts throughout the DIS certification process. Understanding the baseline education and experience of the DIS is a key variable in the selection and development of a national DIS certification model. Current hiring practices of DIS across the country have varied educational requirements. Unlike other public health professions, potential DIS candidates are not hired with a degree and proficiency in an educational pathway such as epidemiology or nursing. State and local DIS job specifications include a variety of education requirements and preferences (i.e. high school diploma, bachelor's degree, master's degree), and many of the hiring processes place just as much emphasis on relevant job experience (i.e. HIV test counselor, community outreach, etc.) and knowledge/skills/abilities as education. Given the specialty niche of the DIS position, job-specific training is provided during the first six months to one year of hire, with a combination of standardized coursework and shadowing or mentorship. This lack of a standardized educational pathway, prior to hire as a DIS, was a surprise to the subject matter experts in the certification industry and is reportedly unusual for a professional classification. Thus, subject matter expert focus group discussions and project surveys included educational requirements for consideration.

Project Observations about DIS Education Prior to Entering the Workforce

The DIS Certification Feasibility Assessment report highlighted the following: “Education was a less important aspect of determining requirements for a successful DIS. While there are some states (e.g. Massachusetts) where obtaining a Master’s degree is common and preferred in the hiring process, most DIS, even college-educated DIS, felt that a higher level of education did not correlate with success of a DIS. Generally, DIS agreed that obtaining a high school diploma was sufficient.” (pg. 8) This sentiment was echoed by several participants during discussions at the DIS Job Task Analysis Focus Group Meeting. Several stakeholders from the National Advisory Committee and Job Task Analysis Subject Matter Experts discussed a desire to “raise the standard,” mandating a Bachelor’s degree as a condition of DIS Certification. However, concerns were raised regarding those state and local jurisdiction job specifications with minimum educational requirements of high school diploma, where adapting educational requirements to more advanced educational standards without “DIS specific” Associate or Bachelor’s degree coursework may prove to be extremely difficult if not impossible, thereby making those jurisdictions or their staff ineligible for DIS certification. With this background in mind, minimum and preferred educational requirements for DIS were established through consultation with stakeholders and validated in information collected through the JTA and enumeration studies. The educational recommendations are designed to be a minimum standard that is inclusive of as much of the current workforce as possible, and is written in the context where there is currently no formal preparation curriculum within colleges and universities. A formal curriculum could be integrated into the coursework of public health Bachelor degree programs, or individual modules could be integrated into community college health sciences curriculums. A formalized education model for DIS would allow an emerging workforce to enter the realm of public health better equipped to support communicable disease efforts and respond to public health emergencies. It would also be a stepping stone to enhancing the DIS workforce across the nation.



Recognizing the potential utility of a standardized curriculum, PHAB has partnered with the Association of Schools and Programs of Public Health to commission a paper that will, irrespective of which certification model CDC chooses for DIS certification, address how formal public health education might address the educational needs of the DIS workforce in the future. This paper, which will be distributed as a complementary report to this project report, will consider the current curricula in both undergraduate and graduate public health education, and the DIS JTA results to address the alignment of these program curricula with the DIS JTA as well as potential options for access to these programs across the nation. There are many benefits to this approach, but establishing formal relationships with schools of public health will take some time. Therefore, CDC should consider pursuing the formal educational curriculum in tandem with the establishment of the certification program and standardized national training.

Project Observations about DIS Training Related to the Existing Workforce Certification

One of the goals of DIS certification is to assess, assure, and standardize qualifications to improve public health services. Until there is a formalized educational pathway for DIS, there is a need for standardized, high-quality training programs that provide the requisite knowledge. The DIS certification program will establish core competencies (based on the JTA) that DIS in the field will be expected to meet and maintain. The intent is to create a standard for the DIS job role and function, detailing specific tasks, knowledge, skills, and abilities that are essential for all DIS. Comprehensive standardized training to support this role will be essential to ensure consistency in DIS performance nationwide. Obtaining certification will validate that a given DIS has demonstrated the established knowledge, skills, and abilities (KSAs). The process will be predicated on the assumption that a person has access to the necessary training and resources to achieve the KSAs to meet the accredited certification program standards. CDC will play a critical role to ensure that DIS and supervisors of DIS have access to the necessary training and support to meet the certification standards.

Current Training and Present State of Training

Historical Perspective

The Division of STD Prevention (DSTDP) has taken an active role in providing DIS training across the U.S. for over 30 years. In the late 1980s and 1990s, CDC DSTDP funded CDC public health associates (PHA) training centers in several areas around the country, providing on the job training for incoming DIS. Training plans in these areas utilized:

- Standardized curriculum
 - » Employee Development Guide (EDG): an 11 module study guide addressing knowledge development in core areas (i.e. STD control, infectious disease characteristics and human anatomy, case management, gonorrhea, chlamydia, syphilis, visual case analysis, infection control, STD field investigation, HIV infection and AIDS, STD Control Program forms), and
 - » Introduction to STD Intervention (ISTDI): a two week interviewing course focused on developing active listening, motivation, and other interview techniques.
- Shadowing or mentorship: pairing a new staff person with an experienced one to promote experiential learning through observation and then practice of field and interview techniques with support of a colleague;
- DIS supervisory review/feedback: hands-on interactive supervision, with supervisors who were once DIS, was part of the training plan, with observation/feedback of client and provider interactions and routine review/discussion of caseload and case analysis, refining action steps;
- Routine case conference (“chalk talks”): presentation/discussion of cases under active investigation

or particularly challenging gain insight into disease intervention opportunities and identify other important issues (e.g. common risk factors, similar hang-outs among multiple cases, etc.) and facilitate peer to peer development; and,

- Continuing education: the training centers hosted course(s) annually to enhance professional development (e.g. clear writing, conflict management, negotiation, advanced interviewing skills, etc.).

The training process for new DIS was one year, after which they transferred out of the training centers to support other STD programs or moved into HIV, TB, Immunization, and other public health programs. This model for a DIS training program was successful in producing a workforce of trained front line public health staff, with consistent skills to support communicable disease and outbreak response activities throughout the U.S.

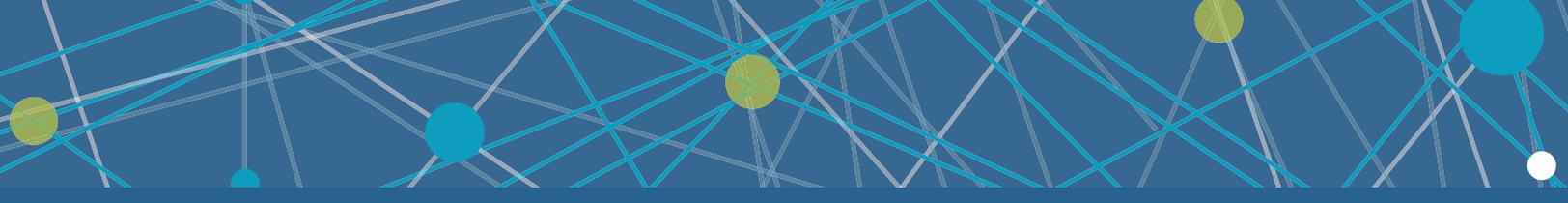
One of the limitations of the PHA-DIS training program has been the lack of local capacity and sometimes local ownership. CDC DSTDP assignees were working in local and state health departments doing local work, under the authority of the local health officer, but often supervised and managed by CDC staff, with locals depending heavily on CDC staff support for both program leadership and implementation. As public health authority rests at the state and local levels, it was imperative to move CDC staff away from this direct assistance role, into one of technical assistance and support. With this shift, and the closure of the CDC DSTDP PHA training centers, state and local health departments began to build their own DIS capacity and the responsibility of training fell to them.

CDC DSTDP continued to recommend and support the standardized curriculum for new DIS, providing the Employee Development Guide and funding the Regional STD/HIV Prevention Training Centers to conduct ISTD courses throughout the nation, on a request basis. While CDC DSTDP training continued the current STD interview and field investigation coursework, Division of HIV/AIDS Prevention and Division of Tuberculosis Elimination created their own courses with disease-specific information and guidance for partner services or contact tracing. With each of these national programs funding regional training center staff to implement state and local level training with similar but different coursework, the decision of which courses to select has become difficult for local jurisdictions.

Current State of DIS Training

Within the last few years, the DSTDP and the Division of HIV/AIDS Prevention at CDC have collaborated to create "Passport to Partner Services" (P2PS). P2PS is an award-winning training course for DIS which uses a combination of on-line and classroom-based training. P2PS utilizes a learning management system to track and test learner knowledge and progress. P2PS was awarded the 2013 Best Practices in Distance Learning Programming-Gold Award from the U.S. Distance Learning Association. However, P2PS has limitations in the numbers of DIS that have access to it. P2PS courses include both web-based self-study modules (n+ 13) and a traditional classroom component (three to five days depending on version).

The curriculum is divided into four tracks, differentiated by job functions: Track A-overview for medical providers; Track B-providers who will conduct partner elicitation/notification for HIV; Track C-providers who will conduct elicitation/notification/referral for GC, chlamydia, syphilis and HIV; Track D-providers who will conduct all aspects of partner services (D) plus visual case analysis. With the extremely disease specific in P2PS, the TB programs send their DIS to the Tuberculosis Case Management and Contact Investigation Intensive course through the Regional Training and Medical Consultation Centers. This training is intended for nurses and other licensed medical care providers who provide TB case management of patients with active or latent tuberculosis within the public health setting. TB also has a TB interviewing course geared



toward disease intervention specialist and community health outreach workers. Unfortunately, the demand for these courses outweighs the availability, as the courses are very skill-based, with registration limited to 12-15 persons a course and offered in varying geographic centers approximately 16-20 courses/year (STD/HIV) and 5-10 courses/year (TB).

Identified Training Gaps

The DIS Certification Project has provided an opportunity to assess DIS training needs and puts in place a cross-program standardized measure of job tasks, knowledge, skills, and abilities. Input gleaned from key stakeholders has identified perceived gaps in training curriculum and capacity. The detailed JTA provides a template to conduct a crosswalk between required competencies and related training components. Additionally, it includes a template job description with recommendations on educational requirements. Regardless of the certification model recommended and ultimately chosen, there must be basic educational criteria and training curriculum established to support a national certification model. Important considerations are core curriculum enhancements to address the breadth of the core DIS competencies in areas such as 'cultural humility,' incident command system; situational awareness and community safety. CDC will play a critical role to ensure that DIS and supervisors of DIS have access to the necessary training and support to meet the certification standards. Current efforts underway at the CDC include utilizing results from a completed crosswalk with the current training, P2PS, and the DIS Certification JTA to determine gaps and pursue methods to address those gaps. Stakeholders from the National Advisory Committee recommended a similar crosswalk with the TB interview curriculum and HIV Capacity Building.

An additional area discussed was not only standardizing training curriculum, but the need to burnish interview and field investigation skills, as well as the soft skills such as negotiation and conflict resolution, and others. This raises the potential need for practicum or mentorship as a part of introductory DIS training. Identifying and standardizing key areas for inclusion in a DIS practicum could be an important pathway to explore, with emphasis to ensure a comprehensive role in Emergency Response Drills, and other cross-cutting issues.

One reoccurring theme emanating from the field through the process of developing the certification program was the need for increased support and training for DIS and their supervisors. In some jurisdictions, DIS are supervised by a public health nurse or another public health professional who is unfamiliar with the role of a DIS, and may have limited experience in HIV/STD prevention interventions. This construct can prove to be challenging as DIS are often entry-level positions that require on-the-job training. These situations without standardized job expectations, training plans, and practice standards can lead to ineffective practice by the DIS, and can also be stressful to the DIS and supervisor, without adequate support. While CDC has dedicated time and funding to enhance DIS training, information from the DIS Certification Project indicates that the existing training systems are inadequate to support emerging DIS training needs and the additional enhancements associated with DIS certification.

Future Training Considerations

Stakeholders may likely have needs for additional training for emerging public health practice issues (i.e. technology-based client communications, etc.) and program priorities (i.e. Linkage to Care, PrEP, etc.). The recommendations of stakeholders throughout the DIS Certification Project were to evaluate current training resources; take steps to address gaps; develop one training plan consistent across all program areas to address the core competencies; and, develop a plan for continuing education to allow for development of modules to support emerging issues.

Evolution in responsibilities of DIS, disease content areas, methods, and approaches, as well as emerging

public health practice issues and program priorities indicates additional training topics and enhancements that must be taken into consideration including, but not limited to:

- Technology including access and use of data systems (data to care, use of EMRs) and electronic tools (social media and e-partner services);
- New diagnostic tests and treatments;
- New and innovative prevention tools such as PrEP, Linkage to Care, etc;
- Expanded responsibilities for TB, outbreaks, preparedness;
- Additional data collection/assessment activities for surveillance; and,
- Assurance activities, including detailing and community engagement.

Given that current requests for CDC-sponsored training courses far outweigh the staffing resources at CDC and the Regional DIS Training Centers to provide the trainings, CDC will need to develop a plan with all relevant training stakeholders (STD, HIV, TB, Hepatitis, Emergency Preparedness) and local jurisdictions to develop capacity to provide established training curricula through Train the Trainer programs. Garnering ongoing commitment from internal and external stakeholders to inform training is significant to the ultimate success. These stakeholders include, but are not limited to, other federal agencies, public health leaders at state and local levels, training organizations, and HIV capacity building assistance providers. Programs such as emergency preparedness, viral hepatitis, and communicable diseases that intersect or intermittently tap the expertise of DIS to augment their capacity are likely to have valuable input to training to maintain the DIS' unique surge capacity for public health.

Coordination with Certification Body

Regardless of the certification model chosen, there must be basic educational criteria and training curriculum established to support a professional certification model. CDC will need to work with the certification body, depending and based on the recommended and chosen model, to develop the standardized training plan. Continuing education and recertification standards and training plans must be considered during the development of the initial certification plan. CDC will also need to work with the certification body to address any legal issues and requirements identified during the recommendation phase.

Performance Standards for the Health Department in Which the DIS Work

Throughout the project the participants in the discussions identified the importance of the performance of the health department in administering, managing, and supporting the programs in which DIS work. The current standard operating procedure is that CDC provides guidance and best practice information to health departments through their FOA and other similar documents, but there are no standards of operation for these programs that measure the performance of health departments (other than their progress reports submitted to CDC). General communicable disease expectations as currently described in the PHAB accreditation standards and measures and developed in partnership with various program divisions within the CDC include the following health department requirements:

- Protocols for timely investigations of public health problems, environmental, and/or occupational health hazards;
- Procedures for the conduct of investigations;
- Review of investigation reports against procedures (After Action Reports);
- Laboratory testing for notifiable/reportable diseases;

- Work with partners to conduct investigations and responses to outbreaks;
- Protocols for containment/mitigation of public health problems/environmental public health hazards; and
- Tracking logs for assessing the health department's performance on these areas against their protocols and procedures.

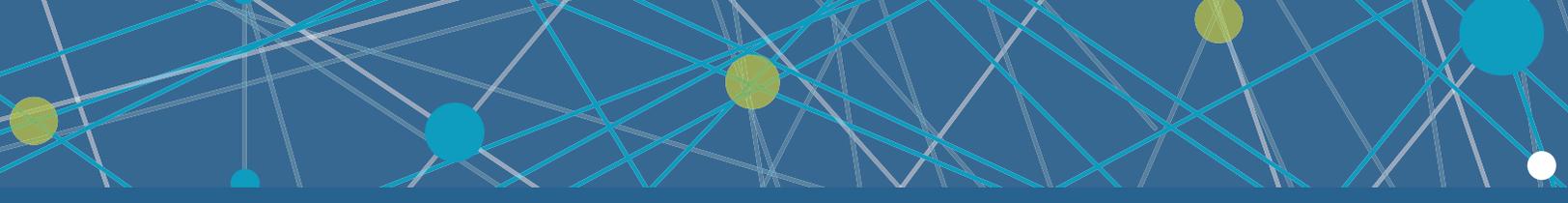
For Emergency Operations Plan –all hazards, health departments are required to have:

- 24/7 coverage and access to appropriate health department personnel;
- Process to contact epidemiological and environmental public health resources/experts;
- Surge capacity if situation exceeds health department normal capacity;
- 24/7 access to labs that are certified for all testing that it performs (CLIA, EPA, FDA, etc.); and,
- Protocols for timely communication with and education of the public.

Health department accreditation standards and measures are organized in twelve domains, based on the Ten Essential Public Health Services, plus administration/management and relationship with the health department's governing entity (board of health, Governor, Mayor, county commissioners, etc.). Overarching requirements for the health departments and their programs that have the potential to affect the achievement of DIS certification include the following:

- Workforce development plan that includes training and field experience as well as job descriptions based on competencies; cultural competency and training on reaching and communicating with various clients;
- Legal support for DIS to conduct relevant enforcement activities;
- Inclusion of DIS related activities in health department strategic plan;
- Inclusion of STD, HIV, TB and other relevant communicable diseases related to DIS work in health department community health assessment and community health improvement plan; and,
- Maintaining good standing with state, federal, and national partners.

A commissioned paper on the alignment of the PHAB health department accreditation standards and measures with the DIS competencies in the JTA has been provided to CDC as a complementary report.



SECTION VII:

**Observations, Conclusions, and
Recommendations from the Assessment
Phase of the DIS Certification Project**

Observations and Conclusions

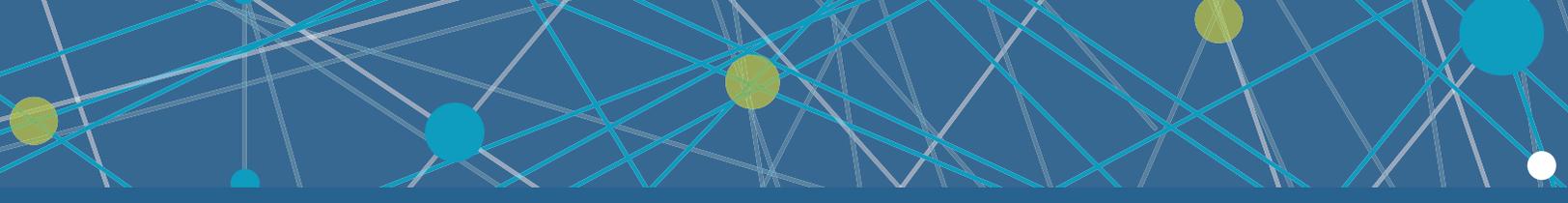
The PHAB National Advisory Committee, PHAB staff and board members, and partners, after having reviewed the information available to date, expressed the following observations and conclusions:

1. The JTA can be used as the basis for DIS certification. It appropriately reflects the duties, roles, and responsibilities of the DIS. A template functional job description has been created based on the JTA results and will be distributed for all health departments to use in their own job description format.
2. The NACCHO enumeration numbers (1661) seem to accurately reflect the number of front-line DIS in the country. Ensuring that TB-only DIS are included will strengthen the estimate. The National TB Controllers Association estimates the range of TB-only DIS positions to be 540-575.
3. The DIS registry, managed by NCSD, will be a valuable resource for contacting the DIS when certification is available.
4. An educational/outreach toolkit for DIS and their supervisors to use as they begin to prepare the workforce for the concepts of certification will be provided as a beginning tool for implementation of the certification program.

Short-Term Recommendations

The PHAB National Advisory Committee, PHAB staff and board members, and partners, after having reviewed the information made available to them, provided the following short-term recommendations that should be addressed in the next twelve months.

1. After having assessed the three potential models for DIS certification, it is recommended that CDC proceed with the development of a test-based approach to certification. This recommendation was developed based on the observations about the various attributes of each model, as well as the initial rationale for DIS certification. (Section V on Test-Based Model)
2. CDC should select an organization eligible for certification accreditation to administer and manage the DIS national certification program including training on the certification process. PHAB has provided CDC with both an analysis of the potential organizations who can do this work and an implementation plan to assist in the rapid initiation of DIS certification. (Section III on Selection of An Organization to Administer and Manage DIS National Certification)
3. CDC should plan to subsidize the development and implementation of the DIS national certification program for a period of at least five years. (Section V on the Analysis and Comparisons of the Three Models of Certification)
4. CDC should designate a responsible party for ensuring that the subject matter content training that DIS need to become certified is available to all DIS in a timely manner. For accreditation purposes, it is important that subject matter content training be provided independent of the certifying organization. (Section V on the Test-Based Model)
5. CDC should establish a cross-NCHHSTP CDC working group charged with developing short-term (i.e., training) and long-term (i.e., formal curricula) action plans that address the needs for education and training for DIS within the context of DIS certification. (Section VI on Project Observations about DIS Training Related to the Existing DIS Workforce)
6. CDC should consider commissioning a formal paper on the current state of DIS training and a



training needs assessment, including the identified gaps, barriers, and access. This information would be useful in planning for the availability of training related to the DIS certification implementation as well as in developing one comprehensive DIS training plan, crossing all program areas of responsibility. (Section VI Project Observations about DIS Training Related to the Existing DIS Workforce)

7. CDC should support the NCSD to update the DIS Registry so that accurate contact information can be used to inform all DIS about the certification program and its requirements. (Section II on the DIS Registry)

Long-Term Recommendations

Several long-term recommendations also emerged from the discussions about DIS certification. While it is acknowledged that these recommendations will take longer than twelve months to address, initial work should begin concurrently with the development and implementation of the DIS national certification program since they are all considered foundational to the overall success of DIS certification.

1. CDC should carefully consider the recommendations that emerged from the commissioned paper on the alignment between the DIS education needs and the competencies covered in formal public health education to plan for DIS formal academic education for the future. (Section VI Project Observations about DIS Education Prior to Entering the Workforce).
2. CDC should strongly consider a partnership with PHAB to develop and publish clear standards of program operations and accountability for health departments to use in administering the programs in which DIS work. Recommendations from the certification/ health department accreditation alignment commissioned paper should be carefully considered. (Section V on Unit-Based Certification Model)

CONCLUSION

CDC has taken a bold step to study the feasibility of and the assessment of models for DIS certification in the U.S. PHAB's consultant experts, experts for the commissioned papers, the PHAB National Advisory Committee, subject matter experts, national partners, and CDC support staff have systematically reviewed a variety of information and provided actionable recommendations aimed at achieving the DIS certification outcomes, as well as ensuring the development and implementation of a credible national DIS certification program. All components of these observations and recommendations are essential for the program to be a success.

REPORT REFERENCES AND RESOURCES

American Nurses Credentialing Center (www.nursecredentialing.org)

American Nurses Credentialing Center (2016) Disease Intervention Specialist Feasibility Report: Portfolio Review Model Approach.

Guthrie, J. High-Involvement Work Practices, Turnover, and Productivity: Evidence from New Zealand, ACAD MANAGE J February 1, 2001 vol. 44 no. 1 180-190

Hale, J. (2012). Performance-based certification: How to design a valid defensible cost effective program. San Francisco, CA. Pfeiffer: A Wiley Imprint.

International Credentialing Associates (ICA). (2013) DIS Certification Feasibility Assessment Final Report

National Board of Public Health Examiners (www.nbphe.org)

National Commission for Health Education Credentialing, Inc. (www.nchec.org)

PSI, LLC (<http://corporate.psonline.com>)

PSI (2016) Disease Intervention Specialist Feasibility Study Final Report.

PSI (2016) Disease Intervention Specialist Job Analysis and Test Specifications Final Report.

Public Health Accreditation Board (<http://www.phaboard.org/accreditation-process/public-health-department-standards-and-measures>)

Renter and Allan, How Magnet designation affects nurse retention: An evidence-based research project. American Nurse Today, March 2014, Vol.9 (3)

Seacrest Company. PHAB/CDC Webinar on Accreditation of Certifying Agencies. June 2, 2017.

APPENDICES



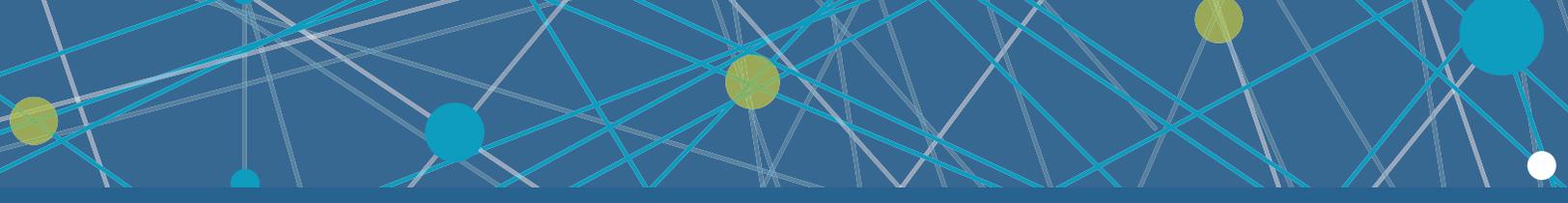


Table of Contents

APPENDIX A

ICA 2013 Feasibility Assessment Report to NACCHO.....3

APPENDIX B

Public Health Subject Matter Experts, Committee Members and National Partners.....11

APPENDIX C

Template DIS Functional Job Description.....15

APPENDIX D

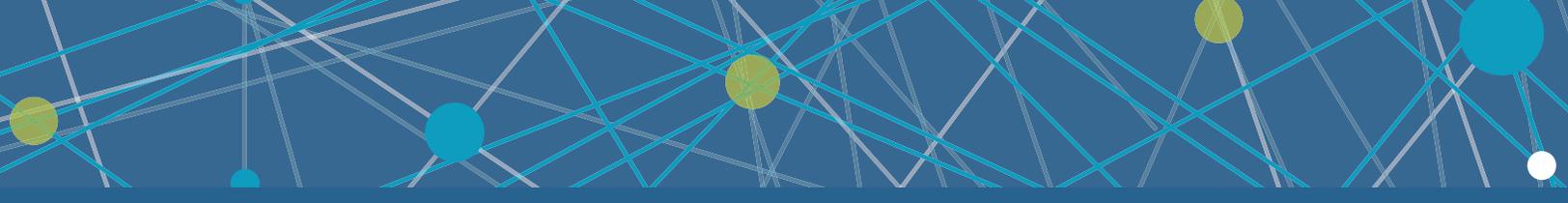
PSI DIS Feasibility Study 2016.....24

APPENDIX E

Portfolio Review Certification Model Technical Report.....41

APPENDIX F

Glossary.....69



APPENDIX A

**ICA 2013 Feasibility Assessment Report
to NACCHO**

DISEASE INTERVENTION SPECIALISTS (DIS) FEASIBILITY ASSESSMENT FINAL REPORT

INTRODUCTION AND SCOPE OF WORK

International Credentialing Associates (ICA) was contracted by the National Association of County and City Health Officials (NACCHO) to conduct the Disease Intervention Specialist (DIS) certification feasibility assessment. This purpose of this assessment is to:

- 1) Describe the current and future directions of the DIS profession and determine how certification would impact DIS.
- 2) Determine the financial burden and proposed budget for creating and sustaining a certification program.
- 3) Assess the organizational capacity necessary to create and maintain a certification program.
- 4) Connect with key stakeholders in both the public health and certification industries to obtain guidance for best practices.
- 5) Develop a business plan with recommendations for how to proceed post- feasibility assessment.

These study goals were met through ICA performing the following activities:

1. Participated in an initial in-person meeting with NACCHO and CDC project staff to review the scope of work, project objectives, and develop an action plan and project timeline.
2. Collaborated with NACCHO staff to conduct a feasibility assessment that was utilized to guide in the development of a national certification program for DIS. The feasibility assessment 1) described the current and future directions of the DIS profession and determine how certification would impact DIS, 2) determined the financial burden and proposed budget for creating and sustaining the certification program, 3) assessed the organizational capacity necessary to create and maintain the certification program, and 4) connected NACCHO with key stakeholders in both the public health profession and credentialing industry to obtain guidance for best practices.
3. Provided guidance and oversight for the creation or selection of a potential certifying body to house the DIS certification.
4. Assessed the certification legal environment and risk to NACCHO and CDC partners in the creation of a DIS certification. This included information related to point three above, ensuring that the legal structure of the organization limits risk to the managing and sponsoring organizations. A minimum of ten hours of legal consultation with counsel experienced in the creation and management of certification programs was included in this activity.
5. Facilitated and planned two in-person meetings with NACCHO and CDC collaborative partners that outlined and explained best practices of certification development, elicited input about prospective certification from key stakeholders, and disseminated findings of the feasibility assessment.
6. Collaborated with NACCHO staff to develop a key informant interview template that was used to conduct an environmental scan of DIS in the field. In addition, a focus group discussion guide was developed and utilized to determine the potential need and impact of certification.
7. Participated in conference calls with NACCHO, CDC, and other collaborative partners and ensured that all certification development processes were being conducted according to best practices within the credentialing industry.
8. Developed an action plan and proposal for conducting a DIS job task analysis that will allow NACCHO to better define the scope, competencies, and desired standards for the DIS profession.

9. Summarized lessons learned and provided a final report and business plan with preliminary recommendations to guide NACCHO and CDC decision-making after the completion and dissemination of feasibility assessment findings.
10. Participated in a second in-person meeting with NACCHO staff the end of the project to review final deliverables and recommendations.

This report summarizes these activities using 1) a discussion of the item or 2) directing to the separate report from that activity.

PROJECT ACTIVITIES METHOD AND RESULTS

SCOPE 1.0 PROJECT PLANNING MEETING

ICA staff met with NACCHO project staff on June 3, 2013. This meeting included the creation of a project plan (using Microsoft Project®), which was used throughout the project to track progress against planned project activities and deliverables. The project plan, as originally drafted, is presented in Appendix A.

An initial meeting between NACCHO, ICA, and CDC staff was conducted on June 24, 2013. This meeting is discussed separately in Scope 5.0 below.

SCOPE 2.0 FEASIBILITY STUDY

This scope item was separated into two sets of activities:

- Scope 2.1 and 2.4, which created a need to conduct market research using current DIS professionals and supervisors of DIS, and,
- 2) Scope 2.2 and 2.3, which created a need to develop an operational and financial model for the certification, should it be developed.

Scope 2.1 and 2.4: The market research required for this project used two sets of activities: 1) interviews conducted with state/jurisdiction STD directors and 2) focus groups conducted with practicing DIS. The methodology and results of these activities are presented in Appendix B, and also included the original transcripts and recordings from the focus groups.

Scope 2.2 and 2.3: Two documents were developed to complete this scope item. First, an operational model was developed, describing the various functions required for a potential DIS certification and how they integrate into the administration of the certification program. This is presented in Appendix C. Second, a financial model was created to account for project revenue and expenses, based on the operational model. This deliverable was created in Excel to allow NACCHO and CDC to manipulate the model in the future, if adjustments are required. This is presented in Appendix D.

SCOPE 3.0 POTENTIAL CERTIFYING BODY

Originally, this scope item contained two elements: 1) to assess the organization best positioned to manage and administer the certification program and 2) to create the operational support model discussed in Scope 2.2 and 2.3 (Appendix C). After pursuing several of the project activities, NACCHO instructed ICA to hold off until guidance could be received from CDC to determine which organization should house the certification. NACCHO de-scoped this activity and a determination about the certifying body has not been made at this time.

SCOPE 4.0 LEGAL ASSESSMENT

An assessment of the certification legal environment and its implications for the development and management of the DIS certification is presented in Appendix E.

SCOPE 5.0 CDC MEETINGS

Two meetings were conducted with the CDC:

- 1) A meeting was conducted on June 24, 2013, to brief CDC Division of STD Prevention Staff on the planned project activities and goals. Discussions were held at the meetings that assisted in the creation and development of the feasibility assessment. A report from this meeting was presented to NACCHO in early July.
- 2) A meeting was conducted on September 11, 2013, to brief CDC stakeholders on the feasibility assessment findings. A report from this meeting is presented to NACCHO in mid-September.

SCOPE 6.0 KEY INFORMANT INTERVIEW TEMPLATE AND FOCUS GROUP DISCUSSION GUIDE

The interview template and focus group discussion guide were created for the completion of Scope 2.1 and 2.4 and are presented within the content of the report in Appendix B.

SCOPE 7.0 PARTICIPATE IN STAKEHOLDER CONFERENCE CALLS

This scope item was met through the conduct of:

- Meetings with the NACCHO project contact person held each week via phone for the duration of the feasibility assessment
- ICA facilitation of the NACCHO project planning and close-out meetings
- ICA participation in the two meetings with CDC
- ICA participation in meetings with the NCSA Advisory Group, conducted in May and September 2013

SCOPE 8.0 JOB ANALYSIS

In order to provide NACCHO with next steps for the creation of a potential DIS certification, ICA provided two deliverables:

1. A draft of the tasks necessary for a DIS to perform their professional role, as a starting point for the conduct of a job analysis. This draft of tasks was based upon research into the typical job descriptions for a DIS practitioner, as well as the responses provided by DIS in the focus groups and STD directors in the key informant interviews. The draft of tasks, along with framework of tasks and knowledge/skills used for a job analysis, is presented in Appendix F.
2. A proposal and project plan for a DIS job analysis, presented in Appendix G.

SCOPE 9.0 FINAL REPORT

This scope item is met through the development and delivery of this report.

SCOPE 10.0 PROJECT CLOSE-OUT MEETING

To prepare for the closing of this project, ICA staff met with NACCHO prior to the CDC meeting on September 11, 2013.

RECOMMENDATIONS AND LESSONS LEARNED

RECOMMENDATIONS

As discussed in the report from the Feasibility Assessment findings, ICA recommends that NACCHO and CDC pursue the development of a DIS certification. Based upon the results of this assessment, certification may provide the following advantages:

- **Increase the professional reputation and prestige of the DIS profession:** DIS professionals feel that their profession is perceived poorly within the larger health community. Certification may increase the recognition of DIS as a viable longer-term profession by setting minimum bounds for competence.
- **Provide a baseline for DIS competency nationwide:** By creating a certification with minimum experience and competency requirements (assessed through an examination), the deviation in knowledge, skills, and abilities currently found within the DIS profession may decrease.
- **Increase dedication to the profession and decrease turnover:** If state/jurisdiction and federal entities were to require that DIS practicing for more than a set number of years have to obtain the certification, the investment of time required to earn the certification may dissuade those who are using the DIS profession as a steppingstone to other professional opportunities.
- **Increase recognition and transference of skills between states/jurisdictions:** While there will always be practice differences between states and jurisdictions, a certification should capture core knowledge and skills required to practice across the country. This would decrease training and development time for DIS transferring between jurisdictions, as supervisors would be assured of the DIS's competence in the core areas encompassed in the certification.
- **Increase practice efficacy:** Should certification be developed, ICA would recommend monitoring and measuring the performance of certificants as compared to non-certificants and utilize this information in a formal review of the certification approximately 3 – 5 years after its development. If data can be obtained showing a correlation between the practitioners' certification status and performance, this would be a compelling argument for the continued support of the program. ICA would caution that this should be done only after several years of the certification to allow for valid measurement.
- **Increase the demand for continuing education:** Since the recommended certification would require maintenance of the DIS's certification through continuing training and education, demand would increase for such programs. This would not only provide DIS with another reason to ensure the maintenance of their knowledge and skills, but would provide opportunities for NACCHO, NCSD, and CDC to develop additional educational programs and opportunities.
- **Support networking of DIS professionals:** ICA has seen certification in other professions provide a de-facto 'grouping' of certified practitioners. These practitioners bond together because of their mutual achievement of the certification. Many times, such practitioners create both virtual and in-person interactions, gathering virtually via methods such as LinkedIn groups or in-person via side gatherings at conference.

A certification with the following eligibility criteria was recommended in the feasibility assessment. These eligibility criteria would require confirmation via the job analysis study.

Experience	6 months to 1 year of experience, with a prescriptive set of activities performed during this period and attested to by a supervisor/mentor
Education	High school diploma at minimum
Training	Completion of PTPS and supplementary courses of the candidates choosing (2-3 days of additional training)
Assessment	Use case study style items to test DIS practitioners' competency in potential on-the-job scenarios
Continuing Education	16 hours of training per year in areas of the candidates' choosing (potential areas of training to be specified)

The major challenge posed to a potential DIS certification is funding. Throughout the study, STD directors and DIS practitioners made it clear that their fiscal resources would not support the payment of certification fees. While most certifications are supported via fees paid by certificants or their employers, the DIS certification is a bit unique in that almost all DIS are government employees and available funds are limited by the consistent fiscal restrictions put on government funds for these entities. In most similar professions, certification is developed directly by a government entity. Thus, in this proposed certification, ICA is recommending that funding comes from the federal government to ensure financial viability of the program, while not creating further hardship for the local or state based entity.

Based upon this information, ICA makes these the following recommendations:

1. NACCHO and CDC should pursue the development of a DIS certification, provided that federal funds are made available to fund the program. ICA recommends that funds are provided directly to NACCHO to fiscally support the program, with limited or zero fees charged to the DIS (certificants) themselves. CDC could support adoption of the program by creating mandates that DIS working in the profession for more than one year must pursue, earn, and maintain the certification.

NACCHO and CDC should consider the following options when developing the DIS certification program:

- **DIS only:** A certification program could be created only including active DIS practitioners. This is the option used to create the operational and financial model developed within this feasibility assessment.
- **DIS and non-STD infectious diseases:** A certification program could include DIS core skills, plus modules for certain diseases that occasionally use DIS (e.g., tuberculosis). Such a program could follow the model used by the Green Building Certification Institute (GBCI)'s LEED AP program, where all certificants earn the LEED AP certification with a particularly specialization (for example, LEED AP Building Design and Construction or LEED AP Interior Design and Construction).¹ In this case, all certificants would earn a certified DIS designation, with associated specialties (e.g.,

¹ <http://www.usgbc.org/leedap>

HIV, TB, Hepatitis C). This could also lead to additional funding from other areas of the CDC outside the STD division.

- **DIS and community health professionals:** Continued discussions have occurred regarding whether a certification should be established that could be used to assess DIS and community health professionals. This would expand the overall market of eligible individuals seeking the certification, which would provide a better use of the expenses invested in the project. However, it may also decrease the value of the certification to DIS professionals themselves, as they may see less value to the certification increasing the prestige and recognition of the DIS profession.
 - **STD intervention professionals:** Currently, in the UK, the role aligned with STD prevention and intervention is the Sexual Health Adviser (SHA). All SHAs are eligible to participate in a certificate program (training and assessment) to earn certification. This opens eligibility up to doctors, nurses, pharmacists, and other interested healthcare professionals who have a core practice of managing clients with STDs. While the certificate program is below the recommendations incorporated in this report for rigor of a potential DIS certification, it may be possible to maintain a level of rigor while broadening the audience to encompass other professionals working in sexual health. Again, care would need to be taken in such a program to preserve value for DIS professionals.
2. CDC or a similar entity should pursue the development of additional training or networking opportunities for DIS. Given the nature of state/jurisdiction restrictions, many of these activities would be best conducted virtually using a web conference platform (or similar software). An emphasis should be placed on networking activities allowing DIS to share practices from their state/jurisdiction, not simply formal training.
 3. CDC should continue to evolve the Passport to Partner Services (PTPS) program, based upon feedback from this assessment and ongoing feedback from the participants. ICA understands that this is already in process, based upon feedback provided to CDC from the pilot of PTPS.

LESSONS LEARNED

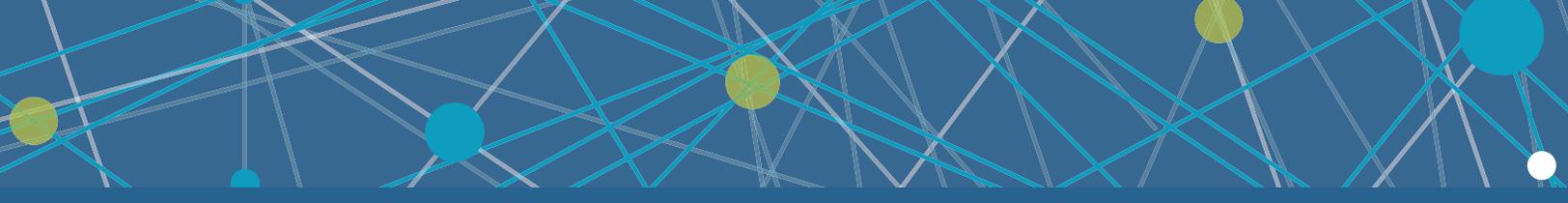
ICA was privileged to interact with a number of DIS and STD directors through this project, along with the interactions with CDC and NACCHO staff. Through these interactions, the following issues were identified that would be incorporated into future projects regarding the DIS certification:

- DIS greatly enjoyed the face-to-face interaction through the project, thus ICA would seek to conduct job analysis and test development activities in person where possible (given financial constraints) to encourage the completion activities while rewarding DIS for their participation through these networking activities.
- Coordination with a broader representation of CDC staff early in the effort would assist with ensuring the proper stakeholders are accounted for early in the project.
- ICA identified challenges in our communication processes with stakeholders early on in the project. These issues primarily concerned cosmetic issues and mediating various levels of familiarity with the certification process. Given the newness of certification in this field, ICA adapted its approach and would continue these adjustments in future projects.
- Having a DIS involved in the leadership of the project (Kristine Clark) was incredibly helpful toward building trust and confidence in the process with the DIS who participated throughout the study. Having a DIS subject matter expert (SME) embedded in the project leadership, either as staff or through the formation of a SME steering committee, would be critical for future certification development.

NEXT STEPS

ICA recommends one of three paths to proceed:

- NACCHO, CDC, and other stakeholder organizations can determine that there is not sufficient rationale to continue with the development of the certification. In this case, no further action is required.
- If an already registered organization determines that they should like to develop and manage this program (NACCHO or otherwise), the first step would be to simultaneously start the technical development of the certification (job analysis) with the program development of the certification (via establishment of a scheme committee [advisory committee] and creation of policies and procedures to govern the program).
- If a new organization needs to be created to house the certification program, this project plan and financial assessment does not include the creation of a new non-profit organization. A new 501(c)(6) organization would need to be legally established, with corresponding bylaws and governing documents. If an existing organization is committed to house this new organization, then the technical development of the certification could occur in parallel to reduce time. However, it is important that whatever organization will act as 'parent' to the new certification organization is committed to the process of start-up, from a fiscal and resource perspective, before embarking on any development procedures. An alternative may be bringing together a consortium of organizations (e.g., NACCHO, NCSD, and CDC). In this case, ICA would be happy to facilitate an initial meeting between the organizations to discuss the tactical and strategic plan for start-up.



APPENDIX B

**Public Health Subject Matter Experts,
Committee Members and National Partners**

PHAB National DIS Certification Advisory Committee Members

- Jim Blumenstock, Chief Program Officer, Health Security, Association of State and Territorial Health Officials (ASTHO)
- Oscar Alleyne, Senior Advisor, Public Health Programs, National Association of County and City Health Officials (NACCHO)
- Umair Shah – Executive Director, Harris County Health Department, Houston, TX
- Natalie Cramer, Senior Directors, Prevention/Care Program and Policy, National Alliance of State and Territorial AIDS Directors (NASTAD)
- Melanie Mattson, STI/HIV/Viral Hepatitis Section Director, Colorado Department of Health, Denver, CO
- Jeff Stover, Director Health Informatics and Integrated Surveillance Systems, Virginia Department of Health, Richmond, VA
- Donna Hope Wegener, Executive Director, National TB Controllers Association
- Julie Higashi, Director TB Control Section, San Francisco Department of Health, CA
- Karen McKinnis, Director, Administration, Springfield-Greene County Health Department, MO
- Alice Gandelman, Director, California STD/HIV Prevention Training Center, Oakland, CA
- James Sederburg, Deputy Director, Curry International Tuberculosis Center, Oakland, CA
- Matt Golden, Director, STD Control Program, Public Health-Seattle & King County, WA
- Jessica Fridge, Surveillance Manager, STD/HIV Program, Louisiana Department of Health & Hospitals, Baton Rouge, LA
- Jay Butler, Chief Medical Officer and Director, Division of Public Health, Alaska Department of Health and Social Services, Anchorage, AK
- Judy Monroe, Former Director of the Office of State, Tribal, Local and Territorial Support, CDC, Foundation, Atlanta, GA
- Les Beitsch, Director, Center for Medicine/Public Health, Florida State University College of Medicine, Tallahassee, FL
- Wilma Wooten, Public Health Officer, County of San Diego Health and Human Services Agency, CA

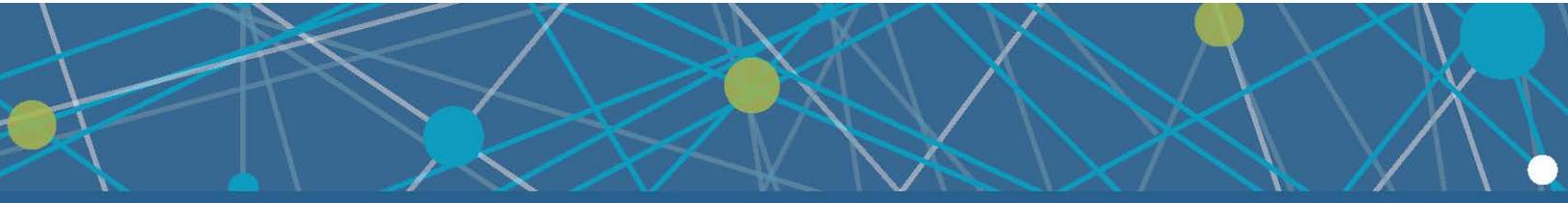
DIS Subject Matter Experts

- Candi Crause, Director, Infectious Disease Prevention and Management, Champaign-Urbana Public Health District, IL
- Thomas Deem, Interim Statewide Biomedical Intervention Coordinator, STI/HIV/Viral Hepatitis Branch, Disease Control & Environmental Epidemiology Division, Colorado Department of Public Health & Environment
- George Gibbs, CDC Assignee and STD Regional Program Manager, Florida Department of Health in Alachua County
- Bernard Gilliard, State DIS Consultant, South Carolina Department of Health and Environmental Control
- Ramon Guevara, Epidemiologist, Emergency Preparedness and Response Program, County of Los Angeles Department of Public Health

- Carla Hardnett-Davis, CDC Assignee and Lead Public Health Advisor, Texas Department of State Health Services
- Chad Hendry, Manager of HIV/STI Partner Services Program, Howard Brown Health Center, IL
- Ryane Hill, Disease Intervention Specialist, Hamilton County Public Health, OH
- Michael Joseph, Communicable Disease Specialist II, Program Development Section, Tuberculosis Control Branch, Division of Communicable Disease Control, Center for Infectious Diseases, California Department of Public Health
- Michael Lacassagne, Disease Intervention Specialist III, Office of Public Health, Louisiana Department of Health & Hospitals
- Casey Price, Manager, Disease Intervention Services, HIV/STD Division, Oklahoma State Department of Health
- Megan Rei, Disease Intervention Specialist, Prince William Health District, Virginia Department of Health
- Rebecca Sole, HIV/STD DIS Program Supervisor, Erie County Department of Health, NY
- Scott Strobel, STI/HIV Care Quality Coordinator, Kansas Department of Health & Environment

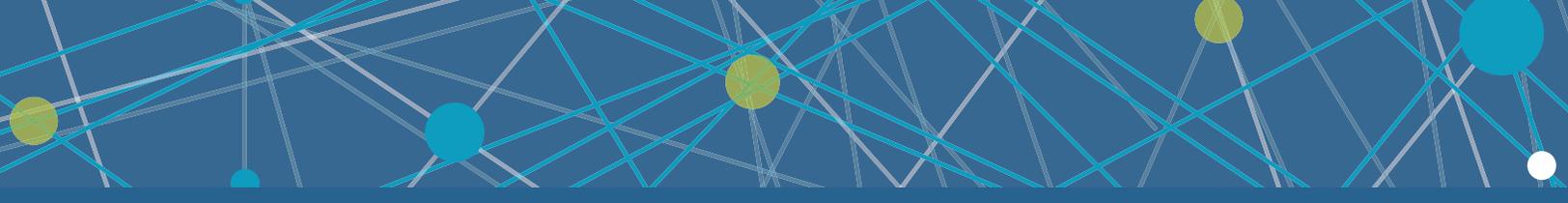
Subject Matter Experts for Vetting

- Lisa Paulos (MD)
- Marci Babcock (MN)
- Leshia Dennis (MO)
- Dan Parlman (NY)
- Karen McKinnis (MO)
- Leonard Mukasa (AR)
- Eva Arietta (PA)
- Jessica Gehle (WA)
- Linda Ortero (PA)
- Abram Oliver (TX)
- Meagan Kay (WA)
- Pete Moore (NC)
- Anthony Wade (WI)
- Janessa Teaque (OH)
- Javone Davis (LA)
- Chang Lee (KY)
- Gerrit Baker (ASTHO)



National Partners

- Frances Rucker-Bannister, Southeast Regional Management Official, DSTDP, FSB, Centers for Disease Control and Prevention (CDC)
- Raul Romaguera , Associate Director, Office of Policy, Planning, & External Relations, Division of STD Prevention\ Centers for Disease Control and Prevention (CDC)
- Kaye Bender, President and CEO, Public Health Accreditation Board, PHAB
- Abigail Viall, Senior Policy Analyst, Division of HIV/AIDS Prevention, Centers for Disease Control and Prevention , (CDC)
- Dan Lentine , Partnerships Liaison, Office of Policy, Planning, & External , Relations, Division of STD Prevention, Centers for Disease Control and Prevention (CDC)
- Kelly Mayor , Director of Operations , National Coalition of STD Directors (NCSD)
- Romni Neiman. CDC Assignee and Assistant Chief, STD Control Branch, CDC/California Department of Public Health, Center for Infectious Diseases, Division of Communicable Disease Control
- Gretchen Weiss, Director, HIV, STI, & Viral Hepatitis, National Association of County and City Health Officials (NACCHO)
- Jessica Frasure-Williams, Director of Programs and Partnerships, National Coalition of STD Directors (NCSD)



APPENDIX C

Template DIS Functional Job Description

Template Disease Intervention Specialist (DIS) Functional Job Description Instructions for Use in a Health Department Setting

General Instructions for Use

Health departments may use this template functional job description for DIS who work in their agency. This job description was developed based on the results of a national Job Task Analysis survey that was conducted by PSI, LLC in 2016 as part of the DIS Certification Project.

DIS have various titles depending on the human resources policies in place in any given health department. This job description was designed for the following definition of a DIS.

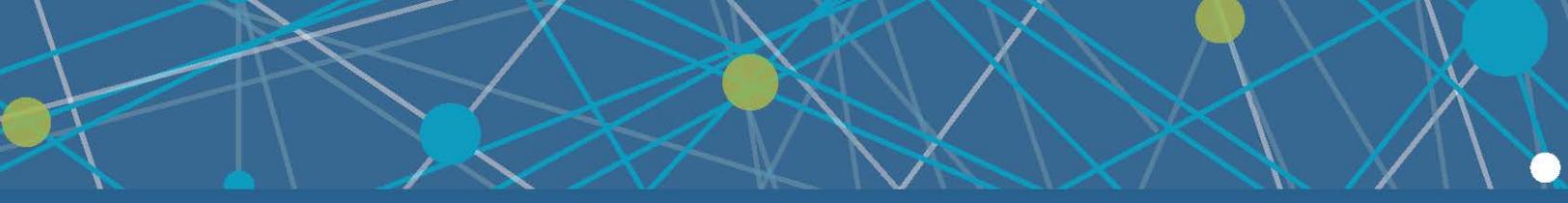
DIS are non-licensed public health professionals with applied expertise in client centered interviews; collection of enhanced surveillance and community assessment data; partner services, including contact tracing; field investigation and other field-based activities, including specimen collection, directly observed therapy, community outreach; collaboration with medical providers, and navigation of health care systems to ensure patient evaluation and treatment; and mobilization for outbreak investigation and emergency response.

First Section

Complete each section according to the human resources policies in place at the health department.

Job Title:	Disease Intervention Specialist or Similar Title
Department:	Specify Programs, Departments, or Division
Supervisor:	Specify name and Title of Supervisor Regular
Employment Status:	Full-Time (Change as Needed)
FLSA Status:	Exempt (Change as Needed)
Supervision:	None
Location:	Specify
Travel:	Specify Percentage





Introduction

Provide a paragraph about the health department as the work setting for the DIS position to which this job description applies.

Position Summary

The standard position summary is intended to be used as written. However, a health department should specify the amount of travel and how the travel is to be accomplished (personal vehicle, public transportation, government provided vehicle, etc.).

Since this job description was developed based on the JTA for the DIS, it is not intended for use with other public health personnel who might also provide some of these services (such as RNs, CHWs, etc.).

Position Responsibilities

These position responsibilities and examples were based on the results of the JTA. This section may be used in its entirety or it may be edited to accommodate a DIS specific job description. Health departments may cut and paste any component of this section as appropriate.

Knowledge, Skills and Abilities (KSAs)

Health departments are strongly encouraged to use the KSA section as written, unless there is a KSA that isn't relevant to a specific DIS job function.

Important Additional Considerations and Preferred Educational and Experiential Background

These are optional sections that may or may not be used by a health department depending on the job requirements for the DIS in their locale.

Template Disease Intervention Specialist (DIS) Job Description Effective Date: June 1, 2017

Job Title: Disease Intervention Specialist

Department: Specify Programs, Departments, or Division

Supervisor: Specify name and Title of Supervisor Regular

Employment Status: Full-Time (Change as Needed)

FLSA Status: Exempt (Change as Needed)

Supervision: None

Location: Specify

Travel: Specify Percentage

Introduction

This is a placeholder for the health department to put a paragraph about the health department as the work setting for the DIS.

Legal Basis for the Job Description Template

This functional job description was developed based on a formally conducted Job Task Analysis (JTA) under the national DIS Certification Project in 2016. The JTA was conducted to obtain information about the tasks performed in the DIS job role and the knowledge needed to support the performance of these tasks. The JTA process for DIS was conducted in accordance with industry requirements to ensure the development of content-valid and legally-defensible examinations. A three-phase approach identified the tasks and knowledge necessary for competent performance of DIS across various settings and professional disciplines.

- Research of the role of the DIS using existing literature and draft task and knowledge areas based on that literature review;
- Review, revision, and finalize task and knowledge statements through multiple, iterative reviews by subject matter experts; and,
- Obtain importance and performance ratings for tasks and knowledge through a public survey of DIS.

Position Summary

A Disease Intervention Specialist (DIS) is a non-licensed public health professional with applied expertise in client centered interviews; collection of enhanced surveillance and community assessment data; partner services to include contact tracing; field investigation and other field-based activities, including specimen collection, directly observed therapy, community outreach; collaboration with medical providers, and navigation of health care systems to ensure patient evaluation and treatment. Relevant program areas can include TB, HIV, STD/STI, and other communicable disease, outbreak investigation and emergency preparedness and response.

The position requires some travel (**specify percentage**) and the use of a personal vehicle (**or the use of a government supplied vehicle if applicable**).

Position Responsibilities

Position responsibilities may include, but are not limited to the following examples of work related tasks. The examples are expected to be conducted in accordance with state or local protocols, policies, and procedures and as outlined by the Centers for Disease Control and Prevention (CDC) in guideline documents specific to the disease.

1. Planning and Preparation for Case and Field Work

- Collect and review client and community information using various investigation procedures including interviewing of clients and contacts; review of data sources; and review of other relevant morbidity reports.
- Assess and prioritize intervention activities based on client needs and program priorities.
- Maintain field supplies needed to accomplish field work.
- Utilize situational awareness to ensure safety in the field.
- Comply with other field safety procedures.

2. Investigation Activities

- Conduct investigations using various investigation methodologies (e.g. field investigations, available record search and electronic tools, electronic health and medical records, site assessments).
- Document intervention activities in a timely and accurate manner.
- Maintain confidentiality of client and protected health information. Maintains compliance with HIPAA requirements.

3. Client Encounters and Interviewing

- Verify the client's identity during client encounters or prior to disclosing confidential information to other providers.

- Notify and educate clients concerning test results, disease exposure, environmental risk, and other relevant health information (e.g., treatment, isolation, etc.).
- Conduct comprehensive interviews and re-interviews employing effective communication skills to elicit contacts that may have been exposed to an infectious disease.
- Ensure and promote a confidential and comfortable environment for client communications.
- Inform clients of the importance of seeking care and refer them to the appropriate community, medical, or other resources.
- Gather information on an environmental risk history, risk reduction plan, third parties at risk, or venues where the client or others may have been exposed to diseases.
- Identify client barriers to needed interventions when conducting partner/contact notification, and/or coordinate solutions to those barriers.

4. Surveillance Support Activities

- Support surveillance activities by reviewing information from surveillance systems, management systems, and/or community surveillance information.
- Conduct data entry of client interviews and investigation activities to identify emerging issues with client population.

5. Health System Collaboration and Quality Improvement

- Collaborate with service providers to ensure entry into care and continuity of care based on individual client needs.
- Provide health education presentation on information pertinent to the programs and services in which DIS work.
- Serve as a local resource for public health information or recommendations to the community and providers.
- Conduct and contribute to provider and laboratory education, health department improvement activities, and other means to improve the quality of care.

6. Clinical Support Services

- Verify that clients received testing, adequate treatment, and follow-up services as appropriate for their specific diagnosis.
- Provide clinic testing and treatment follow-up services based on recommendations for their specific diagnosis, based on state/local protocols and CDC recommendations or guidelines.
- Support public health efforts to assure patients maintain isolation and/or quarantine, including legal orders if required.

7. Testing and Field Services

- Identify and respond appropriately to unsafe situations in the field.
- Participate in event based and targeted testing, screening, or outreach.
- Administer, and/or deliver testing, test results, and/or treatment to clients.

- Collect or transport patient specimens as appropriate.
- Serve public health legal orders when issued by a state or local health officer as appropriate for the jurisdiction.
- Provide or facilitate transportation to the clients' clinic appointments, as appropriate.

8. Case Analysis

- Review available case information and conduct case analysis to determine case priority level, disease staging classification, additional steps for intervention, and/or to determine if expansion of the investigation is warranted.
- Determine disease intervention time frames, procedures, and objectives based on specific diagnosis.
- Recognize or address gaps in information elicited and conduct client interviews to collect necessary information.
- Utilize data as a resource when conducting investigations.

9. Outbreak Response and Emergency Preparedness

- Participate in preparedness training.
- Support health emergencies and outbreak response initiatives by participating in interventions and active data collection.
- Coordinate with government agencies, community organizations, and health officials.

Required Knowledge Of

- Ethical and professional conduct
- Privacy practices and reporting procedures
- Counseling techniques
- Universal safety precautions and protocols
- Modes of transmission, diagnosis, disease characteristics, treatments and prevention and control strategies
- Community resources and stakeholders
- Health care program policies and procedures
- Clinic or laboratory policies and procedures
- Applicable laboratory tests
- Disease testing locations and protocol
- Cultural competency
- Applicable public health laws
- Organization and functions of government and public health

Required Skill In

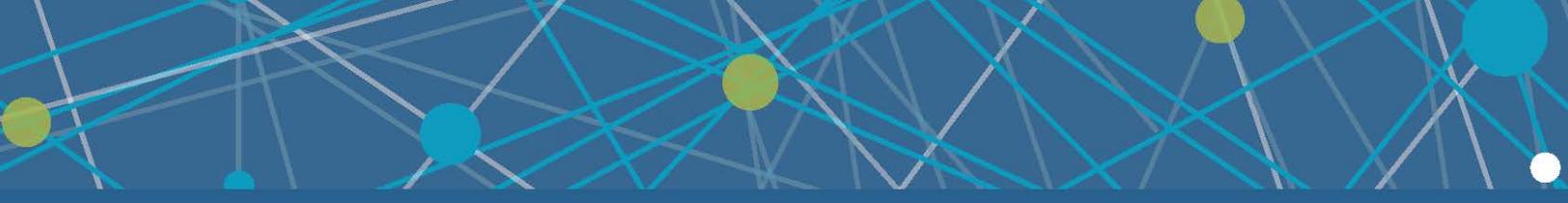
- Active listening
- Critical thinking
- Work efficiencies (e.g., multitasking, time management, prioritization, organization)
- Problem solving
- De-escalation of selected situations
- Interviewing techniques
- Using investigation/notification protocols
- Motivating clients
- Establishing and maintaining collaborative professional relationships
- Case management
- Data collection and data entry
- Using navigational tools
- Conflict management and resolution
- Using applicable disease intervention assessments
- Using effective communication techniques and procedures
- Interpretation of specific test technologies
- Patient specimen collection, handling, and processing
- Application of situational awareness
- Using computers (desktop, laptop, iPad)
- Using of mobile devices (cell phones, apps)
- Using computer software (spreadsheet software, word processing software, internet browsing software, and data base user interface/query software)
- Use of social media (subject to local protocol) and available record searching modalities for investigative purposes

Ability To

- Adapt to unfamiliar and changing environments
- Assess non-verbal communication
- Prepare and maintain confidential records and reports
- Conduct interviews of a highly personal nature
- Problem solve in the field and in-house settings
- Work with diverse populations

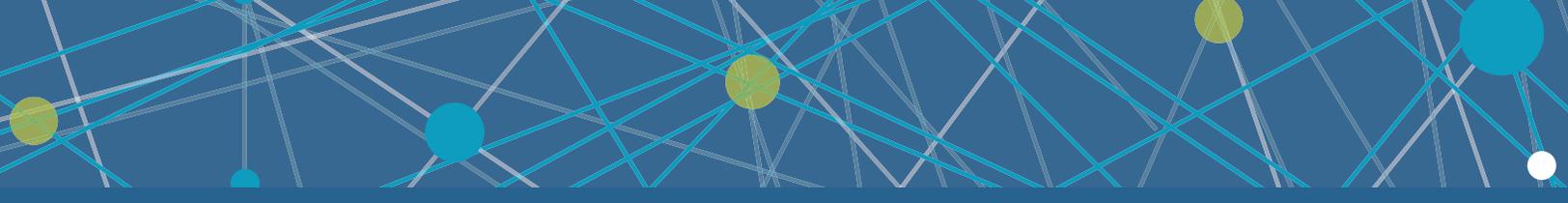
Important Additional Considerations

- Valid driver's license if required to drive vehicle
- Access to personal car or applicable transportation
- Car insurance if required to drive vehicle
- Emergency response availability based on jurisdictional expectations
 - May require occasional evening hours



Preferred Minimum Educational and Experiential Background

- High school diploma or General Education Development (GED) equivalent, at least two years of applicable community experiences in counseling or health outreach.
- Associate degree or equivalent with up to one year of applicable community experience in counseling or health outreach.
- Bachelor's degree or higher from an accredited college or university. No experience required.



APPENDIX D

PSI DIS Feasibility Study 2016

Disease Intervention Specialist (DIS) Feasibility Study Final Report

Presented to:

Public Health Accreditation Board (PHAB)

1600 Duke Street

Suite 200

Alexandria, VA 22314

July 2016



Developed by PSI Services LLC

INTRODUCTION AND SCOPE OF WORK

PSI Services LLC (PSI) was contracted by the two groups to conduct the Disease Intervention Specialist (DIS) certification feasibility study. In 2013, the National Association of County and City Health Officials (NACCHO) contracted PSI to conduct an initial feasibility study; this study was updated in 2016 under contract with the Public Health Accreditation Board (PHAB).

This purpose of this study is to:

- 1) Describe the current and future directions of the DIS profession and determine how certification would impact DIS
- 2) Determine the financial burden and proposed budget for creating and sustaining a certification program
- 3) Assess the organizational capacity necessary to create and maintain a certification program
- 4) Connect with key stakeholders in both the public health and certification industries to obtain guidance for best practices, and,
- 5) Develop a business plan with recommendations for how to proceed post- feasibility study

The original study goals were met through PSI performing the following activities:

1. Attend an in-person meeting with NACCHO and CDC project staff to review the scope of work, project objectives, and develop an action plan and project timeline.
2. Collaborate with NACCHO staff to conduct a feasibility study that will be utilized to guide the development of a national certification program for DIS. The feasibility study should: 1) describe the current and future directions of the DIS profession and determine how certification would impact DIS, 2) determine the financial burden and proposed budget for creating and sustaining the certification program, 3) assess the organizational capacity necessary to create and maintain the certification program, and 4) connect with key stakeholders in both the public health profession and credentialing industry to obtain guidance for best practices.
3. Provide guidance and oversight for the creation or selection of a potential certifying body to house the DIS certification.
4. Assess legal environment and risk to NACCHO and CDC partners in the creation of this certification. This will include information helpful to point three above, ensuring that the legal structure of the organization limits risk to the managing and sponsoring organizations. A minimum of ten hours of legal consultation with experienced counsel in the creation and management of a certification programs is included in this activity.
5. Facilitate and plan two in-person meetings with NACCHO and CDC collaborative partners to outline and explain best practices of certification development, elicit input about prospective certification from key stakeholders, and disseminate findings of the feasibility study
6. Prepare a final report after each in-person meeting with NACCHO and CDC partners to summarize meeting outcomes and record action items developed at the meeting.
7. Collaborate with NACCHO staff to develop a key informant interview template that will be used to conduct an environmental scan of DIS in the field and determine the potential need and impact of certification. In addition, develop a focus group discussion guide and utilize to conduct a minimum of one focus group at an event or conference where DIS professionals are known to attend.
8. Participate in conference calls with NACCHO, CDC, and other collaborative partners to ensure all certification development processes are being conducted according to best practices within the credentialing or certification industry.
9. Develop action plan and proposal for conducting a DIS job task analysis that will allow NACCHO to better define the scope, competencies, and desired standards for the DIS profession.
10. Set up meetings with potential testing vendors and assist NACCHO staff in cataloging testing vendors and computer software for tracking certificants.

11. Summarize lessons learned and provide a final report and business plan with preliminary recommendations to guide NACCHO and CDC decision-making after the completion and dissemination of feasibility study findings.
12. Participate in a second in-person meeting with NACCHO staff the end of the project to review final deliverables and recommendations.
13. Create a draft outline of task and knowledge statements for expert review
14. Conduct a task force meeting to review a draft outline and develop a national survey for the DIS profession
15. Disseminate a national DIS survey to the profession and conduct a statistical analysis of the results
16. Conduct a test specification meeting to review the national survey results and determine exam weights for the DIS certification
17. Prepare a final report for the DIS Job Analysis process and procedures
18. Prepare a Job Description for the DIS role utilizing the Job Analysis methodology

In 2016, this report was updated through the following goals:

1. In collaboration with PHAB, conduct a job analysis to identify the important tasks, knowledge, and skills for DIS professionals.
2. Update the financial plan in the report with the results of the enumeration study, conducted separately under CDC contract with NACCHO.
3. Identify the next steps in the development of a possible certification for DIS professionals, using a multiple-choice test as the primary assessment mechanism.

This report summarizes these activities using 1) a discussion of the item or 2) directing to the separate report from that activity. A series of appendices were previously submitted in the original feasibility support and remain unchanged. Appendices I and J represent outcomes of the final report and job description developed through the Job Analysis process.

PROJECT ACTIVITIES METHOD AND RESULTS

The full project activities are summarized below. For purposes of easy reference, PSI has summarized the activities of the updated feasibility study in the following section:

UPDATED FEASIBILITY STUDY ACTIVITIES

- Scope 2: Feasibility Study
 - In the original study, a financial model for the potential certification was developed. This study was based upon a derived potential market size of 1,272. The financial model was updated in 2016 based on the results of the enumeration study which identified a potential market size of 2,022 practitioners.
- Scope 3: Legal Assessment
 - For this update of the feasibility study, the legal assessment was reviewed again to ensure it contained the most up-to-date information on the development of a certification. Provided that CDC pursues a 'test' based approach, this assessment remains the same. Different considerations arise if a program using a different assessment method is used (e.g., practice examination, training based certificate), and PSI cannot adhere to its original findings if such a path is pursued.
- Scope 8: Job Analysis
 - PSI conducted a job analysis on behalf of PHAB and CDC of DIS professionals.
 - The process was conducted in accordance with the requirements set by the *NCCA Standards for the Accreditation of the Certification Programs*, the *AERA/APA/NCME Standards for Educational and Psychological Testing*, and the *ISO/IEC 17024:2012 Conformity Assessment* standards to ensure the development of content-valid and legally defensible examinations.
 - An iterative process was used to identify the tasks and knowledge/skills, starting with groups of DIS professionals being convened to review, revise and approve a draft outline, with additional reviews conducted by DIS professionals separate from the original group. This content was used to create a survey, sent to DIS professionals nationwide. The responses received from the survey were used to create the final job analysis project deliverables.
 - The finalized DIS Role Delineation Study report is presented in Appendix I, which includes a series of appendices including survey invitations, the national survey, as well as the DIS Job Description

Recommendations for the study, updated based upon the job analysis process, are provided in the recommendations and lessons learned section.

SCOPE 1.0 PROJECT PLANNING MEETING

PSI staff met with NACCHO project staff on June 3, 2013. A report of the minutes from that meeting, action items, and attachments were developed.

Part of this meeting included the creation of a project plan (using Microsoft Project®), which was used throughout the project to track progress against project activities and deliverables.

An initial meeting between NACCHO, PSI, and CDC staff was conducted on June 24, 2013. This meeting is discussed separately in Scope 5.0 below.

A Job Analysis project plan was developed between NACCHO and PSI. The Job Analysis project plan focused on creating a preliminary schedule for the required JA meetings as well as how long each phase should approximately take. The project plan is represented through Scope 8.0 and the associated Appendix I.

SCOPE 2.0 FEASIBILITY STUDY

This scope item was separated into two sets of activities: 1) Scope 2.1 and 2.4 which created a need to conduct market research with current DIS professionals and supervisors of DIS, and, 2) Scope 2.2 and 2.3 which created a need to develop an operational and financial model for the certification, if it should be developed.

Scope 2.1 and 2.4: The market research required for this project was aligned along two sets of activities: 1) interviews conducted with state/jurisdiction STD directors and 2) focus groups conducted with practicing DIS. The methodology and results of these activities is were presented with the original transcripts from the focus groups.

Scope 2.2 and 2.3: Two documents were developed to meet this scope item. First, an operational model was developed, describing the various functions required for a potential DIS certification and how they integrate to the administration of the program. Second, a financial model was created to account for project revenue and expenses, based on the operational model. This was created in Excel to allow PHAB and CDC to manipulate the model in the future, if adjustments were required. In 2016 PSI updated the financial model based on the results of the enumeration study, reflecting the larger population of DIS practitioners.

SCOPE 3.0 LEGAL ASSESSMENT

An assessment of the certification legal environment as its implications for the development and management of the DIS certification was previously developed. This assessment has not changed since the original feasibility study.

SCOPE 4.0 CDC MEETINGS

Three meetings were conducted with the CDC:

- 1) A meeting was conducted on June 24, 2013, to brief the CDC on the planned project activities and goals. A series of discussions were held in these meetings that assisted in the creation and conduct of the feasibility study.
- 2) A meeting was conducted on September 11, 2013, to brief CDC stakeholders on the study results. Again, discussions were held after presentations provided by NACCHO and PSI staff to allow CDC staff to ask questions.
- 3) A meeting was conducted on April 12, 2016, to brief CDC stakeholders on the results of the Job Analysis study. Discussions were held after a presentation provided by NACCHO and PSI staff to allow CDC staff to ask questions. The responses from this meeting as well as the results from a separate stakeholder meeting held by NACCHO were then used to update the RDS report.

SCOPE 6.0 KEY INFORMANT INTERVIEW TEMPLATE AND FOCUS GROUP DISCUSSION GUIDE

The interview template and focus group discussion guide were created for the completion of Scope 2.1 and 2.4.

SCOPE 7.0 PARTICIPATE IN STAKEHOLDER CONFERENCE CALLS

This scope item was met through the conduct of:

- Weekly catch-up meetings held with the NACCHO project contact person, held each week during the conduct of the study
- PSI facilitation of the NACCHO project planning and close-out meetings (Scope 1.0 and 12.0)
- PSI participation in the two meetings with CDC (Scope 5.0)
- PSI participation in meetings with the NCSD Advisory Group, conducted in May and September 2013
- PSI participation in Job Analysis oriented meetings (Scope 8.0) including Role Delineation task force, test specification, and next steps.

SCOPE 8.0 JOB ANALYSIS

In order to provide PHAB with next steps for the development potential DIS certification, PSI provided four deliverables: The finalized DIS Role Delineation Study report presented in Appendix I, which includes a series of appendices including survey invitations, the national survey, as well as the DIS Job Description.

SCOPE 9.0 FINAL REPORT

This scope item is met through the delivery of this report as well as the Disease Intervention Specialist Role Delineation Report and Disease Intervention Specialist Job Description presented in Appendix I and J.

RECOMMENDATIONS AND LESSONS LEARNED

For ease of reference, the recommendations from the study updates in 2016 are outlined in the first section, while the subsequent recommendations remain largely unchanged from the original study. PSI adheres to its original recommendations in 2013 to pursue the development of a DIS certification, contingent upon proper funding and CDC support.

Eligibility Criteria

If CDC were to pursue the development of a DIS certification, PSI would recommend the following eligibility criteria be used, updated using the results of the job analysis.

Experience	Up to 2 years of experience, focusing on applicable community experiences in counseling or health outreach
Education	High school diploma at minimum
Training	Additional formalized training relevant to specific DIS role may be required per jurisdictional requirements

Certification Model

Provided that federal funds are available, PSI recommends the development of a DIS certification. PSI recommends that funds are provided directly to a partner organization (e.g., PHAB, NACCHO) to fiscally support the program, with limited or zero fees charged to the DIS (certificants) themselves. The certification model that was widely spoken of during the Job Analysis process is based on a core DIS certification with associated specialties. This model would provide better financial viability from DIS certificants as well as possible funding from multiple areas of the CDC based on various DIS specialties. Specifically, this model would consist of a certification program focused on DIS core skills, plus modules for certain diseases that occasionally use DIS (e.g., tuberculosis).

Such a program could follow the model used by the Green Building Certification Institute (GBCI)'s LEED AP program, where all certificants earn the LEED AP certification with a particularly specialization (for example, LEED AP Building Design and Construction or LEED AP Interior Design and Construction).¹ In this case, all certificants would earn a certified DIS designation, with associated specialties (e.g., HIV, TB, Hepatitis B). This could also lead to additional funding from other areas of the CDC outside the STD division.

Recertification Administration

PSI recommends the development of a recertification program for professionals who have attained the DIS certification, which uses a classic education and experience based professional development model. This process will involve the DIS certification provider creating a category structure where by professional development units (PDUs) can be earned. Typically, credits are earned both for educational experiences (e.g., attending courses, attending conferences, independent study), giving back to the profession (e.g., teaching courses, writing articles on issues related to the DIS profession), and DIS experience (e.g., hours

¹ <http://www.usgbc.org/leedap>

spent actively practicing as a DIS). Examples of world-class recertification category structures include PMI's PMP certification², the CFP certification³, and the certifications from ANCC⁴.

The industry gold standard is based on certificants attaining 20 recertification credits per year in the recertification cycle, therefore a recertification cycle of three years will mean certificants have to attain 60 credits before their three year period is over. While a three year cycle is the most common in the certification industry, the DIS certification provider may want to consider a more frequent recertification cycle (e.g., 1 year, 2 years) due to the pace of changes in the profession and frequency of individuals leaving the profession. If a certificant is unable to receive the necessary credits within their recertification cycle they may receive a 6 month probation period, at the end of which they will lose their certification if they still have not completed the required credits. This activity may be handled internally by CDC or another entity as part of the operational support model referred to in the previous Feasibility Study.

Next Steps

If the CDC were to pursue the development of a certification program, the following initial steps would be recommended:

1. Create a separate non-profit organization funded jointly by the partner organizations and CDC, or identify a single organization to house the credentialing body.
2. Ensure clarity in responsibility for certifying DIS professionals and how CDC recommendations for certification can be implemented on the state and jurisdiction level.
3. Create an RFP and contract with an organization to develop and deliver the examination on behalf of this organization. Initial estimates of these costs have been incorporated into the financial model; however, would require validation upon an official proposal from PSI or an equivalent organization to deliver these services.
4. Designate an organization to lead Item Development processes. Development process may include:
 - a. **Develop Exam Specifications:** Exam specifications developed with the results of the 2016 job analysis. Review the results of the 2016 Job Analysis survey with Subject Matter Experts to finalize exam weights, item types, and exam length.
 - b. **Develop Exam Reference List:** An Exam Reference List determined by Subject Matter Experts will be used to create a cohesive list of reference materials which will be used to develop items as well as to act as legal defensibility for exam items.
 - c. **Item Writer Training and Item Development:** Subject Matter Experts receive training regarding guidelines and procedures for writing an effective test item. Subject Matter Experts then receive writing assignments and feedback for items based on the Item Writing Training.
 - d. **Item Review and Initial Exam Form Assembly:** Subject Matter Experts are led in the review of newly developed items, evaluating each item based on accuracy, quality, etc. Reviewed items are then used to develop exam forms congruent with the content outline.
 - e. **Initial Exam Publication:** The Beta test is administered to a preliminary group of examinees during an examination administration window. Examinee scoring for the Beta exam is withheld until the point at which a standard setting may be conducted.
 - f. **Statistical Analysis of Initial Publication:** A statistical analysis is conducted on the results of the exam administration. These statistical results will be used to update item's status in the item bank.

² <http://www.pmi.org/-/media/pmi/documents/public/pdf/certifications/project-management-professional-handbook.pdf>

³ http://www.cfp.net/docs/default-source/cfp-certification---cfp-exam-requirement/exam_candidate_handbook.pdf?sfvrsn=40

⁴ <http://www.nursecredentialing.org/GeneralTestingRenewalHandbook>

- g. Key Validation and Standard Setting:** The statistical analysis of items are reviewed by Subject Matter Experts in the process of creating a passing standard.
 - h. Exam Assembly and Publication:** Finalized exam forms will be reviewed and developed based on the constraints of the exam content outline.
 - i. Annual Statistical Analysis and Review:** Annual upkeep for the exam includes the statistical analysis of test and pre-test items, as well as further item writing and review to maintain the health of the item bank.
5. Implement the Operational Support Model outlined in the original Feasibility Study, with modifications as necessary based upon the requirements and assessment method selected.
 6. Review Operational Support Model for acceptance based on ISO 17024 accreditation standards. This step may be conducted internally by the CDC, a related entity, or contracted out to a firm specializing in accreditation which will conduct an audit regarding the DIS certification process. Pricing for this activity is variable.

Alternatively, the CDC and partners could seek out an association or certification management company to manage the certification program. While this would remove the management and personnel responsibilities from CDC or a partner organization, it would require consistent and regular funding on an ongoing basis⁵.

Further details on these recommendations can be discussed on review with the CDC and partner organizations.

⁵ Funding represented in the financial analysis does not assume accreditation expenses

RECOMMENDATIONS

As discussed in the report from the Feasibility Study results, PSI recommends the CDC pursue the development of a DIS certification. Based upon the results of this study, certification may provide the following advantages:

- **Increase the professional reputation and prestige of the DIS profession:** DIS professionals feel that their profession is perceived poorly within the larger health community. Certification may increase the recognition of DIS as a viable longer-term profession by setting minimum bounds for competence.
- **Provide a baseline for DIS competency nationwide:** By creating a certification with minimum experience and competency requirements (assessed through an examination), the deviation in knowledge, skills, and abilities that currently exists in the DIS profession may be decreased.
- **Increase dedication to the profession and decrease turnover:** If state/jurisdiction and federal entities were to require the certification for DIS practicing more than a set number of years, the investment of time required to earn the certification may dissuade those who are using the DIS profession as a temporary stop before another professional opportunity.
- **Increase recognition and transference of skills between states/jurisdictions:** While there will always be practice differences between states and jurisdictions, a certification should capture core knowledge and skills required to practice across the country. This would decrease training and development time for DIS transferring between jurisdictions, as supervisors would be assured of the DIS's competence in these core areas.
- **Increase practice efficacy:** Should certification be developed, PSI would recommend monitoring and measuring the performance of certificants versus non-certificants and utilize this information in a formal review of the certification approximately 3 – 5 years after its development. If data can be obtained showing a correlation between the practitioners' certification status and performance, this would be a compelling argument for the continued support of the program. PSI would caution that this should be done only after several years of the certification to allow for valid measurement.
- **Increase the demand for continuing education:** Since the recommended certification would require maintenance of the DIS's certification through continuing training and education, demand would increase for such programs. This would not only provide DIS another reason to ensure the maintenance of their knowledge and skills, but would provide opportunities for PHAB, NACCHO, NCSD, and CDC to develop additional educational programs.
- **Support networking of DIS professionals:** PSI has seen certification in other professions provide a de-facto 'grouping' of certified practitioners. These practitioners bond together because of the mutual achievement of the certification. Many times, such practitioners create both virtual and in-person interactions, gathering virtually via methods such as LinkedIn groups or in-person via side gatherings at conference and the like.

A certification with the following minimum eligibility criteria was recommended during the feasibility study. These eligibility criteria were updated via the job analysis study.

Experience	Up to 2 years of experience, focusing on applicable community experiences in counseling or health outreach
Education	High school diploma at minimum
Training	Additional formalized training relevant to specific DIS role may be required

The major challenge with a potential DIS certification is funding. Throughout the study, STD directors and DIS practitioners made it clear that their fiscal resources would not support the payment of certification fees. While most certifications are supported via fees paid by certificants or their employers, the DIS certification is a bit unique in that all DIS are government employees and have funds limited by the consistent fiscal limitations put on government funds for these entities. In most similar professions, certification is developed directly by a government entity. Thus, in this proposed certification, PSI is recommending that funding comes from the federal government to ensure financial viability of the program, while not creating further hardship for the local or state based entity.

Based upon this information, PSI makes these the following recommendations:

1. PHAB and CDC should pursue the development of a DIS certification, provided that federal funds are made available to fund the program. PSI recommends that funds are provided directly to PHAB to fiscally support the program, with limited or zero fees charged to the DIS (certificants) themselves. CDC could support adoption of the program by creating mandates that DIS working in the profession for more than one year must pursue and earn the certification and maintain it.

The certification model that was widely spoken of during the Job Analysis process is based on a core DIS certification with associated specialties. The DIS plus other infectious diseases certification model would provide better financial viability from DIS certificants as well as possible funding from multiple areas of the CDC based on various DIS specialties. .

- **DIS plus other infectious diseases:** A certification program could include DIS core skills, plus modules for certain diseases that occasionally use DIS (e.g., tuberculosis). Such a program could follow the model used by the Green Building Certification Institute (GBCI)'s LEED AP program, where all certificants earn the LEED AP certification with a particularly specialization (for example, LEED AP Building Design and Construction or LEED AP Interior Design and Construction).⁶ In this case, all certificants would earn a certified DIS designation, with associated specialties (e.g., HIV, TB, Hepatitis B). This could also lead to additional funding from other areas of the CDC outside the STD division.

PHAB and CDC should consider the following options when developing the DIS certification program:

⁶ <http://www.usgbc.org/leedap>

- **DIS Only:** A certification program could be created only including active DIS practitioners. This is option used to setup the operational and financial model developed in this study.
 - **DIS plus community health professionals:** Continued discussions have occurred regarding whether a certification should be established that combines DIS with community health professionals. This would expand the overall market that could seek the certification, which would provide a better use of the expenses invested in the project. However, it may also decrease the value of the certification to DIS professionals themselves, as they may see less value to the certification increasing the prestige and recognition of the DIS profession.
 - **STD intervention professionals:** Currently, in the UK, the 'DIS' role is combined with other professionals who deal with the tracking and counseling of those infected with STDs. This may extend the certification program to other professionals; however, may also extend the program past the traditional bounds of the STD Division of CDC.
2. CDC or another entity should pursue the development of additional training or network activities. Given the nature of state/jurisdiction restrictions, many of these activities would be best conducted virtually using a web conference platform (or similar software). An emphasis should be placed on networking activities allowing DIS to share practices from their state/jurisdiction, not simply formal training.
 3. CDC should inform DIS professionals of the DIS certification and implement the certification as a federal standard across state/jurisdictions. Initial marketing and its associated costs will be conducted to explain development and necessity of the DIS certification to professionals across the nation. After the CDC implements the DIS as a federal standard, additional marketing costs may not be required since DIS professionals will be required to attain the certification in order to practice in their state/jurisdiction.
 4. CDC should continue to evolve the Passport to Partner Services (PTPS) program, based upon feedback from this study and ongoing feedback from the participants. PSI understands that this is already in process, based upon feedback provided to CDC from the pilot of PTPS.

EXPENSES

To accompany the updated Feasibility Study, the results of a financial analysis were updated with the results of NACCHO’s enumeration study. PSI developed the DIS certification Financial Analysis through using industry best practices and variables such as market size, awareness, and purchase intent. The variables were used to develop an evolving financial model which accounts for the test-based and overall administrative expenses for the first 5 years of the certification program. The following tables are highlights of the financial analysis.

Table 1. Development Projection

Development Projection					
Total Development Cost = \$ 295,831					
Description	Development (approx. 8 months)	Testing (approx. 3 months)	Launch (approx. 3- 6 months)	Line Subtotals	Assumptions (or comments)
Exam Development Services	\$ 28,000		\$ 16,300	\$ 44,300	Includes item development, exam assembly/review in Development. Item analysis, Standard Setting, scaling and equating in Launch
Exam Development Meetings	\$ 42,142		\$ 12,630	\$ 54,772	Four in-person development meetings (Job Analysis Task Force, Item Writing, Item Review, and Standard Setting)
Exam Development Meetings				\$ 135,159	Assumes a 16 month development timeline
Marketing			\$ 20,000	\$ 20,000	Marketing for launch only
Trademarking		\$ 5,600		\$ 5,600	Assumes trademark registration in U.S.
Exam Publishing		\$ 3,000		\$ 3,000	
Item Banking System	\$ -			\$ -	Assumes included in exam delivery contract
Certification Management System	\$ 25,000			\$ 25,000	
Scheme Committee	\$ 8,000			\$ 8,000	
Subtotal	\$ 103,142	\$ 8,600	\$ 8,930	\$ 295,831	
Phase Estimates					
Subtotals by Phases	\$ 103,142	\$ 8,600	\$ 48,930	\$ 295,831	

The above table displays the estimated cost of developing the DIS certification including the Exam Development, Marketing, and Publishing components. The total presented accounts for the cost and investment for the certification prior to launch and does not account for costs relating to the continued administration of the certification.

Table 2. Expected Post Launch Operating Expenses

Expected Post Launch Operating Expenses (Semi-Variable and Fixed Costs)					
Expected annual fixed costs and semi-variable costs for the new service and/or product.					
	Year 1	Year 2	Year 3	Year 4	Year 5
Operations Role	\$40,129	\$41,333	\$42,573	\$43,850	\$45,165
Product Manager Role	\$61,240	\$63,077	\$64,969	\$66,919	\$68,926
Exam Development & Validation Meetings	\$18,000	\$ -	\$24,000	\$ -	\$24,000
Marketing Expenses	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Certification Management System	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Scheme Committee	\$ 8,000	\$8,000	\$8,000	\$8,000	\$8,000
Total Operating Exp.	\$172,369	\$157,410	\$184,542	\$163,768	\$191,091
*Do not include depreciation and amortization, or any other "non-cash" expenses here.					

Table 2 represents the operating costs of the DIS certification after the program has been launched. The associated costs include personnel for operating the program, additional marketing expenses, a management system, and scheme committee costs. Additionally, exam development and validation meetings are accounted for on a two-year cycle with year 1 being less robust than the following exam development cycles. Yearly marketing expenses are also included in the operating expenses, which may decrease if the CDC maintains the DIS certification as a federal standard.

Table 3. Expected Variable Costs of Producing the New Service/Product

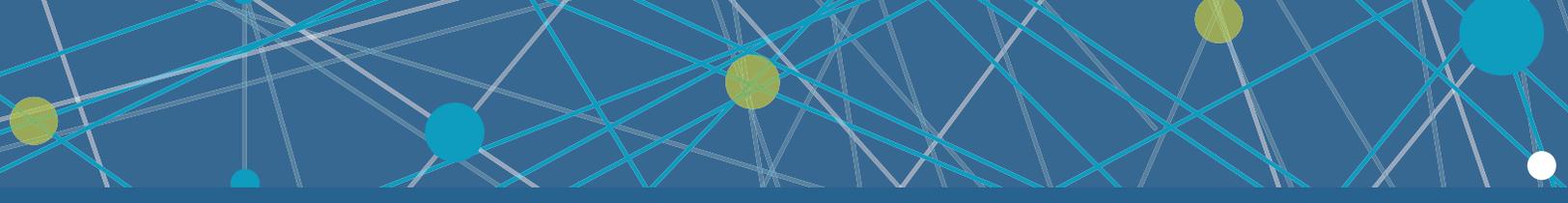
Expected variable costs of producing the new service and/or product. Each item is per transaction or volume					
Shipping/volume	Year 1	Year 2	Year 3	Year 4	Year 5
Total Cost/volume	\$26,923	\$11,611	\$10,250	\$8,039	\$11,343
Total Renewal Cost/volume	\$ -	\$ -	\$2,383	\$1,123	\$991
Total Variable Costs	\$26,923	\$11,611	\$12,633	\$9,162	\$12,334
*Only enter values for costs for transaction/volume; if unknown, only enter values for the totals.					

Table 3 reviews the yearly cost by volume of delivering the DIS certification itself. The cost assumes a per exam delivery cost of \$42 with additional costs of postage and certification packages. The yearly costs are associated with the number of certificants estimated per year, as well as the cost of a three year recertification cycle.

Table 4. Expected Case Summary

Expected Case	0	1	2	3	4	5
Annual Revenue	n/a	\$91,018.07	\$42,877.19	\$59,956.11	\$40,099.81	\$51,080.94
Total Variable Costs	n/a	\$26,923.14	\$11,611.14	\$12,633.10	\$9,161.70	\$12,334.33
Gross Profit	n/a	\$64,094.92	\$31,266.04	\$47,323.01	\$30,938.10	\$38,746.61
Gross Margin (%)	n/a	70%	73%	79%	77%	76%
Total Operating Expenses	n/a	\$172,368.75	\$157,409.81	\$184,542.11	\$163,768.37	\$191,091.42
Operating Profit	n/a	\$(108,273.83)	\$(126,143.77)	\$(137,219.09)	\$(132,830.27)	\$(152,344.81)
Operating Margin (%)	n/a	-119%	-294%	-229%	-331%	-298%
Development Cost & Capital Investments						
	\$295,830.67					
Annual Cash Flow*	\$(295,830.67)	\$(108,273.83)	\$(126,143.77)	\$(137,219.09)	\$(132,830.27)	\$(152,344.81)
Cumulative Cash Flow*	\$(295,830.67)	\$(404,104.49)	\$(530,248.26)	\$(667,467.36)	\$(800,297.62)	\$(952,642.44)

Table 4 displays the yearly cash flow required as well as the revenue produced from the DIS certification. The annual cash flow displays the cost of the DIS certification after it has been adjusted for the annual revenue, while the cumulative cash flow shows the cost of the program over the next 5 years. It is of note that the certification makes a positive gross profit but operating costs are greater than yearly profit.



APPENDIX E

Portfolio Review Certification Model Technical Report



Disease Intervention Specialist Feasibility Report: Portfolio Review Model Approach

Presented to:
Public Health Accreditation Board (PHAB)
1600 Duke Street
Suite 200
Alexandra, VA 22314

Report prepared by:
American Nurses Credentialing Center (ANCC)
8515 Georgia Ave, Suite 400
Silver Spring, MD 20910

December 2016

Overview

This report presents the results of a feasibility analysis completed by the American Nurses Credentialing Center (ANCC) for the development of a Disease Intervention Specialist (DIS) certification program. The main objective was to research and evaluate a potential alternative portfolio assessment pathway for the establishment of a national DIS certification program. This study is meant as a conceptual analysis of portfolio assessment certification applicability and feasibility for DIS professionals. The timeline and cost analysis examples presented in this study are for general evaluation purposes. Any subsequent decision to move forward with implementation of a DIS credentialing program would require a detailed business analysis and the development of a formal actionable timeline.

The DIS Certification Project was funded by the Centers for Disease Control (CDC) and managed by the Public Health Accreditation Board (PHAB). ANCC was contracted by PHAB to complete a DIS feasibility report as part of the Scope of Work (SOW) for the project due to its expertise and success in implementing both conventional and innovative alternative methods for certification. The mission of the American Nurses Credentialing Center (ANCC), a subsidiary of the American Nurses Association (ANA), is to promote excellence in nursing and health care globally through credentialing programs.

ANCC's internationally renowned credentialing programs certify and recognize individual nurses in specialty practice areas; recognize healthcare organizations for promoting safe, positive work environments; and accredit continuing nursing education organizations. ANCC was incorporated in June 1990 and is the only nurse credentialing organization to successfully achieve ISO 9001:2008 certification. Trusted for its commitment to quality, ANCC certification programs are nationally renowned as true gauges of nurses' abilities to provide excellent care. Colleagues and employers respect ANCC-certified nurses as experts in their specialties

In addition to ANCC, the Nursing Knowledge Center (NKC) division of the ANA offers educational materials to support nurses and organizations as they work toward their credentials. Developed by health care experts, NKC workshops, online webinars, consultation services, and publications support the ANA Enterprise mission to advance the nursing profession and improve

health for all. Beyond the individual nurse, NKC helps organizations meet and address challenges to the nursing workforce and health care overall.

During the initial phase of ANCC involvement to research and evaluate a potential alternative assessment for DIS certification, PHAB invited members of the ANCC Measurement and Certification departments to participate in its DIS Certification Project National Advisory Committee (CPNAC) meeting at PHAB headquarters in Alexandria, Virginia on September 22, 2015. Also in attendance were members of the CDC, the National Association of County and City Health Officials (NACCHO), the National Coalition of STD Directors (NCSD) and PSI Services LLC (PSI). In considering DIS certification, PHAB and its partners discussed test-based, portfolio assessment, and unit-based pathways.

During the September 22, 2015 meeting, a working definition of DIS was developed by the participants. For purposes of this report, the DIS professional is considered any non-licensed public health professional with applied expertise in client centered interview; collection of enhanced surveillance and community assessment data; partner services or contact tracing; field investigation in outbreaks and in emergency preparedness; community outreach; collaboration with medical providers; and navigation of health care systems to ensure patient evaluation and treatment. Relevant program areas include STD, HIV, TB and other communicable diseases, outbreak investigation, and emergency preparedness and response.

PHAB facilitated a high level discussion of the benefits of a potential national DIS certification program to the individual, program(s), health department, and, public health systems. NACCHO and NCSD representatives discussed certification project components, notably, the desire to determine DIS enumeration and implement a DIS registry. PHAB had engaged ANCC to develop a report with recommendations regarding the feasibility of using a portfolio review approach. ANCC presented an alternative certification model in presenting an overview of their patented nursing portfolio model.

The primary focus of certification through portfolio process is upon the collection and evaluation of documents that provide evidence of expertise in a specialty. Portfolio assessment is indicated as an alternative form of assessment for niche specialty areas where occupational populations are smaller and traditional testing methods are deemed less favorably due to smaller sample sizes.

Portfolio assessment is an attractive approach for occupational areas where formal academic training is not widespread, recognized, or is in a developmental phase. Portfolio assessment allows consideration for life work, professional experience and occupational recognition to be considered for certification. Consideration may also include professional conference presentations, workshops, and other formal training developed by organizations such as the NKC.

For nursing professions, certification through portfolio is an assessment methodology leading to ANCC board certification that does not require a traditional multiple-choice exam. Eligible applicants submit an online portfolio of evidence to document their specialized knowledge, skills, understanding, and application of professional nursing practice and theory. Portfolios must articulate performance in four domains of practice: Professional Development, Professional and Ethical Nursing Practice, Teamwork and Collaboration, and Quality and Safety.

In initial high level discussions, the ANCC had provided consultation regarding the applicability of the portfolio certification model to the DIS workforce. The pros and cons of the model were also considered. ANCC provided PHAB and its advisory council a general orientation and overview of the elements of a portfolio approach to certification as currently conducted by the ANCC. The ANCC Measurement and Certification Services departments reviewed elements of their existing nursing portfolio model for potential adaptation and implementation for DIS certification development.

The enumeration study was conducted collaboratively under the direction of PHAB with contributions from NACCHO, NCSD, and PSI. NACCHO played an instrumental role in engaging PSI and producing the final enumeration study. PSI has been providing worldwide testing development solutions to federal and state government agencies, professional associations and certifying bodies for over 70 years. The enumeration study provided ANCC a preliminary systematic and quantifiable examination of the numbers of individuals in the DIS public health workforce and their most common places of employment. The DIS enumeration survey identified 1,661 DIS case workers and 403 DIS supervisors.

After thorough review and interpretation of the enumeration study, it was decided that a portfolio approach would have potential for assessing DIS field workers. As noted previously, ANCC

developed the portfolio program as a means to credential smaller nursing populations, such as Forensic Nursing. Therefore, the ANCC nursing portfolio would require adaptation to support the non-nursing DIS certification program.

For the 403 DIS supervisors identified in the enumeration study, the proposed certification portfolio involves the collection and evaluation of documents including a 1200-word written exemplar that provides evidence of knowledge, experience, and expertise in a medical or designated certification specialty. However, for the 1661 DIS case workers in the non-supervisory role, there were some concerns related to the written component requirement as posing some unique challenges for some candidates. Therefore, for some case workers, remedial preparation may be needed as appropriate prerequisite for valid assessment. For example, consideration may be needed for implementing portfolio preparation workshops in which DIS case workers would attend before beginning working on their portfolios.

In further reviewing elements of the enumeration results, ANCC met with PSI researchers, psychometricians and DIS professionals to discuss the results and to develop a deeper understanding of the core competencies of the DIS workforce, the current training available, the training needs for a certified workforce, and to consider DIS content coverage.

DIS Portfolio Development

In evaluating the work involved for DIS certification development, a description of the ANCC portfolio process that included a general working timeline and cost estimates was sketched out for DIS. Since ANCC portfolio methodology has been patented and focused on nursing, some modifications will be required if work on a DIS portfolio is to proceed. The description will include an overview of procedures for DIS content expert recruitment, standard setting, and, appraiser training.

Portfolio development typically occurs over a 9 month period and involves the following activities also presented in figure 1: Recruitment of Content Expert Panel (CEP) and Portfolio Appraisers Panel (PAP), Scoring Criteria Development, Standard-Setting, Training of Portfolio Appraisers, and Program Launch.

Figure 1. Overview of Timeline for Portfolio Development Activities

Activities	Month								
	1	2	3	4	5	6	7	8	9
Recruitment of Content Experts and Portfolio Appraisers	■	■							
Scoring Criteria Development			■	■					
Standard-Setting Study					■	■			
Training of Portfolio Appraisers							■	■	
Program Launch									■

The primary responsibilities in DIS portfolio development are to identify eligibility criteria, adapt universal portfolio criteria to DIS, and to recruit a team of content experts who will oversee development of universal portfolio criteria and linkages to the content outline for the DIS assessment portfolio. In addition, an external validation panel (EVP) of DIS content experts must be designated to cross-validate the work of the CEP. The EVP provides additional independent validation of the portfolio criteria specifications and content outline.

The typical size of the CEP is 10 members and for the EVP 15. An additional 10 content experts will be needed for the PAP. They will be responsible for scoring the candidates’ portfolios. It should be noted that content experts are not allowed to serve on the CEP or EVP, while simultaneously serving as a portfolio appraiser.

In the case of nursing, The Universal Portfolio Model Criteria (UPMC) encompasses four universal nursing criteria established for ANCC portfolio development. The four criteria are 1) professional development, 2) professional and ethical nursing practice, 3) teamwork and collaboration, and, 4) quality and safety. These criteria will be adapted during the first 3-day meeting to function as universal DIS portfolio competencies. The CEP will complete a cross walk survey comparing the content outline and scope of standards for DIS to the adapted set of universal portfolio domains applicable to the new DIS portfolio model or portfolio content outline (PCO) being implemented. The portfolio content outline provides the road map of the DIS content domains, and specialty specific competencies (knowledge and skills) that examinees reference in assembling their portfolios.

In addition to establishing the PCO for DIS, eligibility criteria will need to be determined as applicants will need to meet eligibility criteria for the proposed DIS specialty and submit required documentation. The DIS portfolio specifications areas that will need to be developed include: 1) major content domains to be assessed; 2) competencies associated with the major universal content criteria; 3) competencies (knowledge, skills) specific to the specialty; 4) scoring elements specific to the specialty; 5) score “3” descriptors specific to DIS, which will be described later in this report.

Logical Job Analysis Study

An initial Logical Job Analysis (LJA) meeting is necessary to review the DIS competencies defined in the PSI study, and to link those competencies to the universal DIS portfolio competencies adapted from the UPMC. The finalized DIS content weights as reported in the PSI analyses for both task and knowledge domains are presented in Appendix A. ANCC allocates time at the beginning of the meeting to educate the panel on portfolio-based assessments, the development process, the scope of work, and measurable scoring elements in the PCO. During the meeting, CEP members adapt the UPMC to the DIS professional framework for the DIS PCO.

For any licensure or certification program, an important element is to define the list of eligibility criteria regarding educational background, professional experience, and practice hours. General

DIS eligibility criteria were identified in the PSI study. The list of eligibility criteria describing the general DIS target population of the assessment program is reviewed during the initial LJA meeting. The panel will then review the DIS competencies.

At the onset of the review process, CEP members will be presented the PSI job analysis. After reviewing the results, a crosswalk is performed comparing the DIS competencies to the adapted DIS universal criteria. An initial draft of the portfolio content outline (PCO) will be produced and scoring elements identified.

An important activity that happens after the first LJA Meeting is the sample portfolio review. Each CEP member creates his or her own sample portfolio and reviews three sample portfolios from other CEP members (see figure 2). The purpose of this activity is for CEP members to evaluate whether and how measurable the scoring elements in the draft PCO are by creating and reviewing authentic portfolios.

Figure 2. Sample Portfolio Development

CEP Sample Portfolios					
CEP receives sample portfolio Template	CEP develop sample portfolios	CEP return sample portfolios	CEP receives 3 peer sample portfolios	CEP reviews 3 peer sample portfolios	CEP return portfolio reviews
<i>One week after Meeting 1</i>	<i>One week after Meeting 1 (Two week window)</i>	<i>Two weeks after Meeting 1</i>	<i>Within one week after receipt of sample portfolios</i>	<i>One week after receipt of sample portfolios (Two week window)</i>	<i>Two weeks after receipt of portfolios</i>

Portfolio Scoring Element Survey

The portfolio survey is based on the scoring elements identified in the draft PCO during the first CEP meeting. The EVP rates the importance of each scoring element, recommends whether to keep, modify, or delete a scoring element, and provides suggested changes. The survey results will be reviewed during the second scheduled LJA meeting (see figure 3).

Figure 3. Portfolio Survey and External Validation of DIS PCO

External Validation Panel Survey					Meeting Facilitation	
Draft & Finalize Portfolio Survey	Activate Portfolio Survey	EVP email invitation	EVP Reminder	EVP Deactivate Survey	Analyze Data	Meeting 2
<i>One week after Meeting 1</i>	<i>One week after Meeting 1 (At least two week window)</i>	<i>One week after Meeting 1</i>	<i>One week after invitation sent</i>	<i>One week after reminder sent</i>	<i>Two weeks prior to Meeting 2</i>	<i>Three Days</i>

LJA Score Development Meeting

The CEP meets for a second 3-day meeting to revise the draft PCO and develop score “3” descriptors, which are indicative of the expected borderline candidate characteristics at minimal performance for each scoring element. After reviewing the results of the Portfolio Survey, and, the results of the sample portfolio evaluations, the panel will then revise the PCO as deemed necessary. As was the case with the creation of the draft PCO in LJA Meeting I, revisions to the PCO are made after consensus is reached. The information that is presented to the CEP will include four parts: 1) importance levels for each scoring element (importance levels ranged from “Not Important” to “Very Important”); 2) recommended action, which included “Keep”, “Revise”, and “Delete”; 3) suggested changes for each scoring element; 4) EVP’s comments and suggestions for additional criteria for each domain area.

After completing the PCO review, the panel will develop a draft of score “3” descriptors, which are statements that guide portfolio appraisers on how to assess evidence for each scoring element in the portfolio and will serve as the corresponding rubrics for assigning a score of “3”. The

score “3” indicator is critical because it is a threshold value expected to differentiate between a portfolio that includes evidence that sufficiently meets the minimum criteria for “achieves expectations” for a scoring element and a portfolio that only has “partial evidence of meeting expectations”.

Before the panel begins discussion, the different expectations for each score are as follows:

- 4 – Exceeds Expectations – Exemplar or CV responds to scoring element requirement and includes details that demonstrate superior performance AND evidence provided demonstrates innovation, exemplary performance, or practice beyond what is expected to meet requirement for scoring element criteria.
- 3 (Score “3” descriptor) -- Achieves Expectations – Exemplar or CV response meets scoring element requirement AND evidence provided demonstrates scoring element criteria is present.
- 2 – Partial Evidence of Meeting Expectations – Exemplar or CV fails to answer question or fails to respond to scoring element requirement AND/OR some or all of the evidence provided is lacking, inaccurate, or does not relate to scoring element criteria.
- 1 – Absent Evidence of Meeting Expectations – Failed to respond to scoring element requirement AND/OR no evidence provided in Exemplar or CV submitted to address scoring element criteria.

After the panel understands the different expectations for each score, the emphasis focuses on ensuring panel members can distinguish the score “3” since it is the threshold value expected to differentiate a qualified DIS case worker who should be certified from an underqualified one who should not be certified. The panel must reach consensus on the first draft of the score “3” descriptors.

The draft PCO is then reviewed again with a focus on the PCO compatibility with the draft criteria of the score “3” descriptors. CEP members consider several factors such as difficulty level of the scoring element, relevancy of the scoring elements with the domain, wording, and clarification of the scoring elements. CEP members are also given the opportunity to review the PCO holistically to determine if there are any redundancies among the scoring elements.

The panel will score a sample portfolio submitted before LJA meeting II and discusses their scoring based on the updated PCO and draft score “3” descriptors. Based on the CEP’s feedback, another round of discussion occurs in which the panel revises and updates the draft score “3” descriptors through consensus. After the meeting, three CEP members will each create a hypothetical portfolio according to the sample timeline shown in figure 4, which will be used in the subsequent portfolio appraiser training workshop.

Figure 4. Hypothetical Portfolio Development and DIS Scoring

CEP Hypothetical Portfolio Development					
CEP develops Three Hypothetical Portfolios	CEP scores Hypothetical Portfolio	Consensus call 1	Consensus call 2	Consensus call 3	Consensus call 4
<i>One week after Meeting 2 (Two week window)</i>	<i>One week after portfolios are complete (Two week window)</i>	<i>One week after scoring finalized approximately 2 hours</i>	<i>approximately 2 hours</i>	<i>approximately 2 hours</i>	<i>approximately 2 hours</i>

Hypothetical Appraiser Training Portfolios

The hypothetical portfolio assignment guidelines include target scores for each item on the PCO. The distribution of target scores ranged from 1 to 4 in order to provide future portfolio appraisers with sufficient experience with the range of scores possible for each scored element in the portfolio assessment.

After the creation of the hypothetical portfolios, the other CEP members will score each of the hypothetical portfolios. A series of consensus calls will be scheduled in which the panel

members will reach consensus on the final score of each scoring element in the three hypothetical portfolios. During this process, final revisions will be made to the PCO and the final score “3” descriptors finalized. Additionally, a final consensus rationale for each scoring element will be obtained for each hypothetical portfolio. The set of consensus scores and rationales developed by the CEP for each hypothetical portfolio will serve as the “key” for each hypothetical portfolio.

Standard Setting

The purpose of scores produced by this portfolio program is to allow and facilitate inferences about the applicants in relation to a standard of competence. Licensure and certification assessments are criterion-based and, as such, any or all portfolio applicants who demonstrate minimum competency may receive a passing score. The portfolio certification program is a competency-based portfolio assessment and the standard setting methodology is based upon this premise.

A multitude of standard setting methods have been implemented for licensure and certification assessments. Extensive reviews of the methods’ advantages and inadequacies are described in psychometric literature (Cizek, 2001). Because various standard setting methods involve different types of judgments, it is not surprising that different methods have been shown to produce different cut-scores (Jaeger, 1982). In addition, different samples of judges enacting exactly the same standard setting methodology may produce different values for a cut-score. Therefore, it is appropriate for decision-makers to adjust the result of a standard setting study if the standard, or cut-score, would produce an overabundance of either passing scores or failing scores (Zieky, 1995).

All methods of setting passing scores involve judgments, either a single judgment or a series of judgments, about one or more performance levels that signify a specified amount or depth of knowledge, skills, and abilities. The final judgment is often the compilation or calculated average of a panel of judges. The methods used to set standards, or cut-scores, for criterion-referenced assessments involve judgments of one of two types: 1. holistic impression of the items/scoring elements or the population of examinees/applicants; 2. judgmental assessments at the individual item/scoring element level.

Modified Angoff Method

The Modified Angoff Method, the most widely used method of standard setting for licensure and certification assessments, requires judgments in the content of individual items/scoring elements. The Angoff Method of Standard Setting for ANCC portfolio programs is based on judgments about the difficulty of each individual scoring element, estimating the proportion of minimally competent applicants who will achieve each potential score. According to Angoff (1971), a group of knowledgeable and experienced judges are to reach a consensus about the knowledge, skills, abilities and performance expectations of the minimally competent practitioner for each item (scoring element). The Angoff method is well-recognized in psychometric literature as the basic method of setting achievement levels and cut-scores for standardized assessments in the United States.

For the purposes of ANCC portfolio development, Angoff ratings are defined as the standard setting panels' judgments about the percentages of minimally competent practitioners who would achieve each potential score on each individual scoring element (e.g., percentage of minimally competent practitioners achieving a score of 4, ... score of 3, ... score of 2, score of 1). The initial judgments are followed by the panelists making systematic choices about whether or not to modify each scoring element's Angoff ratings. After the systematic stages of reconsiderations, the Angoff ratings are converted into mean scores for each scoring element. The mean scores are then calculated using the scoring algorithm for the portfolio program into an overall mean total score to obtain the portfolio program's minimum passing score recommendation from the panel.

Activities completed prior to the standard setting study include reviewing of applications and vitas, selecting/securing judges (raters), preparing meeting materials, and preparing spreadsheet/calculations to combine and sum the Angoff scores.

Panel of Judges

Since portfolios are uniquely different in structure than that of the multiple-choice exams, appraisers (judges) are necessary in the evaluation process. According to Norcini and Shea (1997), “Care must be taken to ensure that (judges) have the proper qualifications and that a sufficient number are involved.” While the literature is varied concerning the number of judges needed for standard setting, there is agreement that the number should be large enough to include representation from various sub-groups in the profession. In reality, the number may be limited by funding, availability or practical considerations.

Panel selections are made and agreed upon by ANCC and the specialty’s CEP chair taking into consideration such factors as specialty area, practice setting, and geographic location. Raters are selected to participate with the content expert panel’s chair. All study participants sign a confidentiality agreement prior to participation. A Rater Demographic Profile is completed by each of the judges in order to establish relevant biographical characteristics.

Desired Attributes and Profile of Judges

Norcini and Shea (1997) indicate that identification and use of qualified judges is the most important element in developing a credible standard. They identify several desirable characteristics. Judges should be practitioners in good standing in their field. Some should be involved in the educational process while others are familiar with the day-to-day activities of the job. The panel of judges should represent a broad spectrum of professional experience. The diversity within the group of judges should represent the diversity within the profession. Examples of this diversity could be number of years of practice, type of practice, or geographical differences.

Judges Discussion of Minimal Competency

A training exercise is conducted to help the judges grasp the concept of a minimally competent practitioner. The current eligibility requirements to submit a portfolio are also reviewed to focus the discussion on the intended candidate population. The participants are asked to visualize a

practitioner at a level where his/her skills would be considered minimally acceptable as an entry-level practitioner. The study participants work and reach consensus on the characteristics listed below.

The standard setting study begins with an introduction to familiarize judges with the process that would be used for the study. After the discussion about minimal competency, scoring elements representative of the scope of ratings, are provided to the judges to practice. All judges are asked to rate the scoring elements based on the percentage of minimally competent practitioners who will get each score point (i.e., percent who would score a 1; percent who would score a 2; etc.). Judges rate the practice scoring elements independently, ratings are calculated and the facilitators lead the group discussion to address areas of identified misunderstanding in an effort to increase rating reliability during actual ratings.

Judges Initial Score Element Ratings

Judges (raters) individually rate all scoring elements. After each judge completes their ratings, the values for each scoring element are entered into a spreadsheet. The spreadsheet converts each rater's Angoff values for each element into a mean score rating.

Judges Review Initial Ratings and Discuss Discrepancies

Judges are provided with a table of statistics showing the Angoff values of each rater and the difference between the minimum percentage and maximum percentage for the combination of score points 3 and 4 and the combination of score points 1 and 2. The judges discuss any discrepancies that are 20 percent or greater.

Judges Refined Initial Angoff ratings

The judges independently adjust their ratings as appropriate on all scoring elements with a difference of 20 percent or greater. This procedure decreases the standard deviation of Angoff ratings and thus enhances the reliability of the study. The rater's revised Angoff values are entered into the spreadsheet and the revised mean score ratings are computed for each rater.

Determining Recommended Cut Score

The final mean score ratings for each scoring element across judges are compiled and a recommended cut score is determined by placing the final mean score ratings into the scoring algorithm for the portfolio program and calculating the overall score

Psychometric Analysis of Study Results and Final Cut Score

Statistics are generated to evaluate the reliability of ratings. These statistics include Standard Error of Measurement (SEM) of the cut score, Standard Deviation (SD) of panel cut scores, and Standard Error of Judgment (SEJ). These data are used in decision making to establish the final cut score.

Validity

The validity of a standard, or passing score, is the degree to which the standard reflects the point of minimal competency for entry level as a certified professional. A standard with a high degree of validity or credibility is appropriately set at a point where examinees that are considered to meet minimal competency are not a danger to the health and safety of the public and receive certification. It also sets a point where examinees that score below minimal competency will not be certified. The degree of validity is established through the professional judgment of certified professionals in the specialty and receives psychometric oversight.

While we use the term validity in this report, it is pertinent to mention that Norcini and Shea (1997) suggest the term credibility may be more accurate. "It is more appropriate to write of collecting evidence to support the credibility of a standard rather than to validate it (attempt to establish its correctness) because the latter is not possible." Therefore, for the portfolio development incorporates steps that assure the standard for passing is credible for the purpose of certification. For instance, the panel of judges discusses the concept of minimal competency based on the portfolio specifications and then works to reach a consensus on the description of a minimally competent practitioner. The outcome of that discussion is used as the basis for all ratings.

Reliability

Reliability, in this instance, refers to the degree with which the ratings of judges are consistent within each scoring element. A high level of agreement across judges suggests that all judges are using the agreed upon definition of minimal competency as the basis for their ratings. Briefly, the following steps are taken in order to maximize reliability:

- Judges are trained on how to rate the elements for the study
- A practice session with a sub-set of elements is conducted
- When the variability in ratings indicate disagreement greater than 20 percent across judges in the first round, the ratings are further considered and refined during the second round.

This combination of steps is designed to maximize the reliability of the ratings used to set the standard in this study.

Portfolio Appraiser Training

The appraiser training process is conducted in three stages (see figure 5) after the hypothetical portfolio profiles have been entered for online access and scoring. In the first stage, a one-hour pre-training meeting is held via conference call one week before the portfolio appraiser training workshop. During the conference call, the appraisers are provided information on what to expect during the subsequent face-to-face three-day appraiser training workshop. The second stage consists of the appraiser training workshop. Key areas include: a) reviewing assigned applications according to established processes; b) participating in mandatory education; c) maintaining confidentiality; d) complying with review and scoring timelines; e) allocating sufficient time for review; and f) the dos and don'ts of portfolio review.

The learning objectives of the appraiser training workshop are as follows:

- Gain an understanding of the rating process

- Learn how to improve the fairness/standardization of ratings so that all portfolios are scored based on the same criteria
- Learn how to minimize bias and errors due to rater error
- Learn how to improve appraiser reliability
- Develop consistent documentation of the rating rationale
- Learn how to provide credibility and defensibility of ratings

The final stage of appraiser training is conducted following the receipt of authentic portfolio submissions from certification candidates. Appraisers are provided with information on their individual performance and the performance of all appraisers. The information provided to the portfolio appraisers includes reliability estimates of inter-rater agreement. If a portfolio appraiser’s performance falls below the acceptable range, the appraiser is required to complete the re-standardization process, which is designed as a post-training refresher that leads to appraiser ratings within the acceptable range as determined by inter-rater reliability estimates.

To ensure that appraisers understand the structure of the portfolio, each step of the application process is explained. In addition, in the context of explaining each step, a discussion of the evidence(s) needed for each requirement is conducted. The types of evidence that are discussed are peer and supervisor evaluations; self-evaluation; practice hours; license information; statement of understanding; transcripts; continuing education; academic credit, presentations; publications and research; preceptorship; professional service; resume; and exemplar.

Figure 5. Appraiser Training

Appraiser Training			
Hypothetical Portfolio Profiles are Entered for Online Access and Scoring	Stage 1. Develop & finalize Appraiser Training tool	Stage 2. Appraiser Training	Stage 3. Analyze Appraiser data
<i>At Least one week after consensus calls</i>	<i>One week prior to Appraiser Training</i>	<i>Two Day Meeting</i>	<i>During Appraiser Training</i>

Portfolio Content Outline and Rating Scale

After presenting the learning objectives for the Portfolio Appraiser Training, the next step is to review the domains of the DIS PCO. Before presenting and explaining the 4-point rating scale to the PAP, an example of a scoring element from one domain is presented to familiarize the portfolio appraiser trainees with scoring elements and their relation to the PCO. The PCO is comprised of a set of scoring elements. The criteria for each score on the 4-point rating scale are then discussed.

Discussion of Score “3” Descriptors and Criteria

After being trained on the different expectations for each score, appraisers are introduced to the score “3” concept as being particularly critical since it is a threshold value expected to differentiate between a portfolio that includes evidence that sufficiently meets the minimum criteria for “achieves expectations” for a scoring element and a portfolio that only has “partial evidence of meeting expectations”. The complete set of score 3 descriptor criteria are provided to the portfolio appraiser trainees for brief review.

Common Errors in Rating Portfolios

Common errors in the score rating process are presented. A definition and example of each of the following common errors in rating are provided: a) halo effect, b) stereotyping, c) leniency, d) strictness, e) central tendency, f) recentness, g) contrast, h) “just my way”. Several examples of the errors are reviewed. Panel members are advised that it is critical for them to be aware of these common errors in rating. In addition, panel members are instructed to avoid these common errors in rating.

Appraiser Training for Scoring Hypothetical Portfolios

Prior to the scoring of the hypothetical portfolios, the portfolio appraiser trainees are presented with printed copies of several sample portfolios to familiarize them with the structure and format of portfolios. The trainees examine the physical copies of the sample portfolios, as the ANCC staff explains the components of a portfolio, which include a professional development record, resume, and exemplar. In addition, the panel members are oriented to scoring by scoring several components from each of the sample portfolio. After the appraiser trainees gain familiarity with the structure and format of the portfolios, as well as an opportunity to score some section of the sample portfolios, the hypothetical portfolio scoring process begins.

The scoring of hypothetical portfolios occurs in two phases. In the first phase, appraiser trainees will independently evaluate and score a portfolio. Scoring elements are discussed individually in order of their appearance on the PCO. Each scoring element is discussed individually. Portfolio appraiser trainees carefully examine the rationales of the CEP, which allow them to appropriately align their thinking and subsequent scoring with the scoring and rationales of the CEP. In the second phase, portfolio appraiser trainees are presented with their scores for the portfolio juxtaposed with the prior CEP’s scores and rationales for the same portfolio.

A second round of appraiser training occurs implementing the online scoring system. The appraiser trainees access the second hypothetical portfolio by training on the same online portfolio system they will use for assessing portfolios virtually. Each panel member uses the portfolio rating scale, along with the score “3” descriptors criteria to independently evaluate and rate each scoring element of that portfolio. The scores are compiled for each trainee in a single

document and the minimum, maximum, range, and mean for each scoring element scored by the trainees are computed for the hypothetical portfolio for use in the second phase of the hypothetical portfolio scoring exercise.

Reliability estimates, Cronbach Alphas, are computed to determine the inter-rater agreement among portfolio appraisers for each hypothetical portfolio. The inter-rater agreement for the first hypothetical portfolio is computed and feedback provided. As the training progresses, inter-rater reliability among portfolio appraisers typically improves. For the second and third hypothetical portfolios, inter-rater reliabilities are monitored and discussion and guidance provided.

Cost Analyses and Pros and Cons

Based on the portfolio development methodology outlined in this report, a sample cost analysis is presented in Appendix B. The analyses include costs estimates for travel and accommodations, facilitation, consulting, facilities, and post-meeting analyses and reporting.

In comparison to traditional multiple-choice assessments, portfolio assessment programs are more costly and involve greater complexities for developing valid and reliable products. Major obstacles to successful implementation of a DIS portfolio program would be the cost to develop the product and train appraisers, and, fees required of potential candidates to support the development and ongoing maintenance of the program. Therefore, the costs associated with portfolio assessment certification programs are generally prohibitive without securing external funding commitments.

The smaller sample sizes typically encountered in alternate portfolio assessment programs pose unique challenges in meeting accreditation standards. For instance, common statistical measures reviewed in exam accreditation programs such as the Cronbach Alpha indicator of exam reliability are not applicable in portfolio assessment. Portfolio reliability and validity measures are dependent on consistency in scoring processes, score definitions, and rater uniformity.

Alternatively, the alternative portfolio assessment program allows life work and professional accomplishments to be evaluated for certification. For programs that involve diverse smaller

populations such as what was presented for DIS case workers, a portfolio solution has value for assessing qualifications due to its ability to accommodate individual evaluations of varied background accomplishments, seminars, workshops, and professional experiences.

Conclusion

ANCC is fully equipped to develop a DIS portfolio program alongside its seven nursing portfolio programs currently being maintained. However, these programs do not support themselves and ANCC could not venture into new DIS portfolio development without procuring external funding. Also, it is presumed that DIS portfolio development is too costly an investment to expect assessment fees to cover the expenses necessary for implementation in accordance to the ANCC patented portfolio model. Therefore, the successful implementation of a DIS portfolio program depends on the acquisition of grant support to fully ensure valid operation and ongoing maintenance.

Although outside the scope of this analyses, further consideration must be given for costs associated with continued maintenance, certification record keeping, accreditation, recertification, and, reevaluation of the DIS content outline and job roles to name a few. In addition, the development of any new certification program by ANCC would require a full detailed business analysis contingent on ANCC organizational approval. The business analysis would include a detailed timeline with specific project milestones and goals. Additional work for follow-up in an ANCC business analysis would also include the outlining of an ongoing maintenance plan for DIS credentialing, such as, content outline maintenance and the management of a DIS certification registry.

REFERENCES

Angoff, W. H. (1971). Scales, norms, and equivalent scores. In R. L. Thorndike (Ed.), *Educational measurement* (2nd ed.) (pp. 508-600). Washington, D.C.: American Council on Education.

Cizek, G.J. (2001) *Setting Performance Standards, Concepts Methods, and Perspectives*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Cizek, G.J. (2005) *A Review and Recommendations Related to Standard-setting Procedures Applied to Certain Examinations of the American Nurses Credentialing Center*, Chapel Hill, NC: Knapp and Associates International, Inc.

Jaeger, R.M. (1982). An Iterative Structured Judgment Process for Establishing Standards on Competency Tests: Theory and Application. *Education Evaluation and Policy Analysis*. 4, 461-475.

Norcini, John J. and Shea, Judy A. (1997). The Credibility and Comparability of Standards. *Applied measurement in Education*, 10, 39-60.

Zieky, M. J. (1995). *Proceedings of the Joint conference on Standard Setting for Large -Scale Assessments*. The National Assessment Governing Board & the National Center for Education Statistics. Washington, D. C., October 1994. Washington, D. C.: U. S. Government Printing Office.

Appendix A

DIS Task and Knowledge Domains authored by PSI Services LLC
(provided to ANCC by PHAB)

Domain	Task, 2016 Number of Items	2016 Percentage Weights	Knowledge, 2016 Number of Items	2016 Percentage Weights
1. Planning and Preparation for Case and Field Work	6	9%	4	6%
2. Investigation Activities	6	15%	11	14%
3. Client Encounters and Interviewing	16	30%	26	40%
4. Surveillance Activities	4	8%	8	6%
5. Health System Collaboration and Quality Improvement	4	4%	15	7%
6. Clinical Support Services	3	5%	5	7%
7. Testing and Field Services	6	10%	12	10%
8. Case Analysis	6	15%	6	6%
9. Outbreak Response and Emergency	4	4%	4	4%
Total	55	100%	91	100%

©2016. Public Health Accreditation Board. All rights reserved.

This document contains information that is proprietary to Public Health Accreditation Board and requires permission for use, in portion or in full, for any reason. This document may not be disclosed to any third party without the express written permission of Public Health Accreditation Board.

Appendix B

Cost Estimates for Portfolio Development

Disease Intervention Portfolio				
Meeting Type	Hypothetical Meeting Dates	Number of Days	Number of Attendees (Estimated)	Costs (Travel, Accommodations, fees)
Portfolio Job Analysis Meeting 1	TBD	3	10	\$13,000*
Portfolio Job Analysis Meeting 2	TBD	3	10	\$13,000*
Standard Setting (Portfolio Score “3” Descriptors)	TBD	3	10	\$13,000*
Portfolio Appraiser Training	TBD	3	10	\$13,000*
Facilitator days (1500/day)		12		\$18,000*
Recruitment (Volunteers, CEP, EVP, PA, EVP)				\$15,000
Portfolio Configuration				\$15,000
Estimated Costs				\$ 100,000
Appraiser Stipend per Portfolio Scored				TBD in Full Business Analysis and Dependent on Number of Candidates
Annual DIS Registry Maintenance (Portfolio Applications, Submissions, Assessment Results, and Credentialing History)				TBD in Full Business Analysis
Unit Estimated Expenses Per Person Per Meeting*				
Airfare				\$450
Transportation/Mileage				\$125
Meals for 3 days				\$225
Hotel for 2 nights				\$500
Total				\$1300

The mission of the American Nurses Credentialing Center (ANCC), a subsidiary of the American Nurses Association (ANA), is to promote excellence in nursing and health care globally through credentialing programs. ANCC's internationally renowned credentialing programs certify and recognize individual nurses in various practice areas. It recognizes healthcare organizations that promote nursing excellence and quality patient outcomes, while providing safe, positive work environments. In addition, ANCC accredits health care organizations that provide and approve continuing nursing education. It also offers educational materials to support nurses and organizations as they work toward their credentials.

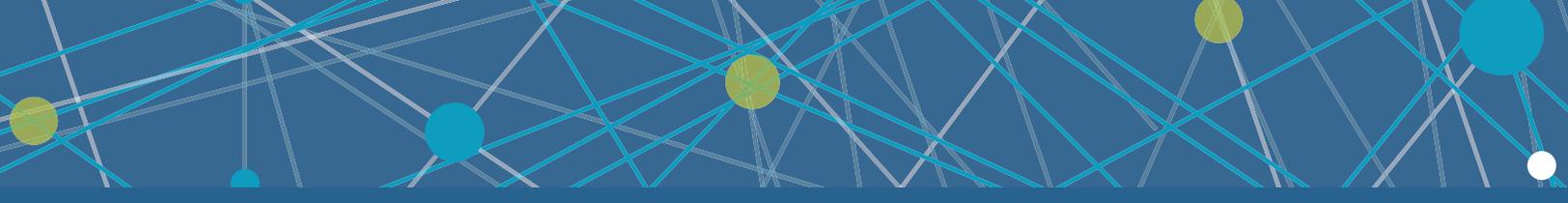


8515 Georgia Avenue
Suite 400
Silver Spring, MD 20190-4392

1.800.284.2378
301.628.5000 tel
301.628.5004 fax

www.nursecredentialing.org/

**Disease Intervention Specialist
Feasibility Report**



APPENDIX F

Glossary

DIS Certification Project – Glossary

Certification: A voluntary process by which a non-governmental agency grants a time-limited recognition to an individual after verifying that he or she has met predetermined and standardized criteria. Certification is different from licensure, which is more typically awarded at the state level by a governmental or quasi-governmental regulatory body for the purposes of granting legal entry into practice (i.e. physicians, nurses, social workers, dentists, etc.).

Contact Investigation: Interviewing of persons known to have a particular infection to identify other individuals who may have had exposure to the infection as a result of contact with the original patient. The purpose of contact tracing is to ensure that exposed individuals are tested and treated for infections, and disrupt further transmission in the community.

Disease Intervention Specialists (DIS): Non-licensed public health professionals with applied expertise in client centered interviews, surveillance, community assessment, contact tracing, field investigation, specimen collection, community and medical provider outreach, navigation of health care systems, and mobilization for outbreak investigation and emergency response, primarily in the areas of STD, HIV, TB, other communicable diseases, and outbreak response.

Enumeration: A process of counting the number of DIS in the U.S. public health workforce. For this project, it was necessary for understanding the size of the workforce for which this certification program is being developed, and for ensuring that the certification program meets the needs of DIS, health departments, and other partners and stakeholders.

Field Investigation/Field Work: The strategy employed by DIS that involves searching records (e.g., medical records, Department of Motor Vehicle Records, surveillance records), interviewing individuals, and going into the community to find infected patients and/or their exposed partners to notify them of exposure and assure complete treatment.

Public Health Department Accreditation: A voluntary national accreditation program whose goal is to improve and protect the health of the public by advancing the quality and performance of Tribal, state, local, and territorial public health departments. This is accomplished through (1) measurement of health department performance against a set of nationally recognized, practice-focused and evidenced-based standards; (2) issuance of recognition of achievement of accreditation within a specified time frame by a nationally recognized entity; and (3) continual development, revision, and distribution of public health standards.

Job Task Analysis: A process of defining the tasks, knowledge, skills and abilities needed to perform a particular job. For this project, the JTA was conducted via survey of DIS across the United States, and the results can be used to generate eligibility criteria, training needs, and sample job descriptions for DIS across health departments.

The process by which a DIS interviews an original patient with STD, HIV, TB or other communicable disease, elicits information about contacts that may have resulted in transmission, conducts investigation to find contacts identified and notifies them, and assures appropriate testing and treatment of those contacts.

