

# Education-to-Workforce Indicator Framework

## Chapter I. Introduction and approach

### Framework excerpt

This file contains Chapter I of the Education-to-Workforce Indicator Framework. This chapter introduces the framework, describes the approach used to develop it, and offers essential questions to guide framework use. The full framework includes five chapters:

- I. Introduction and approach
- II. Indicators and metrics
- III. Disaggregates
- IV. Evidence-based practices
- V. Data equity principles



### A. Overview

At the time of this writing, the education and workforce sectors face a generation-defining moment of challenge and opportunity. The COVID-19 pandemic exacerbated pre-existing inequities that had already persisted far too long, changing how individuals engage with pre-K programs, schools, colleges, employers, and the world at large. The impacts of these disruptions are only beginning to be understood, but early evidence suggests a toll on student learning, educational attainment, employment, and physical and mental well-being that has disproportionately affected communities of color and communities experiencing poverty.<sup>1, 2, 3, 4, 5</sup> Although much is still to be learned, we know that a return to the status quo will not be sufficient to effectively assess and address deep-seated inequities. Education, workforce, and adjacent systems will need to collaborate to develop responses grounded in equity and evidence.

Many states and localities have already been working toward this goal. Building on decades-long efforts, various place-based collective impact initiatives have emerged seeking to improve the systems that affect individuals' journeys from cradle to career and beyond. Their focus is on *systems change*—that is, shifting conditions that have produced and maintained racial and socioeconomic disparities. A key component of successful systems change is a data infrastructure that can produce insights to help partners across sectors continuously learn, adapt, and improve.<sup>6</sup> To address this need, more and more states are building, expanding, or modernizing state longitudinal data systems to understand the experiences and outcomes of individuals seamlessly across four core sectors—pre-K, K–12, postsecondary, and workforce systems—and in some cases expanding to include additional adjacent sectors, such as social services. For example, many states are developing early childhood integrated data systems to collect and link information across multiple public agencies that serve young children.<sup>7</sup> Currently, 18 states have a longitudinal data system that connects data from all four core sectors,<sup>8</sup> and 29 states have proposed using federal funds from the Elementary and Secondary School Emergency Relief Fund (ESSER) to link or improve their state data systems.<sup>9</sup> Underlying these efforts is an acknowledgment that “what gets measured gets done,” but also a realization that siloed data and action are not enough to shift the systems that produce inequitable outcomes.

The Education-to-Workforce Indicator Framework (E-W Framework), commissioned by the Bill & Melinda Gates Foundation and developed in partnership with leading experts representing more than 15 national and community organizations, is designed to encourage greater cross-sector collaboration and alignment across local, state, and national data systems by promoting the use of a common set of metrics and principles to assess and address disparities along the pre-K-to-workforce continuum. Based on a review of leading frameworks and research, together with significant input from experts, the E-W Framework offers holistic guidance for translating data into action to identify and address disparities through detailed guidance on the following:

- Data equity principles to support ethical data use across the data life cycle
- Essential questions that every E-W data system should be equipped to answer
- Indicators that matter most along the E-W continuum for states and localities to measure
- Key student characteristics to inform data disaggregation
- Illustrative evidenced-based practices shown to move the needle on key outcomes

Through improved data systems, policies, and practices, policymakers, administrators, practitioners, community organizations, and researchers will be better poised to support the individuals least well served by current education and workforce systems in achieving economic mobility and security.

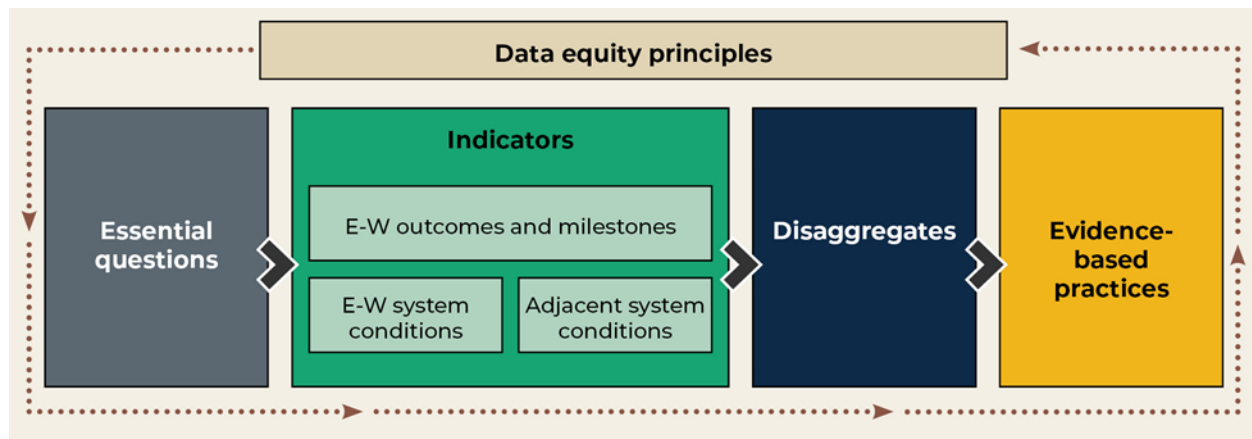
### The framework's North Star

**Economic mobility and security** are achieved when individuals have the income and assets needed to attain and preserve their economic independence; possess power and autonomy over their lives; and feel the respect, dignity, and sense of belonging that come from contributing to one's community. **Equity** is achieved when structural barriers based on race, ethnicity, gender, sexual orientation, zip code, class, disability, and other factors are dismantled so an individual's background and identities no longer predict their outcomes in life.

## B. Why this framework?

The E-W Framework synthesizes the best thinking in the field to provide a coherent set of indicators and guidance that center equity and reflect the full pre-K-to-workforce continuum. It builds on and highlights existing research and policy efforts taking place across the country to measure and act on what matters most. Many other valuable indicator frameworks are available from leading organizations, such as the National Academies of Sciences, Engineering, and Medicine; Council of Great City Schools; Education Strategy Group; Urban Institute; StriveTogether; Institute for Higher Education Policy; and CORE Districts Data Collaborative, among others. Our goal was to develop a holistic framework for measuring when and why individuals gain and lose momentum along their journey from pre-K to the workforce. We reviewed more than 40 frameworks (Appendix A) and consulted with E-W researchers, policymakers, practitioners, and community advocates to bring together perspectives from multiple sectors and identify areas of convergence as well as areas for further development in the field. The result is a single, comprehensive framework that includes five components: (1) essential questions, (2) indicators, (3) disaggregates, (4) evidence-based practices, and (5) data equity principles (Exhibit I.1). Together, these framework components provide the guidance E-W systems need to use data to promote equity.

### Exhibit I.1. Components of the E-W Framework



The **essential questions** component provides a list of 20 questions we see as essential for E-W data systems to answer about how students are performing and progressing through their education journeys from pre-K into the workforce. Each of these questions can be mapped back to key indicators

that appear in the E-W Framework. To decide which indicators to prioritize for data collection and analysis, states and localities must start with a list of the essential questions that require data to answer.

The **indicators** component provides definitions and ways to measure E-W student outcomes and milestones and institutional and system conditions associated with economic mobility and security. To drive change, E-W data systems must measure how students are performing and progressing toward key outcomes, as well as how underlying conditions may be driving disparities and impeding students' chances for success. Failing to examine both individual and system-level data carries the risk of neglecting the role that systems play in shaping the racial and socioeconomic inequities that influence outcomes. For this reason, the E-W Framework includes three types of indicators:

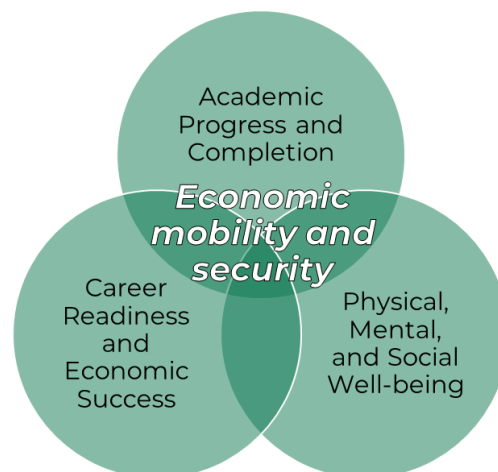
- 1. Outcomes and milestones.** Key outcomes and milestones along the E-W continuum strongly associated with individuals achieving economic mobility and security.
- 2. E-W system conditions.** Key institutional or systemic environments, policies, and practices within E-W systems that support positive E-W outcomes.
- 3. Adjacent system conditions.** Key experiences, situations, and circumstances outside of E-W systems that support positive E-W outcomes.

Alongside each recommended indicator, the framework presents a detailed synthesis of published research and policy expertise to substantiate its inclusion within the framework, provide recommended standard metric(s), and offer measurement considerations across sectors. The indicators included in this framework were selected because they have the power to inform local, state, and federal policy and practice. They emphasize the importance of **academic progress and completion; physical, mental, and social well-being; and career readiness and economic success** in achieving this end goal (Exhibit I.2). The indicators are organized by these three interrelated domain areas that affect individuals' journeys toward economic mobility and security.

The **disaggregates** component includes key background characteristics that E-W systems should use to disaggregate data and assess disparities, along with guidance on how best to collect the information necessary for disaggregation. By disaggregating outcomes and systems indicators, data users can identify disparities, target solutions, and measure progress toward greater equity. When we couple disaggregated data on individual-level outcome indicators with systems-level condition indicators, we can hold organizations and institutions accountable for creating the conditions under which everyone can thrive, no matter their race, ethnicity, income, or pathway into the workforce.

The **evidence-based practices** component includes examples of E-W practices shown to move the needle on key outcomes and system conditions for individuals least well served by E-W systems, along with guidance for decision makers on how to select the evidence-based practices most appropriate for

**Exhibit I.2. Indicator domains**



their context. This component is intended to drive action by linking specific indicators to examples of interventions E-W system leaders can consider implementing to address disparities. Data alone are not enough to drive change. After disaggregating data on key indicators, E-W systems must act to close the observed disparities and continue monitoring the data for progress.

At the heart of the framework is a set of **data equity principles** for centering equity throughout the data life cycle. Data can empower practitioners, policymakers, and community members to make decisions grounded in evidence, but they can also reinforce deficit narratives, biases, and other long-standing structural inequities when used inappropriately. Data equity principles offer guidance for data users to ensure data are meaningful, accessible, and actionable for those communities least well served—thereby minimizing the risk of harm while maximizing the potential to promote greater equity through data use. For example, it is critical to have data safeguards in place and ensure that privacy and security considerations are built into the work from the beginning. This framework component provides guidance on seven leading data equity principles to help E-W systems use data in service of equity goals. The order in which the principles are listed is not indicative of their relative importance—all seven principles must be put into action to achieve data equity. In particular, engaging community members as data experts (Principle 7) is critical to successfully implementing all of the other principles and meeting equity goals.

**“It’s difficult to continuously advance economic mobility without system interventions.... The federal indicators we need to track are not responsive to the systemic challenges we face.”**

— *Community advocate*

### C. Who is the framework for?

The E-W Framework is designed for a broad group of policymakers, administrators, community organizations, and researchers who use education and workforce data to diagnose inequities; implement evidence-based decisions; and evaluate and monitor the impact of policies, programs, and investments to address those inequities. Effectively collecting, accessing, and using E-W data at scale requires significant coordination, collaboration, and investment across pre-K, K–12, postsecondary, workforce, and adjacent sectors. Given the framework’s goals of encouraging greater cross-sector collaboration and alignment across data systems, a key audience of the framework consists of system leaders across sectors who seek to enhance the development and use of state longitudinal or pre-K-to-workforce data systems; for example, by collecting additional data, linking existing data across sectors, and reporting on new indicators to make the data more actionable. Although many states are building, expanding, or modernizing their state longitudinal data systems, it can be difficult to know which data to prioritize linking, collecting, and reporting. This resource can help system leaders to assess their current data systems, identify opportunities and gaps, and plan for future enhancements.

These system leaders should represent multiple sectors and may be representatives of agencies in a system coordination or funding role; representatives of early learning, education, workforce, and other service-providing agencies within the system; community advocates; or elected officials. For instance, key actors typically involved in governing the pre-K-to-workforce data system include the governor; state superintendent of schools; chancellor of the state university system; executive director of independent colleges; leadership representing community colleges, secretary of labor or workforce; leadership representing early childhood education; head of a department of children, youth, and

families; and other state policy leaders identified by the governor or legislature.<sup>10</sup> Additionally, community representatives and practitioners are beginning to play an increasingly central role within state longitudinal data system governance, as in California's new Cradle-to-Career Data System.<sup>11</sup>

### D. How can the framework be used?

The E-W Framework offers a blueprint for improvements to data systems. In particular, the framework can help users do the following:

- Identify and track the most consequential indicators to measure along the E-W continuum, including indicators of student outcomes *and* system conditions
- Promote alignment around common definitions and equity practices
- Drive greater consistency in data collection and reporting practices
- Better support individuals least well served by current systems
- Establish processes to use data ethically and safely, thereby promoting access to information while protecting individuals' privacy

Applying the framework will vary based on the maturity of state and local data infrastructure and will depend on state and local policy agendas and resource levels. The 99 indicators in the framework are not meant to be exhaustive, nor is it expected that every state or community will implement every indicator, or all of them at once. Both practical considerations and local priorities will determine which indicators a community should track and report over time. On the practical front, some indicators require the collection of institutional data that may be readily available (for example, expenditures per pupil), whereas many others require individual-level data that administrative data systems are already collecting but may or may not be linked to other individual-level records from other sectors. Other indicators may not yet be collected systematically and might require administering a new assessment or survey tool. Also, for a small number of indicators, measurement is still being refined and tested in the field.

We acknowledge these varying degrees of data availability and measurement feasibility across indicators and contexts. However, to disrupt inequities and depart from the status quo, the framework promotes not just indicators for which data already are widely available, but those most meaningful, actionable, and important to measure based on existing research and the input of field experts and community partners. Even in cases where indicators are not or cannot be readily measured currently, by highlighting their value, we hope system leaders can prioritize key outcomes and system conditions to which they should pay attention and generate demand for more and better data.

E-W system leaders should begin by identifying essential questions based on their state priorities. For example, system leaders focused on improving transitions from high school into the postsecondary sector may be especially interested in understanding whether students have access to and complete rigorous and accelerated college preparatory coursework that prepares them for college, whether students are taking the necessary steps to submit college and financial aid applications with sufficient counseling support, and whether they are then matriculating to well-matched postsecondary institutions that successfully graduate their students with credentials of value. (See the section on Essential Questions for guidance on the questions every E-W data system should be able to answer.)

With an understanding of the priority questions, system leaders can use the E-W Framework to identify the indicators they need to measure to answer those questions. For instance, the framework

provides guidance on several student outcomes and milestones and related system conditions that need to be measured to understand and improve transitions from high school to college, such as whether students have access to and are completing college preparatory and early college coursework; whether they have access to college advising supports and submit college and financial applications on time; and whether they select well-matched postsecondary institutions, complete the necessary pre-matriculation tasks over the summer, and enroll the fall after graduating from high school.

After reviewing the list of indicators recommended for their essential questions, system leaders can determine whether the necessary data are already being collected, linked, and reported, or whether they must take action to ensure the data are available. If data for the recommended indicators and disaggregates are already available, thus enabling data analysis, system leaders may use the framework to determine whether evidence-based practices related to postsecondary transitions—such as accelerated postsecondary pathways and comprehensive, integrated advising—are already in place, or whether a new practice should be selected using guidance from the framework. System leaders may also consult the data equity principles to ensure any new or existing data are being collected, stored, analyzed, and reported in a manner that supports equity goals. The framework thus provides multiple entry points and use cases, depending on the state of existing data systems and local priorities.

The COVID-19 pandemic has provided an opportunity to reassess the types of data most needed to support decision making and invest in any necessary enhancements to data systems. An analysis of state legislation and state plans for using ESSER funds identified several areas where states are looking to improve data availability, including investing in early warning systems that identify whether students are on track for high school graduation; safely and securely gathering data on students' social, emotional, and mental health needs; and linking data to better understand transitions between K–12, postsecondary education, and the workforce.<sup>12</sup> In addition to ESSER, the Data Quality Campaign has highlighted other federal funding sources that state and local governments can use to collect and report the data they need to respond to the challenges presented by the pandemic.<sup>13</sup> Some states, like California, are also investing heavily in ambitious new plans for enhanced data systems, demonstrating that the status quo of E-W data can be reimagined and disrupted. (See the discussion about California's Cradle-to-Career Data System on the next page.)

## California's cradle-to-career data system

California is undertaking an ambitious plan to develop a cradle-to-career data system, exemplifying an equity-centered approach to designing and developing a new E-W data system. Despite enrolling more students than any other state, California had historically lagged in creating a state longitudinal data system. However, in 2021, Governor Gavin Newsom signed a bill to build a data system that brings together data from early learning programs, schools, colleges, financial aid providers, employers, workforce training programs, and social service agencies. The new data system will inform [six critical areas of inquiry](#) identified by the California Cradle-to-Career Data System Act:

1. The effect of early education on student success and achievement throughout the education pipeline and in the workforce
2. The effect of state intervention programs and targeted resource allocations in primary education
3. How prepared high school students are to succeed in college
4. How long it takes students who transfer from community college to a four-year postsecondary institution to graduate with a B.A. degree
5. The effect of access to state financial aid on college access, completion, and other long-term outcomes
6. The effects of graduation from high school, community college, and four-year postsecondary institutions on workforce outcomes

As one of the last states to implement a longitudinal data system, California has learned from the successes and failures of its predecessors and implemented a series of best practices, including involving broad representation from agencies in and outside of education and community members in the design of the system, and developing a transparent, inclusive decision-making governance structure. For instance, members of the public (including practitioners, families, students, and workers) have decision-making authority on the governing board equal to that of agency leaders. A third of the seats on the governing board are reserved for members of the public. This structure is codified into the authorizing legislation.

Over 18 months, more than 200 individuals from 15 state agencies and several educational institutions, research and policy organizations, and community groups worked together to design [the blueprint](#) for the California Cradle-to-Career Data System. The blueprint identified [176 data points](#) to prioritize for the new data system (including 37 of the indicators that appear in the E-W Framework). It detailed user personas and plans for how actionable data would be made available to them through user-centered dashboards and tools. For example, the [California College Guidance Initiative](#), a college- and career-planning platform, will soon provide real-time data to students, parents, and educators to help them track students' progress in completing A–G course requirements necessary for admission to a four-year college.

The blueprint also included plans for community engagement and training to ensure the data could be used effectively by students, families, educators, researchers, and policymakers alike. This included emphasizing asset-based and student-centered approaches to displaying and interpreting information; providing resources in plain language and multiple languages; and partnering with community leaders to serve as messengers and build their capacity to conduct outreach about the data system. As the development and rollout of California's Cradle-to-Career Data System continues over the next several years, other states will now have the opportunity to learn from California.



## E. How was the framework developed?

In April 2021, the Bill & Melinda Gates Foundation engaged [Mathematica](#) and its data equity partner, [Mirror Group](#), to lead the development of the E-W Framework, with input from a range of experts connected to E-W research, advocacy, policy, and practice at the local, state, and federal levels. The E-W Framework builds on the prior [P-16 Framework](#), which identifies a set of factors and critical milestones from pre-K to postsecondary education that matter most to priority students and their educational success; it also builds on a number of other leading frameworks in the field. The E-W framework offers an update to the P-16 framework by integrating new developments in the field, especially those related to workforce and mobility indicators and system-level indicators that drive inequities.

We began by convening two advisory groups that helped us develop the framework through regular convenings, meetings, and review periods:

1. An **external advisory board** of 15 E-W data experts and leaders, including state and district policymakers, researchers, and policy advocates
2. An **internal working group** of 10 Bill & Melinda Gates Foundation program officers who work with grantees across the country on early learning, K–12, postsecondary, pathways, economic mobility, and data initiatives

### External Advisory Board members

- **Tauheedah Baker-Jones**  
Atlanta Public Schools
- **Keith Catone**  
Center for Youth & Community Leadership in Education (CYCLE) at Roger Williams University
- **Sagar Desai**  
StriveTogether
- **Afet Dundar**  
National Student Clearinghouse
- **Maria Echaveste**  
The Opportunity Institute
- **Nikki Edgecombe**  
Community College Research Center at Teachers College, Columbia University
- **Orville Jackson**  
GreatSchools
- **Carlise King**  
Child Trends
- **David Montes de Oca**  
CORE Districts
- **Ryan Reyna**  
Education Strategy Group
- **Zelphine Smith-Dixon**  
special education policymaker and school improvement expert
- **Mamie Voight**  
Institute for Higher Education Policy
- **Rachel Vilsack**  
National Skills Coalition
- **Terra Wallin**  
The Education Trust
- **Kelia Washington**  
Data Quality Campaign

### Bill & Melinda Gates Foundation internal working group members

- **Jacklyn Altuna Willard**  
Early Education and Pathways
- **Leah Bradford Francis**  
Washington State Initiative
- **Julia Gray**  
Postsecondary Success
- **Kosar Jahani**  
Economic Mobility and Opportunity
- **Mariana Preciado**  
K–12 Education
- **Tafaya Ransom**  
Postsecondary Success
- **Jamey Rorison**  
Postsecondary Success
- **Brandee Tate**  
K–12 Education

We collaborated with these two advisory groups to identify a set of guiding design principles that center equity and reflect shared values to uphold. Exhibit I.3 lists “from-to” value statements that represent shifts in traditional approaches to performance measurement, along with corresponding design principles for the E-W Framework. We offer these design principles both for transparency and to guide how users approach the framework. For instance, one of the key values for the development of the framework was a shift from deficit to asset framing. This value translated into a design principle focused on offering definitions of student success inclusive of both academic and non-academic outcomes valued by priority communities, as well as valuing and reflecting multiple pathways to success.

**Exhibit I.3. Values and design principles of the E-W Framework**

“From-to” value statements	Design principles
Narrow notions of success ⇒ Broader notions of success	<ul style="list-style-type: none"> <li>Definitions of student success include both academic and non-academic outcomes valued by priority students and the practitioners and communities that support them.</li> <li>The framework values and reflects multiple pathways to success.</li> </ul>
Deficit framing ⇒ Asset framing	
Focus on a single assessment or milestone ⇒ Focus on a system of indicators	
Focus on the individual ⇒ Focus on the system	<ul style="list-style-type: none"> <li>The framework promotes cross-sector collaboration across pre-K-to-workforce systems.</li> </ul>
Judgement oriented ⇒ Improvement oriented	
Accountability as blame and shame ⇒ Reciprocal and shared accountability	<ul style="list-style-type: none"> <li>Indicators of individual outcomes are presented alongside indicators of E-W and adjacent system conditions and evidence-based practices.</li> <li>Indicators are actionable for policymakers and practitioners to identify and address equity gaps, including root causes.</li> </ul>
Top-down approaches ⇒ Collaborative approaches	<ul style="list-style-type: none"> <li>The framework centers a diversity of knowledge and expertise, including from those who live the experiences being measured.</li> </ul>
Prioritizing efficiency ⇒ Prioritizing trust and being responsive to needs	
Assuming racial and socioeconomic equity will be addressed if we look at disparities ⇒ Intentionally centering racial equity in determining what is measured, how it is measured, and implications for improvement	<ul style="list-style-type: none"> <li>The framework articulates and centers equity principles from development to application.</li> </ul>
Proliferation of metrics and frameworks ⇒ Cohesive set of comparable yet relevant indicators that can be used to consistently measure equity gaps within and across locales (for example, states) and over time	<ul style="list-style-type: none"> <li>The framework prioritizes a finite set of indicators that reflect the best thinking in the field and can be measured comparably and feasibly at scale.</li> </ul>

Note: This table is adapted from a draft of U.S. Program Design Principles by the Bill & Melinda Gates Foundation (June 2021).



**“For me as a parent, it is important to get a full picture of the school outside of academics.”**

— *Community advocate*

Having identified these core values and design principles, we followed a similar approach to develop each component of the E-W Framework: we reviewed and synthesized existing frameworks, reports, and research, and then shared findings with the two advisory groups for input in a continuous feedback cycle. During working sessions with these groups, we solicited targeted feedback on the components and facilitated group dialogue to grapple with important questions, tensions, and trade-offs that emerged during development of the framework. Advisory group members pointed us to leading resources we should consult, highlighted advances and gaps in the field, and weighed in on indicators and other content to prioritize for inclusion in the framework, given its broad focus.

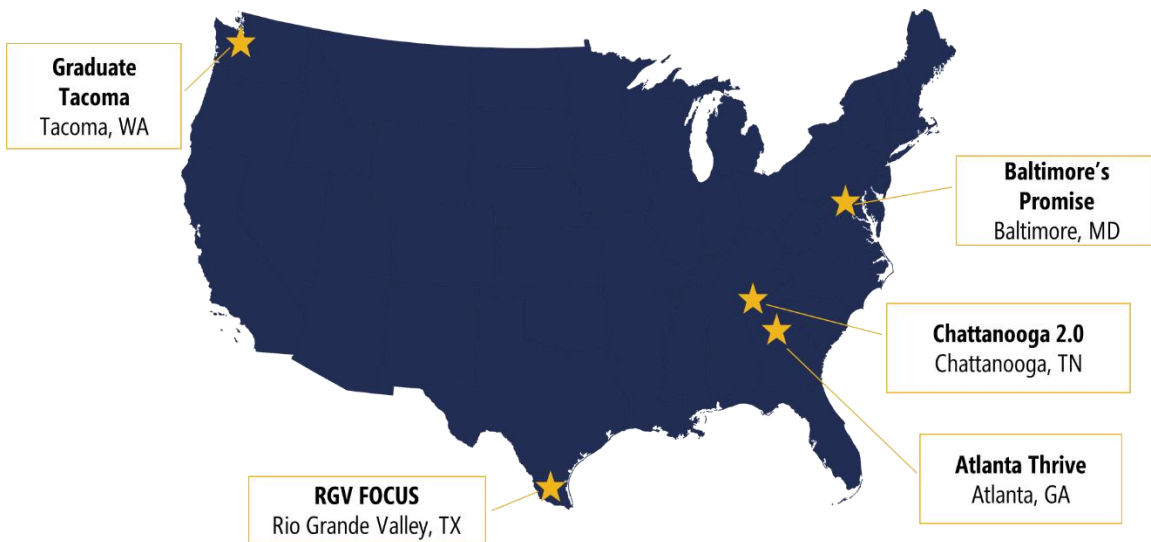
For instance, to develop the indicators component, we began by conducting a crosswalk of more than 40 existing indicator frameworks, from which we identified nearly 200 candidate indicators for initial review. To guide the review process, we identified a set of review criteria with input from the advisory boards. Review criteria included whether the indicator met the following criteria:

- Actionable for addressing inequities
- Predictive of later education or workforce success
- Meaningful to parents, students, educators, and other groups
- Feasible to measure
- Comparable across contexts
- Valid for disaggregation
- Minimizes unintended consequences (for example, unlikely to create perverse incentives)

We then presented the findings and gathered input to further refine the list of indicators, as well as their definitions and recommended metrics. The approach to developing each framework component is described in greater detail in the corresponding chapters.

In addition to engaging with the two advisory groups throughout the project, we led input sessions during the early development phase with staff and partners from five collective impact organizations across the country (Exhibit I.4) to learn about how the framework could support their work. Each of these organizations comprises parents, practitioners, community leaders, and institutional partners working together to promote systems change in their communities. These experts surfaced important gaps in current data systems and practices that too often omit contextual, system, and institutional factors that perpetuate inequities and leave out the communities most affected by decision-making processes. They also discussed other types of data they use most or wish they could use to support individuals in their communities. These sessions helped us vet and validate the framework's design principles and prioritize indicators that community leaders and advocates said were most critical to their work.

**Exhibit I.4. Collective impact organizations consulted**



**F. Essential questions**

Data systems should provide information that is useful to decision makers in advancing equity. Every state and locality should be able to ask and answer essential questions about how their students are performing and progressing throughout their education journeys from pre-K into the workforce. Easily accessible and high-quality data can make it possible to answer these questions, guide action to address equity disparities, and ensure all students are on a path toward economic mobility and security. However, current gaps in state pre-K-to-workforce data collection, system linkages, and availability make it difficult to answer critical questions about student outcomes and E-W systems. In particular, the absence of linked data across different sectors reinforces a siloed approach to policy and practice that fails to recognize and address the needs of the whole child, the whole person, or the whole community. We must take a holistic approach to inquiry and action to drive systems change.

“We need to ask the right questions to get the information we want to look at.”

— *Community advocate*

When deciding which indicators to prioritize for data collection and analysis, states and localities must start with a list of the essential questions about students’ journeys along the pre-K-to-workforce continuum that require data to answer. In many instances, decision makers already have access to large quantities of data—though these data may not always be what are needed to answer the questions that matter most. It is quite possible to be “data rich but information poor.” Along with disaggregation, approaching data through the lens of essential questions can support a culture of inquiry and continuous improvement and promote data-driven decision making.<sup>14</sup> In fact, research shows that when school leaders used essential questions to guide collaborative data use in their schools, staff became more engaged with the process and quickly learned how to identify and analyze different types of data to answer those questions.<sup>15</sup>

Below, we have compiled 20 questions we see as essential for E-W data systems to answer. Each of these questions can be mapped back to key outcome and milestone indicators, as well as the E-W and adjacent system conditions indicators that appear in the framework. (See Appendix F for a mapping of questions to indicators.) Although some of these questions may receive greater attention depending on local policy priorities, we believe all 20 questions are critical for assessing and addressing disparities along the pre-K-to-workforce continuum and guiding action to ensure all individuals can achieve economic mobility and security. To ensure these questions lead to meaningful action, data should be disaggregated by race, income, gender, and other characteristics to reveal disparities that may be masked in the aggregate.

We encourage framework users to follow an essential-questions approach to determine how the framework can best support their needs. Essential questions can help system leaders prioritize new data they need to collect and highlight opportunities to yield greater insight from existing data (for example, by linking data or creating new data dashboards or reports). In addition to tracking trends in localities over time, these questions should be used to identify which schools and institutions are serving their students well—and which are not—to better understand how to address disparities and improve student outcomes. Communities may have variations on the questions that are most important in their contexts, but we offer these 20 essential questions as a starting point for conversations around data and equity.

## 20 essential questions for E-W systems

The following essential questions can be answered using indicators from the E-W Framework:

1. Do students and families have access to adequate **public supports** and **neighborhood conditions** to enable them to succeed academically and in the workforce?
2. Are eligible children enrolled in **quality, full-day pre-K programs**?
3. Are children demonstrating **kindergarten readiness** across the five learning domains?
4. Do students have access to **quality, full-day kindergarten**?
5. Are students demonstrating satisfactory **academic progress, consistent attendance, and positive behavior** to be considered **on track in the early grades**?
6. Do students have **access to quality school environments**, including quality curricula and instruction, experienced teachers, effective leaders, and adequate funding?
7. Are there populations of students that disproportionately experience **exclusionary discipline practices** that disrupt their educational experience?
8. Are students meeting **reading and math benchmarks** in grades 3 and 8?
9. Are teachers and schools making sufficient **contributions to academic growth** for students?
10. Do students attend schools with **safe, inclusive, and supportive environments** that support their **social, emotional, mental, and physical development and well-being**?
11. Are students demonstrating satisfactory **academic progress, consistent attendance, and positive behavior** to be considered **on track for high school graduation**?
12. Do students have access to and complete rigorous and accelerated **college preparatory coursework**?
13. Are students taking the necessary steps to **apply to college** after high school with sufficient **counseling support**?
14. Are students **graduating from high school** on time and successfully transitioning into **further education, training, or employment**?
15. Are there **quality pathways** for students who pursue career training that lead to employment in **quality jobs**?
16. Are students **matriculating to well-matched postsecondary institutions** that successfully graduate their students with credentials of value?
17. Do students attend postsecondary institutions that provide **adequate financial aid** and are **adequately funded** to offer a quality educational experience?
18. Are students experiencing sufficient **early momentum in postsecondary education** to be on track for on-time completion?
19. Are students **completing credentials of value** after high school that set them up for success in the workforce?
20. Are students gaining access to **quality jobs** that offer **economic mobility and security** after high school or postsecondary training and education?

## Introduction and approach endnotes

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<sup>1</sup> Dorn, E., Hancock, B., Sarakatsannis, J., & Viruleg, E. (2020). *COVID-19 and learning loss—disparities grow and students need help*. McKinsey & Company. <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-learning-loss-disparities-grow-and-students-need-help>

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