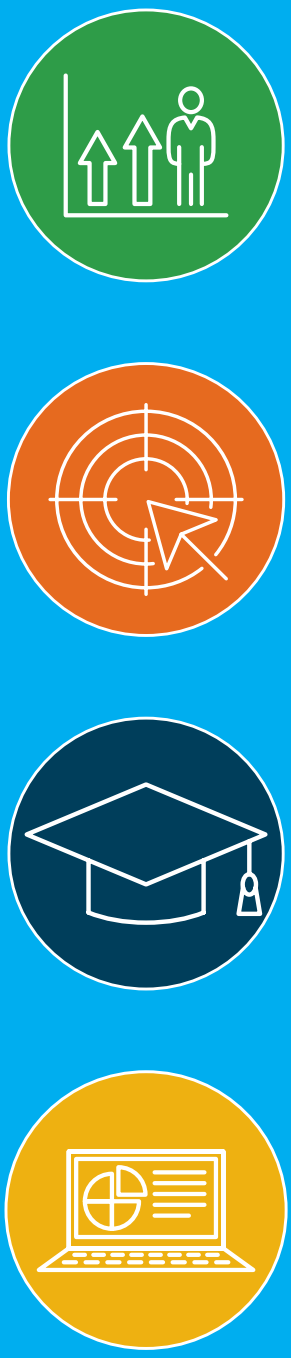
Building Credential Currency

Resources to Drive Attainment across K-12, Higher Education, and Workforce Development



ESG Education Strategy Group
ACHIEVING GREATER IMPACT

JUNE 2019

1. Identify High-Value Non-Degree Credentials

Process to Create a Preliminary List of Priority Non-Degree Credentials

This tool is the first in Education Strategy Group's Building Credential Currency *toolkit and presents a step-by-step, evidence-based guide to identifying high-value credentials within priority occupation areas. Though many states already offer and track attainment of non-degree credentials, current processes are often either too broad, including non-degree credentials regardless of their currency in the labor market, or too siloed, with each state agency owning a different list of priority credentials and/or incentivizing and monitoring processes. This tool provides a technical model for states to refine and strengthen their process to assemble a unified, statewide list of priority non-degree credentials—those that are necessary to either gain employment or advance in an in-demand, high-skill, high-wage occupation.*

Because the purpose of this tool is to develop a statewide list of priority credentials, it is critical that toolkit users ***first assemble a cross-sector team to lead this work.*** This team should include both policy and data experts from, at minimum, the state's K-12 education agency, higher education office, workforce development agency, or economic development agency.

I. Identify *in-demand* occupations in your state.

Before classifying the value of non-degree credentials themselves, it is necessary to first identify your state's high-wage, high-skill, in-demand occupations in which these credentials exist and hold value. The first step of the process is to identify occupations that are in-demand. Those that are also high-skill, high-wage will be derived from your in-demand list.

NOTE: While the process outlined here works for any type of credential and at any geographic level, we focus specifically on identifying **non-degree** credentials aligned to in-demand, high-skill, high-wage occupations within a **state.** Additional description is provided throughout the tool regarding how states can modify this process to undertake analyses at regional levels.

1. Find occupation projections for your state.

Your state's WIOA plan—which should include analyses of projected job growth at the occupational level—is an excellent starting point for finding occupation projections, but it requires asking some critical questions.

As you review your WIOA plan and its analyses, answer the following questions:

- How old are the analyses included in the WIOA plan? If the analyses are more than three years old, you'll likely want to update them for a more current understanding of economic trends.
- How far into the future do projections stretch?

- Do you need updated projections? If yes, where and with whom does this work live?
- Do you have all of the information needed to provide occupational-level data on both the *number of jobs* and *percent job growth* over a given time period? Can data be further disaggregated to differentiate between new job creation (real job growth) and current position vacancies? If no, do you have the ability to get that information?

If your WIOA plan's analyses are outdated or incomplete—or if you want to cross-reference and validate information from your WIOA plan—you may use a publicly accessible resource to undertake additional analyses, like Projections Central, which is provided by the Department of Labor, Employment, & Training Administration and provides state-level occupation projections. Some resources in your own state, like your State Department of Labor or Economic Development, may also provide occupation data and reports helpful to determining in-demand occupations.

Note that traditional employment projections like these may themselves be incomplete sources of information. For example, traditional federal projections do not capture agricultural occupations; and, in fact, many agriculture-aligned occupations may be organized under other industries (for instance, food production is often found under manufacturing). If your state has a significant agricultural industry, you may need to identify additional sources of data to complement your traditional projections. New and emerging occupations may also be difficult to capture through traditional projections—especially those that are long-term. Projections Central, for instance, provides both long-term (10-year) and shorter-term (5-year) projections. For states experiencing rapid industry change, it may be more appropriate to conduct more frequent analyses using shorter-term projections. Alternatively, you may complement traditional employment projections (long- or short-term) with real-time labor market analyses to capture these new and emerging fields through job postings data. (See more on real-time labor market tools below, in Section V.)

REGIONALIZE YOUR WORK, PART 1

While the process laid out in this tool provides a roadmap for users to develop a statewide priority occupations and credentials list, your state's economic landscape may also benefit from a regional analysis. If your state is relatively homogenous from region to region, the process detailed here will likely meet your needs. If your state's workforce needs vary dramatically from region to region—for example, if there is a large port industry on the coast, or if your state has both very rural and very urban areas—you may consider applying a regional lens to this analysis.

While the labor market resources provided in this process—such as Projections Central, O*Net, and others—all provide useful state-level data, many do not provide similar data at regional or local levels. Even where sub-state data are available, regional groupings may not map to your state's definition of regional boundaries. Teams seeking to conduct a regional analysis of priority occupations should look for data resources within your state—likely housed in your state workforce or economic development agencies—to use in this process.

2. Determine a threshold for defining "in-demand."

What does it mean for an occupation to be in-demand? All occupations experience job loss and gain on some scale—distinguishing between "normal" fluctuation and high-growth change is crucial to narrowing your state's priority list to those jobs that are experiencing significant growth.

This process should consider occupational demand in both *raw job numbers* and *percent growth*. The largest industry in your state may not be the fastest-growing and vice versa, but both high-volume and high-growth occupations are valuable to your state's economy.

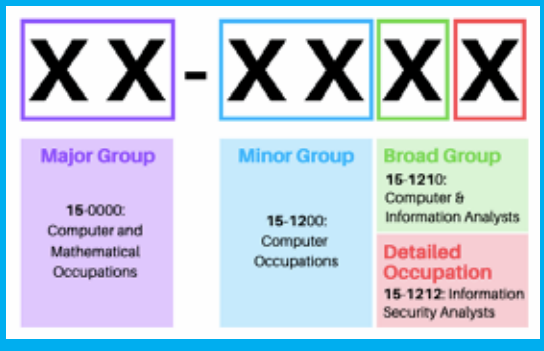
This process should also consider *changes in demand over time*. The economy is constantly changing: Occupations demanded today may not be in-demand in ten years. Those in-demand in ten years may be just now emerging.

Many states that have established this practice have set both growth rate and annual opening thresholds that must be satisfied for an occupation to qualify as in-demand. Setting both a current openings threshold and a projected growth threshold is important to demonstrate that these occupations are currently in-demand and will remain so in the near future. Florida, for instance, requires occupations to demonstrate 500 annual openings plus an average growth rate of 1.26% *or* 1,200 annual openings plus any positive growth. Other states consider rates higher than the aggregate state job growth to be "in-demand."

3. Remove any occupations that do not meet your defined threshold.

Compare occupation projections gathered in Step 1 against the demand threshold set in Step 2. Those that meet or exceed the threshold are your in-demand occupations. For each of these occupations, be sure to record the SOC (Standard Occupational Classification) codes, which classify workers into common occupational categories as described in the text box below. These will be used as a common, unique identifier throughout the rest of the process to identify your state's in-demand, high-skill, high-wage occupations.

SOC CODES



The Standard Occupational Classification (SOC) system is a tool developed by the federal government that assigns each occupation and occupational category a unique, six-digit identifier. These six digits represent each occupation's major group, minor group, and broad occupation. Currently, there are 23 major occupational groups, 98 minor groups, and 459 broad occupations—resulting in 867 unique occupations as of 2018.

Note: As you use SOC codes to merge data from multiple sources, make sure that each dataset uses the same version of the SOC system to control for any possible changes made to the classification of occupations.

II. Identify *high-skill* occupations from your in-demand occupations list.

States should go further in identifying the occupations that are in-demand. Too often, occupations have many job openings, but those jobs do not offer a career path with a family-sustaining wage. States should whittle their in-demand occupation list down to those that are also high-skill and high-wage.

Determining whether an occupation is "high-skill" requires analyzing the educational and training requirements of a given occupation against a given threshold. States may use the following process to determine which of their in-demand occupations are also high-skill.

1. Set a threshold for defining "high-skill."

What does it mean for an occupation to be high-skill? At a *minimum*, "high-skill" should refer to occupations that require education or training beyond a high school diploma—but criteria can be more robust.

O*Net, a publicly-available and federally-sponsored database for occupational information, provides one example of robust skill definitions by assigning occupations to one of five "Job Zones."[2] States should use Job Zone Three as the high-skill threshold, as this level captures occupations that require, at *minimum*:

- Education beyond a high school diploma;
- Training lasting anywhere from a few months to one year—including apprenticeships;
- A period of "specific vocational preparation"[3]—the amount of lapsed time in job-specific training needed for a worker to demonstrate average performance in job-specific situations—lasting one to four years; *and*
- Previously gained work-related skills, experiences, or knowledge.

2. Determine the education and training requirements for each of your state's in-demand occupations.

Because O*Net records education and training information for each occupation, it is again a useful tool to use here. While this information can be accessed very easily for individual occupations through a simple search on O*Net OnLine, this process is very time-consuming when attempting to match multiple occupations to their education and training requirements.

For bulk matching, O*Net's API (Application Programming Interface) is easy to access and use to extract education and training data for multiple occupations—using SOC codes as a key—at once.

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2 O*Net OnLine. "O*NET OnLine Help: Job Zones." Accessed November 27, 2018. https://www.onetonline.org/help/online/zones#zone3

3 O*Net OnLine. "O*NET OnLine Help: Specific Vocational Preparation (SVP)" Accessed November 27, 2018. https://www.onetonline.org/help/online/svp

3. Remove all occupations for which education and training requirements fall below your state's high-skill threshold.

The occupations that remain are your in-demand, high-skill occupations.

TIP! As you move through this process, keep track of each step and identify where occupations and credentials fall off your state's list. Stakeholders who want a particular occupation and/or credential included will ask why it did not make the list. Have the information ready to share with these stakeholders to justify your decision.

III. Identify *high-wage* occupations from your in-demand, high-skill occupations list.

Similar to the process above, determining which of your state's in-demand, high-skill occupations are also high-wage requires setting a wage threshold against which to analyze the occupations on your list. States may use the following process to determine whether their in-demand, high-skill occupations also meet high-wage criteria. This critical step ensures that your state is prioritizing and incentivizing occupations that enable workers to earn wages to support their families.

1. Set a threshold for defining "high-wage."

What does it mean for an occupation to be high-wage? This step requires identifying a "family-sustaining" or "living" wage, or the wage at which the basic needs—including food, shelter, healthcare, childcare, and transportation—of a family (at least one adult and one dependent child) can be met. This "family-sustaining" wage varies based on a particular geography's cost of living, but is often greater than the established minimum wage, and may also exceed your state's WIOA wage threshold. Researchers at MIT estimate that in a family of two adults and two children, both adults would need to work two minimum-wage jobs (77 hours per week) to earn a sustaining wage. One adult with two dependent children would need to work closer to three and a half minimum-wage jobs.[4]

While there are a number of resources available to help states make high-wage determinations, the MIT Living Wage Calculator is an excellent choice for this step. This Calculator estimates the cost of living in a given state, city, or metropolitan area based on typical expenses in that area.[5] In setting a high-wage threshold, states should use estimates for *at least* one adult with one dependent child, as increasingly more students and workers care for at least one dependent.

4 MIT. Accessed January 8, 2019. http://livingwage.mit.edu/articles/15-minimum-wage-can-an-individual-or-a-family-live-on-it

5 MIT. Accessed December 19, 2018. http://livingwage.mit.edu/

2. Determine the median wage of each occupation on your in-demand, high-skill list.

The Bureau of Labor Statistics' Occupational Employment Statistics program provides employment and wage data at the national, state, and metropolitan level. Select the most recent data for your state and, using the SOC codes for your in-demand, high-skill occupations, record the median hourly wage for each occupation.

3. Remove all occupations for which the median wage falls below your state's high-wage threshold.

The occupations that remain represent your state's ***preliminary*** list of in-demand, high-skill, high-wage occupations.

IV. Finalize your *in-demand, high-skill, high-wage* occupations list.

1. Review your list for potential errors or anomalies.

Now that your preliminary list has been generated, review the remaining occupations to ensure that each is truly aligned to the priority industries in your state. As an example, if "hospital chef" is on the list as an occupation in your state's healthcare industry, you may consider removing it. While this represents a real job, the training and preparation for a career as a chef aligns not with healthcare, but with food services and hospitality, and probably should not be prioritized within the healthcare industry itself. While SOC codes provide a generally reliable guide for identifying occupations, crossovers like this exist and should be acknowledged during your analysis. Ideally, the model that your state has built in the above steps will filter out the majority of unaligned occupations, but some anomalies may remain. Make sure to check your work!

As an additional safeguard, this list—along with the list of related priority credentials you generate next—will be vetted and validated by the employer community.

TIP! The process laid out here focuses primarily on identifying the non-degree credentials that connect directly to priority occupations, but the road to an in-demand, high-skill, high-wage job is not always a straight path. Some credentials, though they do not lead directly to employment in priority occupations, act as a stepping-stone toward a meaningful career—either by preparing holders for a higher-level credential or by its application toward postsecondary credit. If you uncover credentials like these in your analysis, your team may want to consider additional work to identify and build career "lattices" to examine the opportunities these credentials lead to in the long run.

V. Establish a preliminary list of *priority credentials* that correspond to your in-demand, high-skill, high-wage occupations list.

Congratulations! Your state has created a data-driven list of in-demand, high-skill, high-wage occupations within its priority industries. You're now ready to identify the non-degree credentials—especially industry-recognized credentials—associated with jobs in those occupations. These next steps model a process for identifying these credentials using real-time labor market data and a direct application. Additionally, if your state agencies already collect credential data in some capacity, your team could use that data in a longitudinal analysis to determine whether and which credential holders have an advantage in the labor market.

1. Use real-time labor market information to identify priority credentials.

a. Identify your real-time labor market information tool(s).

There are a number of good resources available for this process, including services like Burning Glass, EMSI, and JobsEQ. Your team should confirm whether any state agency already has a subscription to one of these services. If there is no current subscription, investigate each tool to determine the best fit for your state.

TIP! Real-time labor market technologies—those that aggregate job posting and/or resume data from the web—are relatively new tools that may not return complete and comprehensive data on various degrees and credentials required for employment—especially with many industries now removing specific education requirements from their job postings. If the information returned from these tools is incomplete, you will want to rely more heavily on employer input and validation to identify your priority non-degree credentials. See the next section of this toolkit for more information on employer validation strategies.

b. Using the tool(s) you identified above, pull a report of the current job postings in your state.

Fields to include in your report are:

- Job title
- Company name
- Company address
- Education level (required and preferred)
- Credentials (required and preferred)
- Skills (required and preferred)
- Work experience (required and preferred)
- Salary or wage (if provided)
- Related industry or occupation (if provided)
- Number of positions (if the posting is for multiple positions and that information is provided)
- Date of Posting

CAUTION! One job post ≠ one open position. When pulling together your real-time labor market report, be aware that there is not a one-to-one match between job postings and open positions. Many companies post the same job description across multiple hiring sites for the same position. Conversely, companies might also post one, relatively generic job description to recruit for multiple of the same position. Your team's data lead should be aware of these inconsistencies and build controls (such as weights), where appropriate, into the reporting routine.

c. Map job postings data to your priority occupations.

To determine which job postings are aligned to your state's in-demand, high-skill, high-wage occupations, link the two datasets. While your occupations each have a SOC code, it is unlikely that job postings contain this information. Luckily, there are tools available to assign job postings to SOC codes using job titles and descriptions. Some real-time data sources, like JobsEQ, have this functionality built into their products. If this service is not offered as part of your real-time data software, use a publicly-available tool like O*Net's SOC Autocoder. The SOC Autocoder enables matching based on job title either by a simple, single job title search or through its web services, which allow for bulk matching using the site's API.

Once job postings have been assigned SOC codes, your state should group those postings by occupation. Remove any that do not match your state's in-demand, high-skill, high-wage occupations, as well as any duplicate postings (as the same posting may show up across several job posting sites).

REGIONALIZE YOUR WORK, PART 2

As noted above, it may be useful to your state to conduct a regional analysis of priority occupations and credentials. If you have decided to create a statewide priority occupations list but want to determine the distribution of demand for priority occupations and credentials across your state's regions, you might consider using your real-time labor market data source to break down credential demand by region. The job posting data you collect here should include information about each posting's location (specifically company address), which you can use to group data by state economic region. For instance, if your state's economic regions are groups of ZIP codes, you can apply the same grouping to the location data returned in your search.

Based on this grouping, reflect on the following questions:

- What new or interesting patterns emerge?
- Are some priority occupations clustered in certain regions, or are they spread relatively evenly across the state?
- Does a particular industry exist throughout the state but request different credentials or levels of education in different regions?

d. Identify credentials that are required or preferred for those jobs. Within each of your in-demand, high-skill, high-wage occupation groups, determine the following:

- Do patterns emerge in terms of the credentials required or preferred for employment? If yes, which credentials are they? How frequently are they featured?
- Do similar patterns emerge among education levels, skills, and work experience?

e. For each occupation, record the credentials that frequently occur.

Because the work of mapping non-degree credentials to priority occupations is relatively nascent in many states, there is not an established precedent for defining a frequency threshold. Your team should think critically about where and how to set this threshold and document your logic to justify your decision. To guide this process, consider the following questions:

- What percent (or number) of unique job postings within a given occupation must require or prefer the credential for it to qualify as a priority?
- How many (or what percent of) unique employers' job postings must require or prefer the credential for it to qualify as a priority?
- Must the credential be demanded across multiple occupations or job titles to qualify as a priority?

Once you have set your threshold and identified the credentials that meet or exceed it, you have successfully developed your state's preliminary list of priority non-degree credentials.

REGIONALIZE YOUR WORK, PART 3

As introduced in the textbox on page 12, your state may also want to identify priority non-degree credentials at a regional level. If your state is using a direct application, you may consider building space in the process to ask applicants about local priority occupations that are *not* already included on your state's priority list. Depending on your state's economic landscape, there may be occupations (or whole industries) that are large enough to comprise a significant proportion of a regional economy, yet small enough that they are excluded from a statewide list. In this case, you may consider building a space for "regional priority occupations" in the direct application, allowing regional leaders to bring these occupations and credentials up for consideration.

Establishing a "regional-specific" tier does not mean that anything goes, however. Though a regional tier may take into account a regional demand threshold, *all* credentials collected in the application should go through the same rigorous process to ensure that they meet high-skill and high-wage thresholds. If your state goes this route, you will also want to consider whether regional credentials are incentivized to the same degree as statewide priority credentials. For more information on setting incentives for non-degree credential attainment, see the Incentivize section of this toolkit.

2. Optional: Use a direct application process to identify potential priority industry-recognized credentials.

In addition to the state-led process described above, your state may also choose to incorporate a direct application process to allow relevant stakeholders—such as employers, industry advisory councils, and school districts—to propose non-degree credentials, including industry-recognized credentials (IRCs), for consideration on the state's priority list. This is especially useful for identifying emerging IRCs—which may not be in high demand yet but are increasingly growing in popularity and relevancy—as well as IRCs that are very high-value at the local level but did not emerge at the state level. Because these credentials do not appear at your required threshold levels within real-time LMI, your state will need to collect more information about them to determine whether or not they meet your bar for quality.

a. Determine which stakeholders can submit an application.

Stakeholders that could see a direct financial benefit to having a credential on your state list—like credential exam vendors—should not be eligible to submit an application. You may decide to receive applications from a variety of other stakeholders, including:

- Employers
- School districts
- State and local workforce boards or industry advisory councils
- State and local economic development boards
- Regional or state business and trade organizations

b. Identify the mandatory application components.

Basic application information should include:

- Name of the proposed credential
- Credentialing agency and contact information
- Confirmation that a third party administers the credential exam *(Credentials that are not administered by a third party should not be recognized on the priority credential list.)*
- Credential website *(If information about a credential is not posted publicly on an official website, this might be a signal about the value and validity of that credential.)*

Applications should also ask applicants to provide additional information about the credential:

- Is workplace experience required to earn the credential? If so, how much?
- How many hours of instruction or training are required to earn the credential?
- Is a high school diploma a pre-requisite to earning the credential?
- Is there a minimum age for earning the credential? If yes, how old must a person be to earn the credential?

- Does this credential have a pre-requisite credential? If yes, what is that preliminary credential or set of credentials?
- For how long is the credential valid? Are there re-certification requirements? If yes, what are those requirements?

Credential Value

- Is this credential a pre-requisite to more advanced credentials? If yes, what are those advanced opportunities?
- To which in-demand, high-skill, high-wage occupation(s) is this credential aligned?
- What evidence exists that this credential is required or preferred for employment within in-demand, high-skill, high-wage occupation(s)?

Logistics

- In what formats is the credential exam offered? Computer-based? Paper-based? Both?
- Is there a performance-based component to the assessment?
- Must the exam always be administered in a proctored environment? If yes, who can proctor? *(If certifying bodies allow for an online, non-proctored setting, this may signal low validity.)*
- (If relevant) Where are testing sites located throughout the state?
- What procedures are in place by the credentialing authority to review exams for testing irregularities?
- How many questions are in the credentialing exam?
- Is there a time limit for the exam? If yes, how long do test-takers have to complete the exam?
- What is a passing score for this exam?
- Can test-takers re-take the exam? If yes, how much time must pass before re-taking the exam?
- What is the cost per exam?
- To whom is test result data made available by the testing vendor? Are data sharing agreements in place for state agencies or school districts to access test data?

c. Build an application review team.

Your state's credential review team will examine each application to ensure it meets the established criteria for credential eligibility. This includes ensuring that all requested information has been provided on the application. The review team should include members of your cross-sector team, and may include additional input from individuals in the following entities:

- State workforce board
- State department of labor
- Industry advisory councils
- Career cluster councils
- State department of education
- State higher education system

d. Review and *preliminarily* approve applications.

The individual(s) identified above will conduct a thorough review of each application and preliminarily approve credentials for consideration. At this time, it should be made clear to applicants that this is not a final approval: All credentials must proceed through additional analyses to ensure that they meet the requirements of in-demand, high-skill, high-wage occupations.

During this review, it may be helpful to create a structured rubric for evaluating applications. Creating structured, standardized options for flagging a credential's potential deficiencies (for example, that a credential can be earned outside a proctored environment) will enable your team to have documented justification for decisions to preliminarily approve or reject an application.

e. Conduct the same rigorous analysis of labor market information for each "approved" credential.

Each credential that has been preliminarily approved through an open application process must be held to the same rigorous standards as the other non-degree credentials identified by the state with real-time labor market data. That is, they must be able to prove alignment to one or more of your state's in-demand, high-skill, high-wage occupations and significance in the hiring process.

Because some of these credentials are only emerging in value to employers and/or have value limited to local marketplaces, they may be scantly represented in your state's labor market data. In those less than ideal circumstances, your state may institute a separate process as a proxy for data-driven labor market value. This process might include applicants submitting "credential verification letters" from at least five relevant employers that compellingly describe how they rely upon that credential in their hiring, promotion, and salary determination processes.

f. Update your priority credential list.

Add the credentials approved by your review team to your preliminary list of priority non-degree credentials.

IMPORTANT! Even within a "priority" list, not all credentials have the same value in the labor market. Certain credentials that you have identified through this process (or will incorporate through the validation process in the next section) may connect earners to jobs that pay higher wages, offer more opportunities for advancement, etc. than other credentials; and certain credentials may be required for employment while others are only recommended or strongly preferred. Your state can choose to treat all priority credentials equally, or you might differentiate between credentials within your priority list. Many states apply a ranking or weighting structure to their priority credentials, and differentiate incentives accordingly. See the Incentivize and Report sections for more information on weighting credentials by level of priority.

3. Optional: Validate the preliminary list of priority non-degree credentials with a tool like Credential Engine.

Being frequently included as either preferred or required in job postings is a clear signal that a credential is valued by employers; but it is worth confirming that the credential has also been validated by an accrediting body—usually an institution of higher education or a professional association. While still being developed, Credential Engine's Credential Finder is one tool that states can use to find credentials that have third party quality assurance; and it will become increasingly useful as more institutions add their data to the system.