Second Annual Report
2018

New Skills for Youth Phase Two Evaluation

NSFY

New Skills for Youth Phase Two Evaluation

Second Annual Report 2018

Study Authors: Sandra Staklis
Julianne Payne
Steve Klein
Laura Rasmussen Foster

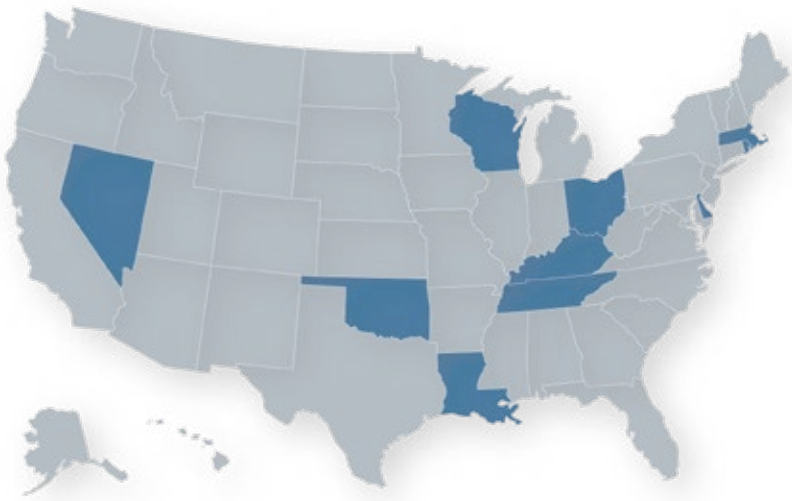
RTI INTERNATIONAL

Executive Summary

New Skills for Youth (NSFY) is supporting career pathways development in 10 states to prepare young people for high-skill, high-demand (HSHD) careers.

With funding from JPMorgan Chase, the states' NSFY work builds on a prior six-month planning and initial implementation phase and pathways and career readiness initiatives and activities predating NSFY. This report documents state activities and progress within the first 18 months of implementation of Phase Two, during which states refined plans, solidified the engagement and responsibilities of participating agencies and stakeholders, and initiated path-

Participating States



Delaware, Kentucky, Louisiana, Massachusetts, Nevada, Ohio, Oklahoma, Rhode Island, Tennessee, Wisconsin

State Activity Areas in NSFY

- Mapping career education to industry demand and employer needs
- Enhancing the rigor and quality of career pathways programming
- Incentivizing schools to increase students' career readiness
- Scaling successful local initiatives
- Leveraging resources to fund and sustain high-quality career pathways
- Increasing alignment between high school and postsecondary programs

ways development in accordance with the initiative's objectives. Although it is premature to assess the long-term impact of this work, this report highlights key achievements to date and notes emerging cross-state themes.

Early Successes

During the first year of NSFY Phase Two, state agencies and their partners aligned their pathways development work. States began the NSFY initiative with different levels of experience and progress in implementing high-quality career pathways. Regardless of where the states started, stakeholders within and across states credited NSFY as a catalyst for coordinating different organizations' activities in support of pathways. In some states, such coordination had been difficult to achieve before NSFY. As required by the grant guidelines, a variety of pathways stakeholders with representation from state secondary and postsecondary education agencies, state labor and workforce development agencies, business and industry, foundations, and community-based organizations have partnered to meet the NSFY initiative's goals.

The initiative also has contributed to cross-state alignment in state approaches to career pathways, as NSFY participants drew on the expertise of their counterparts in other states. For example, stakeholders in Oklahoma sought advice from data specialists in Kentucky for strategies to access labor force data. Wisconsin's model of engaging CEO champions for regional career pathways development is based on a similar approach in Tennessee.

States are expanding their use of labor market information and industry data to help students prepare for work in high-demand fields. States are using state labor market projections and input from industry representatives to make pathways development a priority for fields with expected growth. States also are working with state economic development agencies to align educational opportunities with state economic goals. Though some states had used labor market data to inform planning before NSFY, they have expanded the data that they use and formalized review processes. For example, before NSFY, Kentucky used labor market data to understand students' postsecondary enrollment and employment outcomes. After NSFY began, the state expanded its use of occupational projections to help identify key industries for career and technical education (CTE) programming, establishing the state's combined workforce and education data agency as the author-

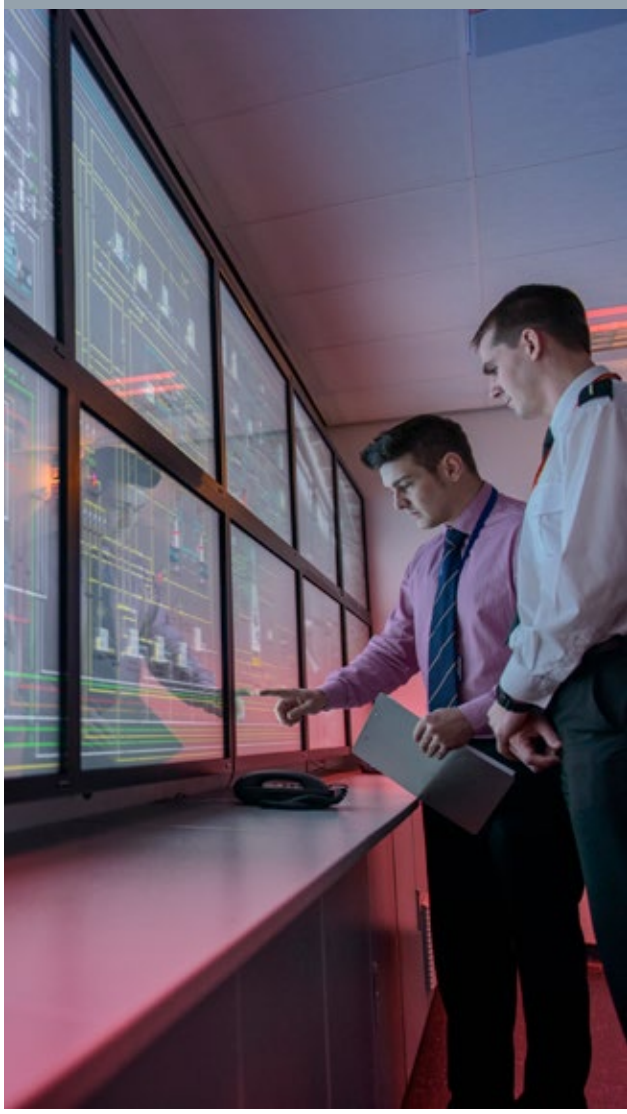
ity on labor market information. This helped build cross-agency consensus around data collection, use, and interpretation. In Tennessee, two of the state's nine career pathways planning regions had used data on labor market and student outcomes to inform pathways development before NSFY. Through the initiative, the state is expanding this practice to all nine regions. Similarly, Massachusetts developed LMI blueprints for each of its seven newly established regions to drive pathway development across the state.

States passed legislation to support career pathways development. Stakeholders regard legislative changes as critical to accomplishing their goals for NSFY and to sustaining high-quality pathways through changes in political leadership and beyond the grant funding period. For example, House Bill 2155 established Oklahoma's first requirement that students work with their parents and school personnel to prepare individual career and academic plans. These plans help students form educational and career goals and find opportunities to pursue their goals. In 2017, Nevada's NSFY steering team supported the state legislature in passing six bills establishing policies for funding CTE programs aligned to high-demand occupations, dual-credit opportunities for high school students, college- and career-ready high school diplomas, and a statewide workforce development coordination agency.

States have started implementing new career pathways models and mechanisms. CTE programming has been the foundation for new models and mechanisms for career pathways development and quality assurance. For example, Massachusetts established criteria for high-quality career pathways and created a formal process through which districts apply to have their programs designated as high quality. Wisconsin created the Pathways Wisconsin initiative, which entails the development of regional pathways informed by labor market information and stakeholder input, and the creation of state-developed pathways models and resources. Through NSFY, Wisconsin is piloting Pathways Wisconsin in 4 of the 16 technical college regions in the state.

States introduced new approaches for expanding work-based learning. Louisiana created opportunities for all students, including those in rural regions and students with disabilities, to participate in work-based learning through a virtual program. The state also launched Jump Start Summers, a program offering students the chance to earn industry-based cre-

dentials and academic credits, engage in work-based learning, and receive a summer wage. Nevada and Ohio partnered with staffing agencies to serve as work-based learning intermediaries for employers and schools, manage payroll, and assume liability for student placements. Industry partners in Rhode Island adopted a new set of WBL standards and, with support from the state workforce system, are piloting a statewide internship program for high school students.



Early Opportunities

States are building their capacity to capture comprehensive, high-quality data on career pathways participation and outcomes. The pathways being developed by states through NSFY are not fully captured in current state education data systems; these systems generally are designed to collect and report data on student access, participation, and completion of CTE programs. States were able to collect data on most NSFY indicators, but, in many cases, data are limited to CTE students and for measures defined by federal CTE legislation. While the specification of new measures and collection of data will extend beyond the NSFY grant, states are working to refine and add indicators relating to dual enrollment, industry-recognized credentials, and work-based learning. Many states have also recently incorporated career readiness indicators into their accountability systems, heightening the need for these data.

Linkages between secondary programs and postsecondary education and the workforce system are in process. Postsecondary education representatives in most states have contributed to the expansion of dual credit, and workforce systems have partnered on the use of labor market information for pathways planning and work-based learning implementation. States suggested that more work needs to be done to link secondary programs to these systems through expanded articulation agreements and apprenticeship. This work will require statewide coordination to establish systemwide articulation agreements to ease credit transfer to and among postsecondary institutions, and partnerships with employers.

States are shifting to engaging local stakeholders, including students, parents, employers, and educators. During the first year, NSFY leads worked to engage stakeholders, solidify visions, and create supporting policies and practices for their work at the state level. In the second year, the focus shifted to engaging local stakeholders associated with the NSFY work.

Interviews suggest that these stakeholders may regard career pathways as less rigorous than academic instruction; subscribe to a "college for all" model; consider student interest in high-demand fields to be low; and worry that career pathways could deflect students away from family or community commitments. Strategies for engaging district-level and local stakeholders in pathways development include incentives and resources, as well assistance from marketing professionals to address their concerns, highlight the benefits of these programs, and generate enthusiasm about pathways.

Most states are in the early stages of identifying the resources needed for sustaining their work. One key NSFY objective is for states to map their assets and braid funding sources to ensure the resources to maintain high-quality career pathways over time. States characterized their progress in this area as more limited than their achievements toward other objectives, such as supporting pathway sustainability through legislation. They attributed this to a lack of experience in mapping and coordinating assets, differences in agency goals, and the complexity of funding requirements. Delaware made notable progress in securing resources by designating the Rodel Foundation and United Way of Delaware as leaders in assessing the funds needed to support career pathways, tracking fundraising against resource needs, and proposing solutions to address funding shortfalls.

Introduction

To expand economic opportunities for America's youth, JPMorgan Chase & Co. has invested $75 million in *New Skills for Youth (NSFY)*, a national initiative to increase the number of high school students completing high-quality career pathways leading to high-skill, high-demand (HSHD) careers with family sustaining wages.

Led by the NSFY Project Team, which includes the Council of Chief State School Officers (CCSSO), Advance CTE, the Education Strategy Group (ESG), and state coaches selected from among the nation's most respected and experienced CTE leaders, the initiative supports the development of statewide career pathways systems by cross-sector teams of state education and economic development agencies, industry, community organizations, and local education providers.

Twenty-four states and Washington, DC participated in a six-month planning and initial implementation phase (Phase One). Then, in January 2017, the initiative selected 10 states—Delaware, Kentucky, Louisiana, Massachusetts, Nevada, Ohio, Oklahoma, Rhode Island, Tennessee, and Wisconsin—for three-year grants of $2 million each through a competitive application process (Phase Two). During the Phase Two grant period, state teams are enhancing and expanding career pathways based on strategies developed during the planning and initial implementation phase. The NSFY Project Team coordinates initiative activities and supports states' work through technical assistance and coaching.

As the NSFY Phase Two third-party evaluator, RTI International is examining state approaches to developing career pathway systems that meet the initia-

> *"In my mind, the goal of this New Skills for Youth work … is bridging the gap of preparing students for what they are going to do for rest of their lives versus what they are doing for 13 years… It's bringing education and business communities together to produce success-bound students.*
>
> **NSFY Core Team Member, Ohio**

tive's six key objectives (**Exhibit 1**). This report summarizes activities by state teams to achieve key objectives during the first 18 months of grant implementation (January 2017 to June 2018), highlighting cross-state themes and innovative practices. RTI also is collecting quantitative data on five indicators of student career pathways participation, completion, and post-program outcomes. Selected baseline data for the 2016–17 academic year are included in this report. Updates on state implementation activities and analyses of student pathways outcomes will be the subject of future reports.

NSFY National Evaluation Data Sources

Qualitative Data from NSFY States

- Interviews with 10+ project stakeholders in each state (10 site visits)
- Interviews with state data specialists

Qualitative Data Collection

- Aggregate state-level data on student career pathways engagement and outcomes

Document Reviews

- State NSFY Phase Two proposals
- State NSFY career readiness plans
- NSFY initiative documentation
- Advance CTE's 2018 state snapshots

Exhibit 1: NSFY key objectives and formative evaluation questions

Demand Driven and Employer Led Processes: How are NSFY states using employer-driven processes and labor market data to align their career pathways with high-skill and high-demand industries?

Rigor and Quality in Pathways for All: How are states using policies and funding mechanisms to improve the quality and rigor of career pathways, particularly for underserved students?

Career-Focused Accountability Systems: How are states integrating career-focused indicators in state accountability systems?

Scaled Pathways that Culminate in Credentials: How are states working with local districts to scale high-quality career pathways?

Resource Alignment for Sustainability: How have states leveraged state and federal education, workforce development, and economic development funds to support and sustain career pathways?

Ensure Cross-Institutional Alignment: How are states aligning programs and pathways to ensure smooth transitions across institution levels with minimal institutional barriers?

Demand Driven and Employer Led Processes

Labor force alignment, an important component of career pathways, has been a focus of state NSFY work.

To connect pathways development with the needs of state economies, cross-sector teams are prioritizing pathways development in HSHD fields in partnership with workforce and economic development agencies. Some HSHD pathways fields, including advanced manufacturing and healthcare, are common to all states; others are unique or less common, reflecting differences in state economies. HSHD pathways also differ according to the criteria states use to identify priority fields, which include skill or degree requirements, wages or salary thresholds, state economic priorities, and current or projected labor force needs (**Exhibit 2**). Two states were in the process of developing criteria for designating HSHD pathways at the time of this writing.

Using these criteria, states develop lists of HSHD fields to guide statewide priorities and local pathways development. In some states, HSHD priorities are designated at the Career Cluster® or field level, and in other states, at the program level. Kentucky, for example, classified 125 distinct CTE programs as HSHD pathways (e.g., design engineering, welding). In some states pathways development priorities are set at the regional level. Wisconsin used state labor market data to identify three primary and five secondary priority clusters within each of the state's four pilot regions.

> *"Panasonic's success is Tesla's success. If we can build a program that taps into the high schools across Nevada and opens a new pipeline that we haven't historically connected with, it will have long-term impact.*
>
> **NSFY Cross-Sector Team Industry Representative, Nevada**

Exhibit 2: State criteria for designating career pathways as high skill and high demand

State	High-Skill, High-Demand Pathways Criteria
Delaware	Occupations requiring at least a bachelor's degree or associate's degree, with either a required residency/internship or 5 years of experience and occupations with at least four annual job openings due to growth in Delaware.
Kentucky	Occupations with average annual salary in the state for the sector exceeding $35k, in industries with the most projected job openings over the next 5 years.
Louisiana	Wage compensation, job openings, and forecast job demand.
Massachusetts	HSHD criteria under development.
Nevada	HSHD criteria under development.
Ohio	Occupations with an average wage of $13.47 per hour or greater and for which the annual growth in jobs exceeds the area average.
Oklahoma	Occupations which state, local, or regional labor market data indicate that demand exceeds projected employment supply and require an industry-recognized certificate, credential, postsecondary training, apprenticeship, or degree.
Rhode Island	HSHD pathways criteria are based on priorities set by the Governor's Workforce Board which are in development.
Tennessee	Occupations in which the median wage is at least 75% of the median wage for all jobs in a region and for which two of the following are true: • The ratio of **job postings** to employment is at least as high as the median ratio for all jobs in the region; • The ratio of **hires** to employment is at least as high as the median ratio for all jobs in the region; and • The ratio of **job openings** to employment for an occupation is at least as high as the median ratio for all jobs in the region.
Wisconsin	Hourly earnings and education required for entry-level positions, determined regionally, based on projected job openings and job growth.

Source: State data submissions, interviews with state data specialists, site visit interviews, and career pathways documentation available on state websites.

Demand Driven and Employer Led Processes

State lists of HSHD fields also reflect statewide or regional labor force needs outside of the industries targeted for economic statewide development. Oklahoma stakeholders explained that HSHD pathways correspond to statewide "key industry ecosystems" for driving economic growth, such as aerospace and defense, energy, agriculture and biosciences, as well as regional economic priorities and the "complementary systems" providing the infrastructure and services, such as healthcare and education, needed to support the key industry ecosystems.

Once a list of HSHD pathways has been created, states deploy strategies that encourage districts to use the lists and other labor market information (LMI) for making decisions about pathways. Massachusetts, for example, helps districts align their career pathways to labor market needs using regional economic blueprints that summarize labor market trends, population characteristics, leading industries, and student outcomes. Incentives for alignment include increased funding for LMI-aligned pathways and grants for district-led initiatives to align career pathways with LMI. Some states, such as Tennessee, work with districts to shift secondary programs to other fields if LMI suggests a lack of related employment opportunities, or if the programs do not articulate to a postsecondary program. In Kentucky, education and training centers within the state education agency's jurisdiction can receive state funding only for career pathways aligned to HSHD fields. Beyond the centers, the state supports labor market alignment through such incentives as offering accountability bonus points, requiring that grant funds support HSHD programming, and retraining teachers to offer classes in HSHD fields.

Labor market alignment is one component of states' efforts to define high-quality pathways in their states. In addition to developing criteria for identifying HSHD pathways, states are developing pathway guidance and blueprints that integrate work-based learning, dual credit, and strategies for promoting equity. Wisconsin, for example, created a model pathway for nursing that districts can adapt to local needs when implementing these programs, Massachusetts established criteria for designating high-quality pathways, and Ohio developed Personalized Professional Pathways that connect classroom instruction with work-based learning experiences.

> *"We're using real time data on market trends to both make decisions about where we're going to go next as well as creating some fluidity that allows us to make the shifts that we need to. As industries change, the curriculum needs to change as well.*
>
> **NSFY Core Team Member, Delaware**

Statewide Systems for Career Pathways Quality and Rigor

In most states, cross-state team activities during the first 18 months focused on developing state-level and statewide support for career pathways development, such as policies and programs needed to give all pathways programs access to work-based learning.

During interviews, stakeholders noted that this work both builds on and leverages related initiatives on career readiness that offer technical assistance and cross-state collaboration for pathways development. Participation by other initiatives varies by state but includes the Pathways to Prosperity Network, the Alliance for Quality Career Pathways, Jobs for America's Graduates, and pathways programs from the National Governors Association and the U.S. Chamber of Commerce Foundation. Nine states also participate in the Complete College America alliance, which seeks to increase postsecondary attainment rates by promoting equity, metrics and evidence, and policy change. Finally, all states are working to scale career pathways development by building on existing CTE systems.

To promote statewide pathways development and sustainability, eight NSFY states have introduced or passed legislation since 2017 (**Exhibit 3**). The timing and role of legislation in pathways development varies by state. In Nevada, for example, Assembly Bill 7 established a college- and career-ready high school diploma requiring students to obtain endorsements for college and/or career readiness through participation in activities including career-technical educa-

Exhibit 3: Overview of career pathways-relevant legislation passed or introduced in NSFY Phase Two states in 2017 and through June 2018

State	Advising	Data systems	Dual credit	Funding	Graduation requirements	LMI	Work-based learning
Kentucky		SB 1 (2017)	HB 247 (introduced 2018)		HB 3 (2018)		
Massachusetts				HB 4297 (introduced 2018)			
Nevada		SB 458 (2017)	SB 19 (2017)	AB 482 (2017)	AB 7 (2017)	SB 516 (2017)	SB 66 (2017)
Ohio							HB 49 (2017)
Oklahoma	HB 2155 (2017)		SB 1196 (2018)		HB 2155 (2017); SB 1370 (2018)		SB 1171 (2018)
Rhode Island				SB 2184 (introduced 2018)			SB 2349 (introduced 2018)
Tennessee			SB 1975 (introduced 2017)	HB 511 (2017)	HB 2652 (introduced 2018)		SB 1649 (2018)
Wisconsin				AB 64 (2017)			AB 745 (2018)

AB=Assembly Bill; HB=House Bill; SB=Senate Bill

tion, Advanced Placement, work-based learning, and dual-enrollment courses. In other instances, NSFY work builds on legislation passed before the start of NSFY. Louisiana, for example, passed legislation to implement and fund the state's Jump Start Graduation Pathways in 2014, and Wisconsin's legislature mandated statewide academic and career planning in 2013.

Work-based learning is an example of how states are using legislation in different ways to support the expansion of a career pathways component. Ohio

and Nevada passed legislation in 2017 facilitating the award of secondary credit for work-based learning, and, in 2018, legislation in Oklahoma authorized the creation of a statewide work-based learning program by the Governor's Council on Workforce and Economic Development in partnership with other state agencies. Recent legislation in Wisconsin permits high school seniors to participate in apprenticeship programs, and Rhode Island introduced legislation to allow qualified CTE students aged 16–18 to participate in internship programs.

In addition to legislation, state-level activities in support of pathways development include creating grant programs for district-level pathways implementation and encouraging the integration of key pathways components through technical assistance or financial support. State-level activities in most states have addressed all six of the high-quality career pathways components identified in the NSFY Grant Guidelines (**Exhibit 4**). When asked to describe their work during the first 18 months of the grant, stakeholders emphasized activities to improve student access to academic and career advising, work-based learning, and industry-recognized credentials (IRCs), which most considered the pathways components most in need of development in their states.

- State activities addressing **academic and career advising systems** in Oklahoma and Wisconsin focused on implementing new statewide systems for developing individual academic or career plans. In states with such systems in place, cross-sector teams worked to improve the utility of students' plans for career pathways planning. This included technical assistance for districts and advisors to improve student engagement in plan development and awareness of pathways opportunities. Tennessee, for example, has hired regional coaches to support the implementation of revised counseling standards that took effect in the 2018-19 school year, and Nevada is expanding its online advising platform to include industry-recognized credentials and dual credit in technical fields. Massachusetts launched a professional development and technical assistance initiative that trains high school teams to develop and implement high quality college and career advising systems.
- For **work-based learning,** states are expanding existing programs or introducing new strategies for connecting students to employers. In Massa-

Exhibit 4: NSFY seeks to increase student access to and engagement in high-quality career pathways that

Focus on training in high-skill, high-demand industry sectors;

Span secondary and postsecondary levels;

Offer focused career guidance and advisement systems;

Blend rigorous core academic and career-technical instruction;

Include high-quality work-based learning experiences; and

Culminate in postsecondary or industry credentials with labor market value.

—NSFY Grant Guidelines

chusetts, an 100-hour industry-aligned internship or capstone project is a core element of the state's new high-quality college and career pathways. Many states are using intermediaries with ties to industry to connect students with employers and administer internships. Nevada and Ohio, for example, are working with staffing agencies and Rhode Island piloted a summer internship program for high school juniors with Skills for Rhode Island's Future, a workforce development nonprofit. States also are developing resources and providing grants to districts to create local systems for recruiting employers for work-based learning.

- To ensure that the **industry-recognized credentials** students earn are relevant to industry needs, most states are expanding or revising their IRC review process. State lists of approved IRCs range from 80 to more than 250 IRCs, and at least three states have instituted new processes for assessing the value of IRCs, such as analyzing online job postings or increasing the frequency of consultations with employer advisory groups. Kentucky, for example, recently worked with employers to eliminate IRCs of limited industry value and educate local employers about lesser-known credentials valuable to their industry. Louisiana is engaging local economic development agencies to set targets for IRC attainment based on local industry needs.

The postsecondary and workforce representatives on the state teams are strengthening linkages between secondary pathways and these systems, which in most states are in the early stages of development. This is particularly true of workforce agencies, which have helped initiate systems for analyzing labor market information, the identification of HSHD fields for pathway prioritization, and the implementation of work-based learning programs. As the legislative summary suggests, state's primary approach to connecting secondary and postsecondary pathway programs has been the expansion of dual-credit opportunities. As implementation continues, most states have plans to establish multi-institution or statewide secondary-postsecondary articulation agreements and enhance connections between secondary programs and apprenticeship.

Accountability And Data

One key NSFY objective is to "incorporate robust career-focused indicators in state accountability systems that measure and value the successful completion of work-based learning, enrollment in postsecondary education or apprenticeships, and credentials of value" (NSFY Grant Guidelines).

Eight states developed career-readiness accountability indicators for their *Every Student Succeeds Act* (ESSA) state plans (**Exhibit 5**). All indicators include IRC attainment, six include postsecondary credit attainment, and three indicators include work-based learning.

Other states, such as Wisconsin, which opted not to include a career-readiness measure in its ESSA plan, did incorporate elements aligned with NSFY goals in their state reporting and accountability systems. These included youth apprenticeship, Advanced Placement coursework, and IRC attainment.

Integrating college- and career-readiness indicators in state accountability systems has required states to collect new data on career-oriented programs and outcomes. Until recently, most career preparation data collected by states reflected the federal accountability requirements of the *Carl D. Perkins Vocational and Technical Education Act of 2006* (Perkins IV) and focused on CTE students. States' ability to collect high-quality data elements related to career readiness varies. In some states, CTE data systems are integrated into state

Exhibit 5: Career pathways-related components in state ESSA college- and career-readiness indicators

State	Indicator name	CTE pathway/ program completion	Experiential/ work-based learning	Industry-recognized credentials	Dual credit[1]
Delaware	College and/or Career Preparedness	●	●	●	●
Kentucky	Transition Readiness	●	●	●	●
Louisiana	Strength of Diploma Index	●		●	●
Massachusetts	Successful Completion of Broad and Challenging Coursework				●
Nevada	College and Career Readiness	●			●
Ohio	Prepared for Success			●	●
Oklahoma	Postsecondary Opportunities	●	●		●
Rhode Island	Post-Secondary Success Indicator	●		●	●
Tennessee	Ready Graduate	●		●	●

[1] Does not include credit awarded through Advanced Placement examinations or the International Baccalaureate program.

longitudinal data systems (SLDS) that include course and program data, multiple education levels, and links to workforce data systems. In other states, such systems are still in development, and the capacity to collect data on students' career readiness is limited.

State education data system development also has implications for career pathways data collection. NSFY states are required to report annual data for five NSFY key quantitative indicators to track progress toward meeting the initiative's objectives. Most states are using CTE programs of study, as defined in Perkins IV, as a proxy for career pathways in their data submissions. According to the legislation, programs of study must incorporate secondary education and postsecondary education elements; include coherent and rigorous content aligned with challenging academic standards and relevant career and techni-

NSFY Key Indicators

- Career pathway access
- Career pathway completion
- Dual enrollment
- Industry-recognized credential attainment
- Postsecondary enrollment and employment

cal content in a coordinated, nonduplicative progression of courses that align secondary to postsecondary education; and lead to an industry-recognized or postsecondary credential. Programs of study may also include opportunities for secondary education students to earn postsecondary education credits. Educators often regard programs of study as a type of career pathway, but not all career pathways are programs of study. States with well-established SLDS, such as Tennessee and Louisiana, can report on all or most NSFY key indicators. In states just beginning to develop SLDS, data on dual enrollment, IRCs, and postsecondary education or employment are either not available or of low quality.

In some states, data collection for these indicators will require legislation allowing educators access to labor force data or changes to state data privacy policies. Further, collecting new data elements requires dedicated funding, as well as planning, technical assistance, and pilot testing typically taking two years to complete. Despite these challenges, stakeholders in all states reported initiating data system changes to improve the amount and quality of data collected by states on students' career readiness and career pathways (**Exhibit 6**).

Data system can report on 5 NSFY indicators
Rhode Island, Tennessee
Data system can report on 4 NSFY indicators
Delaware, Ohio, Kentucky, Louisiana, Oklahoma
Reporting capacity in development
Massachusetts, Nevada, Wisconsin

Exhibit 6: Summary of career pathways-related education data system changes underway in NSFY Phase Two states

State	Pathway identification	Work-based learning	Dual credit	IRCs	Employment
Delaware		●			
Kentucky			●	●	
Louisiana					●
Massachusetts	●			●	●
Nevada	●	●	●	●	●
Ohio		●	●		●
Oklahoma		●			●
Rhode Island		●		●	
Tennessee	●		●	●	●
Wisconsin	●	●	●	●	●

Accountability And Data

In some states, data system changes affect only one or two indicators, such as Delaware's plan to increase the types of data collected on work-based learning as student engagement expands or Louisiana's plan to reestablish a data-sharing agreement for employment data. In contrast, Wisconsin accelerated the timeline for integrating the state CTE data system into its SLDS to meet NSFY reporting requirements, which will result in changes to multiple indicators. Five of the NSFY states are moving from self-reported employment data from CTE graduates to accessing employment data for all students from state departments of labor and employment. In Nevada, for example, legislation enabling a match between education and employment data was passed in 2017, and Massachusetts and Ohio initiated matching processes in the last two years.

Scaling Career Pathways

NSFY states have introduced legislation, policies, and activities to promote high-quality career pathways expansion and set goals for district and student engagement.

In spring 2018, states submitted baseline academic year 2016–17 data on students' career pathways participation rates and outcomes, disaggregated by gender, race/ethnicity, and special population status. State data on pathways participation and completion largely reflect CTE programs of study, as states are still in the process of changing policy and data systems to align more closely with a more comprehensive definition of career pathways. The data thus provide an indication of states' starting points in career pathways implementation.

One key NSFY indicator is career pathways access, expressed as the proportion of all students having the option to enroll in a high-quality career pathway in an HSHD field. For the 2016–17 academic year, seven states reported that at least 90 percent of students had access to a high-quality career pathway, and five states reported the same for HSHD pathways. At the same time, states acknowledged barriers to pathways access, such as waitlists, scheduling conflicts, and the burden of traveling to distant high schools and technical centers, for which they do not have comprehensive data. Some states are piloting strategies for tracking the impact of these constraints on access; for example, Ohio has mapped districts' distances to pathways programs, and Massachusetts is currently piloting data collection on program waitlists.

> *"When it comes to technical skills, there is just a lack of awareness with our youth about these types of occupations, so it is incumbent upon us and our employers to help create these connections and build that awareness… in the end, we see that the employers who are engaged are the ones who are seeing these kids graduate and get hired with the right skills and attitudes.*
>
> **NSFY Cross-Sector Team Industry Representative, Oklahoma**

Given the limitations of data on access to career pathways, the initiative also is collecting data on pathways engagement (course taking and completion) as a proxy measure for career pathways availability. Among states with comparable data, about 43 percent of grade 9–12 students in 2016–17 took one or more career pathways courses, and 29 percent took at least one pathways course in an HSHD field (data not shown), in accordance with the definitions shown in (**Exhibit 2**). In some states, such as Oklahoma and Ohio, nearly all programs of study are classified as HSHD. Delaware, in contrast, only includes the regional pathways that the state is expanding through its NSFY work. In states developing HSHD program criteria, the proportion of students in HSHD pathways are estimates. In the same year, the pathways completion rate (as of June 2017) for the fall 2013 grade 9 cohort was 29 percent.

Aggregate data mask large state-level differences in pathways engagement. With regard to completion, for example, about 52 percent of the fall 2013 grade 9 cohort in Delaware had completed a career pathway by June 2017 (**Exhibit 7**). In Massachusetts, the completion rate was about 18 percent.

Data system can report on 5 NSFY indicators

Rhode Island, Tennessee

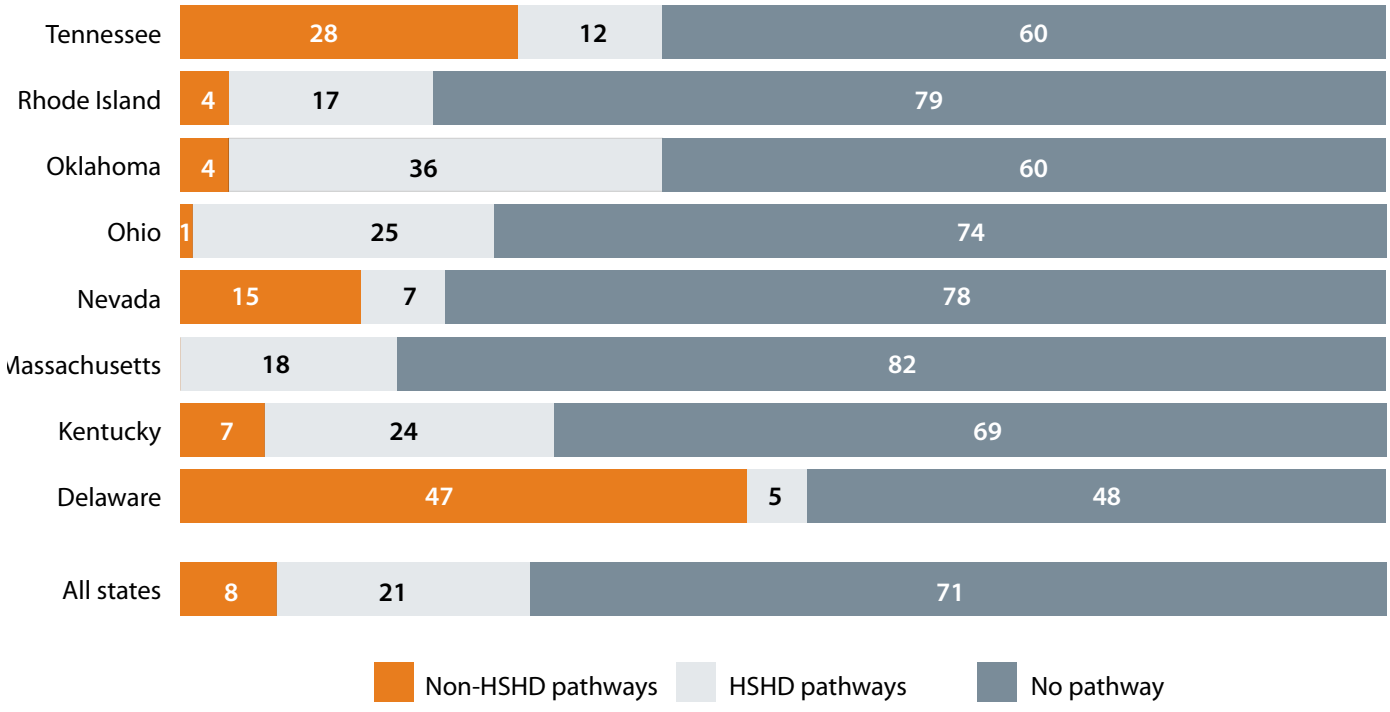
Data system can report on 4 NSFY indicators

Delaware, Ohio, Kentucky, Louisiana, Oklahoma

Reporting capacity in development

Massachusetts, Nevada, Wisconsin

Exhibit 7: Fall 2013 grade 9 cohort pathway completion rates as of June 2017



Note: Participation and completion data exclude Louisiana and Wisconsin due to differences in pathway definitions and data collection protocols.

NSFY states were at varying stages of pathways development when the initiative began. Strategies for expanding pathways reflect their past work in pathways development, as well as the role of state and local actors in program development. Delaware and Louisiana are implementing career pathways systems begun before NSFY, whereas stakeholders in Massachusetts and Nevada have developed and launched new pathways systems under NSFY. In Wisconsin, regional pathways directors are advancing pathways development in four areas of the state, and key industry networks will play a similar role in Oklahoma. Kentucky is promoting development of regional career academies.

States support efforts to scale pathways implementation through grant funds and technical assistance. Six states offer districts pathways implementation grants funded by multiple sources, including NSFY and Perkins IV. Other states have hired specialists dedicated to guiding and supporting local pathways development. In Rhode Island, for example, 22 local education leaders will assist district-level pathways planning teams as PrepareRI Ambassadors during the 2018–19 academic year.

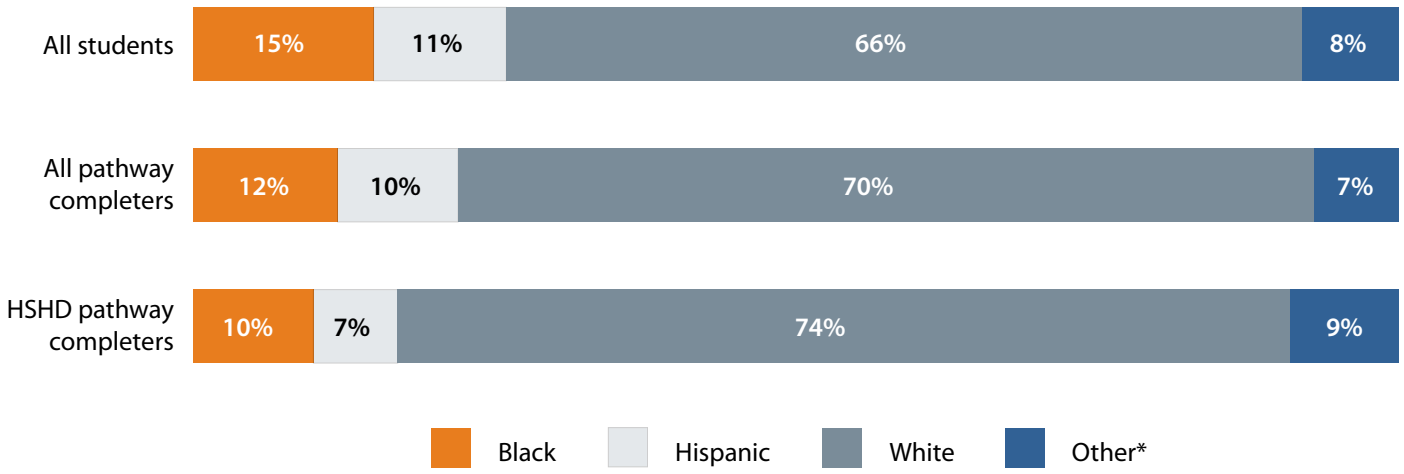
Finally, the expansion of career pathways in most states is accompanied by branding and messaging campaigns promoting the benefits of pathways for students, parents, and employers. According to stakeholders, such campaigns are needed to encourage student and employer engagement and to combat negative perceptions of technical programs, particularly among parents. Some of these efforts, such as Delaware Pathways and Tennessee Pathways predate NSFY, while others, such as Ohio's SuccessBound, Nevada's LifeWorks, and Rhode Island's PrepareRI brands, were launched during the past year.

Equity

Ensuring that all students have access to high-quality career pathways requires examining pathways engagement by student subgroup, according to gender, race/ethnicity, income, disability status, and location (e.g., urban versus rural). During the past 18 months, states have reviewed 2016–17 baseline data for the NSFY key indicators to identify gaps in pathways participation and have adopted strategies for promoting equity. Pathways completion data disaggregated by student subgroup reveal some of the

differences in pathways engagement being addressed by states through NSFY. For example, about 12 percent of students in the fall 2013 grade 9 cohort who had completed a career pathway by June 2017 were black (**Exhibit 8**). The proportion of black students among HSHD pathway completers was 10 percent.

Exhibit 8: Career pathways completion by June 2017 among fall 2013 grade 9 enrollees: Racial/ethnic distribution

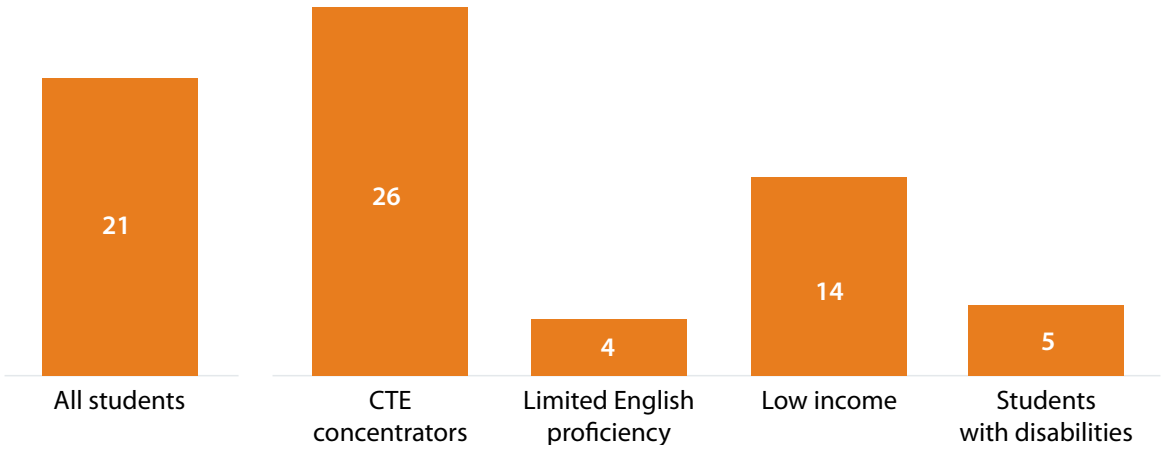


Note: Excludes data from Louisiana and Wisconsin because data are not comparable.
* Other includes American Indian, Asian, Hawaiian/Pacific Islander, multiracial, and two or more racial/ethnic groups.

Another example, using different student subgroups, is dual-credit participation (**Exhibit 9**). Among the fall 2013 grade 9 cohort, about one-fifth of all students and one-quarter of CTE concentrators (students earning at least two credits in a single CTE program area, with additional criteria set by each state) earned postsecondary credit through dual-credit programs during high school. In contrast, dual-credit earning rates were about 5 percent among students with disabilities and limited English proficiency and 14 percent among low-income students.

States are creating targeted interventions to reduce gaps in pathways engagement across student populations. Delaware, for example, is developing an advising program for high-achieving students from low-income households that will incorporate support from community partners, including youth and summer program funds from the state's department of labor. Louisiana's new virtual work-based learning program enables students to interact with employers and professionals through a web-based platform

Exhibit 9: Dual credit earned by June 2017 among fall 2013 grade 9 enrollees: Special populations and CTE concentrators



Note: Excludes data from Louisiana and Wisconsin because data are not comparable.

accessible to students with disabilities and those attending alternative and rural schools. A lack of instructional staff in technical and other fields is a barrier to high-quality pathways instruction in schools located in low-income and rural areas in Kentucky. In response, the state revised teacher training requirements to enable professionals to teach in CTE-related fields and extended support for new teachers to three years to increase educator retention rates.

Student Postsecondary Education and Employment Outcomes

Ultimately, the goal of career pathways is to prepare students for well-paid careers in high-demand fields, most of which require at least some postsecondary education or training. The NSFY initiative includes two indicators of post-program student outcomes: the number and percentage of all students who enroll in postsecondary education or secure employment, each assessed within six months of high school graduation.

Post-program information on student enrollment in postsecondary education is among the most consistent and reliable across NSFY states: all currently have the capacity to assess students' enrollment within six months of high

school graduation. As pathways implementation proceeds, states will monitor the impact of these programs both on increasing postsecondary outcomes overall and in closing achievement gaps among student subpopulations.

Assessing the post-program employment of all high school graduates requires that states access state labor force data using students' Social Security numbers (SSNs) or a matching algorithm based on name and birth date. Four states—Nevada, Ohio, Oklahoma, and Wisconsin—lack access to employment data, and Louisiana is seeking to reinstate a lapsed data-sharing agreement. Data access in some states is limited by SSN availability; for example, Delaware reported a 20 percent match rate, in part because sharing SSNs is voluntary for students, and many refuse. Consequently, employment data currently are limited to a subset of states with high administrative data match rates (Massachusetts and Rhode Island) or those who conduct surveys to comply with federal Perkins IV reporting requirements. In the latter case, data are limited to CTE concentrators.

State privacy laws and the time needed to develop data-matching algorithms as alternatives to SSNs (which education systems do not reliably collect) make it unlikely that states will be able to improve their reporting on employment during the NSFY grant. To strengthen reporting capacity, RTI researchers will consult with states to share best practices in conducting survey follow-up and to disseminate approaches for tracking student employment in HSHD fields, a priority of the grant program. It will be difficult, however, to disentangle the effects of improvements in data collection procedures from the impact of career pathways participation.

Resource Alignment for Sustainability

While initial NSFY activity has focused on state-level support and local implementation strategies, states are identifying funding resources to support career pathways and addressing barriers to leveraging these resources.

As a first step, at least six states are participating in asset mapping activities to inventory various federal and state funding streams. Delaware's process, for example, helps state agencies align their budgets to support workforce development and streamline fundraising efforts for the state. In Wisconsin and Tennessee, resource mapping is occurring regionally as well, with the goal of braiding multiple funding sources to support regional pathways. States de-

scribed various challenges in identifying and leveraging funding, including restrictions on how funds can be spent, misaligned funding goals, complex agency budgets, and, in some states, limited overall funding.

In most states, pathways development is funded from multiple sources in addition to the NSFY grant, including funds from the state, Perkins IV, the *Workforce Innovation and Opportunity Act*, and business and philanthropic partners. States also are seeking additional funds to support pathways activities after NSFY grant funding ends, and they have had some initial success in securing support. In April 2018, Delaware was awarded a three-year $3.25-million grant from Bloomberg Philanthropies for Delaware Pathways. In Wisconsin, the enacted state budget added $500,000 to provide incentives to districts for students earning IRCs.

The Drivers of NSFY Implementation: Cross-Sector Teams

High-quality career pathways leverage resources from multiple levels of education, industries, and community organizations. To facilitate the work of these diverse stakeholders, each NSFY state has established a cross-sector team to collaborate in designing and expanding statewide career pathways aligned to economic needs.

These cross-sector teams are led by a core team of state agency representatives, including the states' K–12 education agencies, which serve as the NSFY grant administrators. The team leads the implementation of the career-readiness action plans developed during Phase One of NSFY and are responsible for plan components aligned with their organizational mission.

Organizations represented on the cross-sector teams vary by state, and teams also change in size and composition as pathways work evolves. In some states, teams include as many as two dozen member organizations. Irrespective of team size, all teams are required to include employers and state K–12 and postsecondary education departments. Other common participants include Governor's offices, workforce and labor agencies, industry representatives, school districts, and postsecondary institutions **(Exhibit 10)**.

The composition of cross-sector teams reflects grant requirements, which call for aligning career pathways with state labor market needs. The teams

Exhibit 10: Core team organizations, by sector

Government Organizations	Department of Education, Community College/Higher Ed, Economic Development, Workforce/Labor, Governor's Office, Workforce Boards, Research/Policy, State Board of Education
Education Providers	School Districts, Technology Centers, Technical Colleges, 2-year Colleges, 4-year Colleges and Universities
Employer and Employee Representatives	Employer Associations, Employer Associations, Employers
Community Organizations	Community Groups, Foundations

also include representatives from individual employers and local education providers, including school districts and colleges. Because pathways services are provided at the site level, local involvement helps ensure that the provider perspective is represented.

Besides contributing to overall pathways system design, team members frequently lead the development and implementation of one or more plan components relevant to their sector. For example, in some states, postsecondary organizations oversee the establishment of statewide articulation agreements or the expansion of dual-credit policies. **Exhibit 11** offers examples of how cross-sector team members in two states—Ohio and Nevada—were tapped to lead various state initiatives to support pathways development.

> *"Many people in the state feel like they not only own but are the creators of [our state's pathway system] and that's how it should be. It is truly a barn-raising effort with multiple stakeholders involved in the work.*
>
> **NSFY Core Team Member, Delaware**

Exhibit 11: Examples of cross-sector team members role in career pathway system development

Ohio		Nevada	
Ohio Governor's Office of Workforce Transformation	Works with employers and the department of education to align the skills students acquire through education with employer needs, including technical and job-readiness skills.	**Governor's Office of Economic Development**	Administers the Learn and Earn Advanced Career Pathways (LEAP) and the Panasonic Preferred Pathways programs.
Ohio Association of Community Colleges	Collaborates on the expansion of College Credit Plus pathways with courses offering college and high school credit.	**Nevada System of Higher Education**	Promotes alignment among secondary education, 2-year and 4-year colleges, and the labor market and oversees postsecondary pathways implementation.
International Brotherhood of Electrical Workers Local 683	Supports the development of career pathways that include apprenticeships and develops industry partnerships for new and existing career pathways.	**Truckee Meadows Community College**	Develops and implements advanced manufacturing career pathways in collaboration with employers.
Adecco Staffing	Connects schools with employers for work-based learning.	**Panasonic Energy Corporation of North America; Tesla Motors, Inc.**	Contribute to the development and refinement of stackable credentials in advanced manufacturing for secondary, postsecondary, and adult students.

Conclusion

Following the launch of NSFY Phase Two, the states have been working to refine their career-readiness action plans and begin implementing pathways.

Due to the timing of grant award, midway through the 2016–17 academic year, states had relatively little time to roll out pathways at the district level. Instead, states worked to establish the legislative, administrative, policy, programmatic, and financial foundation needed to support pathways implementation and expansion over time.

Review of baseline data suggests that states have limited capacity to report on the performance of students participating in career pathways programs. States' definitions of career pathways differ, and most can report data only on students in CTE programs. States also are missing critical data on indicators of student engagement in dual-enrollment and work-based learning programs, although discussions with project teams and data analysts suggest that states are attempting to identify new data elements and reporting policies to capture these data in the future.

One aim of the NSFY initiative is to encourage states to collect comprehensive, rigorous data on career pathways, student engagement, and outcomes. Although a standardized set of career pathways indicators was proposed by the NSFY grant guidelines, consistent reporting on these indicators across states currently is not feasible. During the coming year, RTI will collaborate with states and the NSFY Project Team to identify and build consensus

> *"This model has ignited a passion in teachers. When teachers see that kids can learn in a way that is relevant, real-world, meaningful, and applicable to what they are going to do in the future, teachers get excited about that.*
>
> **NSFY Cross-Sector Team School District Representative, Ohio**

around a standardized set of metrics for collecting consistent nationwide data on the contribution that high-quality career pathways can make to students' career preparation.

Data collection activities during the third project year will gather information on state activities during the 2017–18 academic year, which will provide insight on the first full year of career pathways implementation. These data, combined with baseline data, will offer a first look at the status of state implementation of career pathways and the extent to which the NSFY initiative is expanding student involvement in high-quality career pathways.

Appendix A: Methods

This report summarizes the early implementation experiences of the 10 states engaged in Phase Two of the NSFY initiative. Qualitative data collection and analysis included

- Phone interviews with state data specialists to assess states' ability to provide data on the NSFY metrics.
- Site visits to learn about early implementation experiences and outcomes from state NSFY teams and other stakeholders.
- Reviews of NSFY project documentation from states and the NSFY Project Team.

Quantitative data collection and analysis entailed collecting and summarizing state progress on the five NSFY indicators. Except for updates provided by state reviewers, this report is limited to the data and information available to the team as of June 30, 2018; analysis of data and materials collected after that date will be part of the year three report. The data sources and analysis are described below.

Interviews with data specialists: RTI interviewed data specialists and other stakeholders identified by states as most knowledgeable about available NSFY indicator data; the goal was a better understanding of states' initial approach to compiling indicator data for the Phase One artifacts and what alternative forms of reporting might be possible. RTI used insights from these interviews to develop the indicator reporting guidelines for the baseline and Wave 1 data submissions and to interpret the state data.

Site visit interviews and observations: RTI visited each state between September 2017 and January 2018 to interview NSFY stakeholders and attend stakeholder meetings, when feasible. Site visit interview protocols included questions exploring

- **Program administration:** roles of staff and stakeholders involved in NSFY, their contributions and responsibilities with respect to implementation.
- **Implementation:** key features of NSFY in each state, the relationship between NSFY and other career-readiness initiatives, implementation of career-readiness action plans, local pilot activities, and plans and priorities for the upcoming year.
- **Effects of NSFY:** perceived progress with respect to state and initiative goals, perceived progress toward the goals of stakeholders and agencies involved in implementation, difficulties encountered during implementation, and changes in stakeholder practices and relationships.

Site visit interviewees included core staff leading NSFY implementation, employer/industry representatives, district-level educators, political leaders, state education agency staff, workforce agency staff, other state agency staff, and representatives from partner organizations. RTI identified suitable interviewees from NSFY team member lists obtained earlier in the project and in consultation with state leads.

NSFY documentation: RTI received documents explaining state approaches to NSFY and their implementation progress during the in-person site visits and through ad-hoc communication with state teams. RTI also obtained documents on states' implementation process and achievements provided by the NSFY Project Team, including 2018 Snapshots and July 2018 state profiles.

NSFY data indicators baseline data: As required by the grant guidelines, states provided data on the five NSFY data indicators for students overall and for targeted subgroups. RTI prepared detailed data submission instructions and then reviewed the submissions for inconsistencies and gaps. Using data shared by states, RTI calculated percentages for each indicator for each time point (baseline and Wave 1) and subgroups.

NSFY Key Indicator Data

In spring 2018, the NSFY states reported data on the NSFY Key Indicators for the 2015–16 and 2016–2017 academic years (AYs). Indicator differences between the two years were minimal, and this report presents findings for the 2016–17 academic year only.[1]

Currently, NSFY states' data systems cannot provide data on high-quality career pathways in accordance with the NSFY indicator definitions. Seven states are using state-approved CTE programs of study, as defined by Perkins IV, as a proxy for career pathways. The exceptions are Louisiana, which reported access to the state's recently implemented Jump Start programs, and Delaware, which used programs of study for non-HSHD pathways and Delaware Pathways for HSHD pathways. In addition, Massachusetts is implementing new pathway designations that are not currently reflected in their data systems. Although the data do not currently reflect state NSFY pathways development, they provide an overview of student access to and engagement in CTE programs, which serve as a foundation for pathways

Indicator	Description
Indicator 1a: Career pathways access	The number of students, disaggregated by subgroup, with access to high-quality career pathways that span secondary and postsecondary levels, offer focused career guidance and advisement, blend rigorous core academic and career-technical instruction, include high-quality work-based learning experiences, and culminate in postsecondary or industry credentials with labor market value. Students could access such pathways through their high school, a CTE center, or other course delivery system. States reported access separately for career pathways aligned to HSHD sectors and those aligned to other sectors.
Indicator 1b: Career pathways participation	The number of grades 9–12 students, disaggregated by subgroup, who completed one or more courses in a career pathway during AY2016-2017.
Indicator 2: Career pathways completion	The number students, disaggregated by subgroup, who entered 9th grade in fall 2013 and completed one or more secondary career pathways by June 2017.
Indicator 3: Dual enrollment	The number of students, disaggregated by subgroup, who entered 9th grade in fall 2013 and earned high school and college credit for at least one dual- or concurrent-enrollment course by June 2017.
Indicator 4: Industry-recognized credential attainment	The number of students, disaggregated by subgroup, who entered 9th grade in fall 2013 and earned at least one IRC by June 2017.
Indicator 5a: Postsecondary enrollment	The number of high school students graduating in AY2015-2016 and enrolling in postsecondary education or training programs within 6 months of high school graduation.
Indicator 5b: Employment	The number of high school students graduating in AY2015-2016 and obtaining employment within 6 months of high school graduation.

development. Several states were unable to provide data as requested, either because their data systems did not include the requested indicators, or because the indicators were not captured in the same way as indicators from other states. **Exhibit A1** lists exclusions by state for each indicator, both overall and by subgroup.

Exhibit A1: Year 1 NSFY indicator data reporting summary

State	Participation	Career Pathways Completion	Dual Credit	Postsecondary Enrollment	Employment
DE					12
KY				11	5
LA	1	1			N/A
MA	2	2			2
NV			8	11	13
OH			9		13
OK		4	8	11	N/A
TN			9		14
RI		5,6,7	2,10	5	
WI	3	3	3		13

Within a column, green cells indicate states reporting comparable data for that indicator. Numbered green cells indicate comparable data with limitations, such as missing subgroup data or missing cohort years. The limitations are described in the table footnotes. Gray cells indicate that the data that states can report are not comparable to those reported by other states. A gray cell with N/A indicates that no data were reported for that indicator in 2016–17.

1 In LA, career pathways are Jump Start pathways, whereas other states typically defined all pathways as CTE programs. Jump Start pathways first were available for students entering 9th grade in 2014, limiting data availability for the 2012 and 2013 cohorts.

2 MA only reported data on participation and completion of HSHD pathways.

3 Data are available for grade 11 and 12 students only.

4 The state reported numerator data for "other" race students without a corresponding denominator.

5 Hawaiian/Pacific Islander students have been excluded from aggregate reporting due to state-level counts less than 10.

6 American Indian/Native American students have been excluded from aggregate reporting due to state-level counts less than 10 for HSHD pathways only.

7 RI cohort data are limited to AY2014-2015 (rather than 2013–14) and later due to poor data quality in earlier reporting years. Because students typically complete career pathways later in high school, the state expects that the missing year of data will have a limited impact

8 The state could not provide the requested data by cohort.

9 CTE concentrator data were not available at the time of data submission, so CTE concentrators are excluded from subgroup reporting.

10 RI submitted data limited to AY2015-2016 and later due to poor data quality in earlier reporting years. The state expects that changes in performance across data submission waves could be attributable to data availability.

11 The state did not report National Student Clearinghouse data. Reporting reflects within-state postsecondary enrollment only and is limited to CTE students.

12 DE data cannot be broken out by HSHD/non-HSHD sector and reflect an education and unemployment insurance wage record match rate of only about 20%.

13 Data are limited to CTE students only.

14 The denominator reported for low-income students was lower than the numerator, so low-income students are excluded from subgroup reporting.

Endnotes

[1] All comparisons of estimates were tested for statistical significance and all differences cited are statistically significant at the $p<.05$ level

State	Legislation	Summary of career pathways relevant content
Kentucky	SB 1 (2017)	• Allows career and technical education courses to meet arts and humanities requirement for high school graduation. • Stipulates that the Kentucky Department of Education will be responsible for costs related to initial assessments for industry-recognized certifications for high school students. • Outlines a revision of the statewide accountability system.
	HB 206 (2017)	• Establishes and defines the terms of the Dual-Credit Scholarship Program. • Designates the Kentucky Higher Education Assistance Authority to administer the program and promulgate administrative regulations. • Defines student eligibility for the program, prescribes scholarship amounts, requires an annual report on the program, and establishes the Dual-Credit Scholarship Program trust fund.
	HB 247 (2018 – introduced)	• Abolishes the existing Dual-Credit Scholarship system. • Permits the use of Kentucky Educational Excellence Scholarships to pay for dual-credit coursework and qualified workforce training programs.
	HB 3 (2018)	• Mandates that school districts must provide all students (elementary, middle, and high school) with workplace ethics instruction created or chosen in consultation with their local workforce board, starting in the 2019-20 school year. Programs must focus on the following skills: adaptability, diligence, initiative, knowledge, reliability, being drug-free, and teamwork. • Students completing this training will receive a special seal on their diploma or a certificate.
Massachusetts	HB 4297 (enacted in the House and Senate as HB 4732) (2018)	• Allocates $75 million for career and technical education programs designed to re/train adults for high-skill, high-demand fields through a competitive grant program. • Provides $25 million match for Manufacturing USA grants to train students at higher education institutions for positions in manufacturing fields.
Nevada	SB 458 (2017)	• Outlines necessary information and funding sources for the development and oversight of a statewide longitudinal data system that includes labor market data.
	SB 19 (2017)	• Sets dual-enrollment requirements for students, such as submitting a dual-enrollment application 60 days in advance of the course and satisfying prerequisites. • Mandates 4-year academic plans for 9th graders to begin planning for training and education in secondary school and beyond.
	AB 482 (2017)	• Outlines state spending for career and technical education programs and sets new criteria for funding and disseminating grant funds for career and technical education. • Mandates industry-sector council involvement in career and technical education programs.
	AB 7 (2017)	• Updates career and technical education regulations to match those in the federal *Every Student Succeeds Act*. • Establishes criteria for high school students to receive a "career-ready endorsement" or a "college-ready endorsement" on their diploma. • Establishes a process for regulating these endorsements and incentive grants and reimbursements to high schools and districts using these endorsements. • Mandates a public awareness campaign on these new endorsements.
	SB 516 (2017)	• Formally establishes the offices and duties of the Office of Workforce Innovation housed within the Office of the Governor. • Outlines responsibilities of the office and its executive director, including responsibility for apprenticeships in Nevada and oversight of the statewide longitudinal data system.
	SB 66 (2017)	• Changes terminology from "internship" to "work-based learning program" and outlines requirements for establishing and participating in work-based learning programs, including removing a limit on the number of credits that can be earned through work-based learning programs. • Outlines reporting processes for school districts and charter schools regarding work-based learning programs. • Establishes a grant from the Nevada Department of Education, available to schools and nonprofits, to develop and institute work-based learning programs.

State	Legislation	Summary of career pathways relevant content
Ohio	HB 49 (2017)	• Requires districts to create a framework, to be implemented in the 2018–19 school year, for awarding credits for students who demonstrate competency through work-based learning, internships, or co-operative education. • Establishes new Ohio Means Jobs seal for high school diplomas, certifying students' work readiness and ethics competencies. • Creates a workforce collaboration model to be implemented in six regions statewide among workforce boards, Chambers of Commerce, economic development organizations, secondary and post-secondary education, and technical preparation regional centers to offer such services as internships, cooperative learning, apprenticeships, career exploration, and problem-based learning aligned to high-demand fields.
Oklahoma	HB 2155 (2017)	• Establishes a requirement for all students to develop an Individual Career and Academic Plan (ICAP) to establish academic and career goals, explore postsecondary career and educational opportunities, align coursework and curriculum, and support postsecondary transitions.
	SB 1196 (2018)	• Expands student eligibility for tuition waivers for concurrent enrollment. • Expands the tuition waiver amount for high school seniors and juniors; for juniors, the availability of funds is contingent on availability.
	SB 1171 (2018)	• Establishes a work-based learning program under the authority of the Governor's Council on Workforce and Economic Development. • Requires work-based learning partners to provide their expertise, time and resources as necessary to advance and sustain the work-based learning goals of Oklahoma Works, align their efforts, and account for their progress annually.
	SB 1370 (2018)	• Modifies state curriculum requirements for high school to include the option of a one year of full-time, three-hour career and technology program leading to an industry credential/certificate or college credit.
Rhode Island	SB 2184 (introduced 2018)	• Develops a funding formula allowing students to attend career and technical education programs outside their home districts, with costs paid by home districts.
	SB 2349 (introduced 2018)	• Permits students 16–18 years old to participate in career and technical education internships or teacher-supervised job training programs through their education center.
Tennessee	SB 1975 (introduced 2017)	• Creates a 2-year advanced integrated industrial technology pilot program. • Establishes a grant for students to earn dual-enrollment credits toward an associate of applied science degree in advanced integrated industrial technology, beginning in the 2019-20 school year.
	Public Chapter 991, SB 1649 (2018)	• Provides workers' compensation insurance coverage for work-based learning students. • Establishes a work-based learning student grant program.
	HB 511 (2017)	• Allocates more than $23 million to college, career, and technical education.
	HB 2652 (introduced 2018)	• Establishes the "state seal of STEM" and criteria by which students can earn this seal on their high school diploma. Criteria include a cumulative grade point average at or above 3.0 for high school STEM courses; completion of 4 credits each in mathematics and science; demonstration of achievement through SAT, Advanced Placement, or IB scores, or through college-level courses taken through dual enrollment.
Wisconsin	AB 64 (2017)	• Introduces new measures into the state education accountability system related to youth apprenticeships, Advanced Placement course taking, and industry-recognized credentials. • Modifies the existing Wisconsin Fast Forward program to allow the Department of Workforce Development to award grants for "collaborative projects among school districts, technical colleges, and businesses to provide high school students with industry-recognized certifications in high-demand fields, as determined by the Department.
	AB 745 (2018)	• Beginning in the 2018–19 school year, allows high school seniors in good standing to participate in the first year of a registered apprenticeship training program, if their district can certify that the student will graduate on time at the end of their final year of the program and receive credits toward graduation for apprenticeship instruction and on-the-job training.