Summary

Children are already learning at birth, and they develop and learn at a rapid pace in their early years, when the environments, supports, and relationships they experience have profound effects. Their development is not only rapid but also cumulative. Children’s health, development, and early learning provide a foundation on which later learning—and lifelong progress—is constructed. Young children thrive when they have secure, positive relationships with adults who are knowledgeable about how to support their development and learning and responsive to their individual progress. Thus, the adults who provide for their care and education bear a great responsibility. Indeed, the science of child development and early learning makes clear the importance and complexity of working with young children from infancy through the early elementary years, or birth through age 8. It also illuminates the essential need for consistency and continuity in early care and education both over time as children develop and across systems and services. Yet just when children would benefit most from high-quality experiences that build on each other consistently over time, the systems with which they interact are fragmented.

The current state of the care and education workforce for these children is one of the most telling indicators of this fragmentation. Despite their shared objective of nurturing and securing the future success of young children, these professionals are not acknowledged as a cohesive workforce, unified by their shared contributions and the common knowledge base and competencies needed to do their jobs well. They work in disparate systems, and the expectations and requirements for their preparation and credentials have not kept pace with what the science of child development and early learning indicates children need. Care and education for young children take place in many different programs and settings, with different practitioner traditions and cultures; funded through multiple governmental and nongovernmental sources; and operating under the management or regulatory oversight of diverse agencies with varying policies, incentives, and constraints. Strengthening the workforce to better reflect the science is challenging given this complex, and often decentralized, oversight and influence.

Better support for care and education professionals will require mobilizing local, state, and national leadership; building a culture in higher education and ongoing professional learning that reflects the importance of establishing a cohesive workforce for young children from birth through age 8; ensuring practice environments that enable and reinforce the quality of their work; making substantial improvements in working conditions, well-being, compensation, and perceived status or prestige; and creating consistency across local, state, and national systems, policies, and infrastructure. This report offers a blueprint for action to connect what is known about how to support children to what is done in the settings where children grow and develop.
STUDY CHARGE AND SCOPE

Young children experience important influences from many adults, including their parents or other primary caregivers1; their siblings and other family members; their peers; members of their communities; and the adults who work with them to provide for their care and education, health, and security. These professionals represent one of the most important channels available for improving the quality of early care and education.

To that end, this study was commissioned to focus on the implications of the science of development and early learning for care and education professionals who work with children from birth through age 8. This age span is not a developmental period with discrete boundaries; rather, it falls on a continuum that encompasses individual variations in development and that begins before birth and continues after age 8 into the rest of childhood and beyond. It is, however, an important window for children because of the troubling disconnect between the particularly disjointed nature of the systems that serve them and the rapid pace of their development as their experiences profoundly shape their long-term trajectories.

The major focus of this report is on those professionals who are responsible for regular, daily care and education of young children from birth through age 8, working in settings such as homes, child care centers, preschools, educational programs, and elementary schools. Many of the report’s messages are also applicable to closely related care and education professionals who see these children somewhat less frequently or for periodic or referral services, such as home visitors, early intervention specialists, and mental health consultants. The report also encompasses professionals in leadership positions and those who provide professional learning for the care and education workforce. In addition, the report includes considerations for the interactions among care and education professionals and practitioners in the closely related health and social services sectors who also work with children and their families. Finally, findings presented in this report regarding foundational knowledge and competencies are applicable broadly for all adults with professional responsibilities for young children.

This report’s focus is on the competencies and professional learning that need to be shared among care and education professionals across professional roles and practice settings in order to support greater consistency. Although further specialized competencies and professional learning experiences differentiated by age, setting, and role are also important, this committee’s task was to bridge those competencies and experiences in ways that will enable these professionals to contribute collectively and more effectively to greater consistency in practices that support development and high-quality learning for young children.

A UNIFYING FOUNDATION

The foundation for a workforce that can truly meet the needs of children from birth through age 8 is based on essential features of child development and early learning and on principles that guide support for high-quality professional practice with respect to individual practitioners, leadership, systems, policies, and resource allocation.

1 An ongoing study and forthcoming report of the Institute of Medicine and the National Research Council will focus on strengthening the capacity of parents of young children from birth through age 8. More information can be found at www.iom.edu/activities/children/committeeonsupportingtheparentsyoungchildren.
Essential Features of Child Development and Early Learning

Several essential features of child development and early learning inform not only what children need but also how adults can meet those needs, with support from the systems and policies that define and support their work:

- Children are already learning actively at birth, and the early foundations of learning inform and influence future development and learning continuously as they age.
- A continuous, dynamic interaction among experiences (whether nurturing or adverse), gene expression, and brain development underlies the capacity for learning, beginning before birth and continuing throughout life.
- Young children’s development and early learning encompass cognitive development; the acquisition of subject matter knowledge and skills; the development of general learning competencies; socioemotional development; and health and physical well-being. Each of these domains is crucial to early learning, and each has specific developmental paths. They also are overlapping and mutually influential: building a child’s competency in one domain supports competency-building in the others.
- Stress and adversity experienced by children can undermine learning and impair socioemotional and physical well-being.
- Secure and responsive relationships with adults (and with other children), coupled with high-quality, positive learning interactions and environments, are foundational for the healthy development of young children. Conversely, adults who are underinformed, underprepared, or subject to chronic stress themselves may contribute to children’s experiences of adversity and stress and undermine their development and learning.

Principles to Support Quality Professional Practice

These principles are based on what the science of child development and early learning reveals about the necessary competencies and responsibilities of practitioners in meeting the needs of young children. They encompass the high-quality professional learning and supports needed for practitioners to acquire, sustain, and update those competencies. Yet adults who master competencies can still be constrained in applying them by the circumstances of their settings and by the systems and policies of governance, accountability, and oversight that affect their practice. Thus, the following principles also apply to the characteristics of practice environments, settings, systems, and policies that are needed to ensure quality practice and to support individual practitioners in exercising their competencies:

- Professionals need foundational and specific competencies.
- Professionals need to be able to support diverse populations.
- Professional learning systems need to develop and sustain professional competencies.
- Practice environments need to enable high-quality practice.
- Practice supports need to facilitate and sustain high-quality practice.
- Systems and policies need to align with the aims of high-quality practice.
- Professional practice, systems, and polices need to be adaptive.
A UNIFYING FOUNDATION TO TRANSFORM THE WORKFORCE

AREAS OF RECOMMENDATION

Drawing on the unifying foundation of the science of child development and early learning and principles for quality professional practice, the committee’s recommendations support a convergent approach to caring for and educating young children—one that enables continuity across settings from birth through elementary school. The recommendations address qualification requirements for professional practice, higher education and ongoing professional learning during practice, evaluation and assessment of professional practice, the critical role of leadership, interprofessional practice, support for implementation, and improvement of the knowledge base. The following is a brief summary of the committee’s major areas of recommendation. Detailed recommendations, with specified actors and actions as well as extensive discussion of considerations for implementation, can be found in Chapter 12.

The committee recognizes the challenges of the complex, long-term systems change that will be required to implement its recommendations. Full implementation of some of these recommendations could take years or even decades; at the same time, the need to improve the quality, continuity, and consistency of professional practice for children from birth through age 8 is urgent. Balancing this reality and this urgent need will require strategic prioritization of immediate actions as well as long-term goals with clearly articulated intermediate steps as part of pathways over time. The pace of progress will depend on the baseline status, existing infrastructure, and political will in different localities. Significant mobilization of resources will be required, and therefore assessments of resource needs, investments from government at all levels and from nongovernmental sources, and financing innovations will all be important.

The collective insight, expertise, and action of many stakeholders will also be needed. Important work related to the recommendations in this report is currently being carried out by many strong organizations, yet the persistently diffuse nature of the numerous systems and institutions that serve children from birth through age 8 calls for approaches that are increasingly collaborative and inclusive. Many of the committee’s recommendations rely on a collective approach of this kind, and features of a framework for collaborative systems change for early care and education are described in Chapter 12.

Qualification Requirements for Professional Practice

All care and education professionals have a similarly complex and challenging scope of work. Yet practices and policies regarding requirements for qualification to practice vary widely for different professionals based on their role, the ages of the children with whom they work, their practice setting, and what agency or institution has jurisdiction or authority for setting qualification criteria. Greater coherence in qualification requirements across professional roles would improve the consistency and continuity of high-quality learning experiences for children from birth through age 8.

Recommendation 1: Strengthen competency-based qualification requirements for all care and education professionals working with children from birth through age 8.

A review process guided by mutual alignment with the principles set forth in this report across agencies and organizations and across the national, state, and local levels would lay the groundwork for greater coherence in the content of and processes for qualification requirements,
such as those for credentialing and licensure. As a result, even when different systems or localities have policies that are organized differently by age ranges and roles, those policies could still work in concert to foster quality practice across professional roles and settings that support more consistent high-quality learning experiences for children from birth through age 8.

**Recommendation 2: Develop and implement comprehensive pathways and multiyear timelines at the individual, institutional, and policy levels for transitioning to a minimum bachelor’s degree qualification requirement, with specialized knowledge and competencies, for all lead educators\(^2\) working with children from birth through age 8.**

Currently, most lead educators in care and education settings prior to elementary school are not expected to have the same level of education—a bachelor’s degree—as those leading elementary school classrooms. Policy decisions about qualification requirements are complex, as is the relationship among level of education, high-quality professional practice, and outcomes for children. Given that empirical evidence about the effects of a bachelor’s degree is inconclusive, a decision to maintain the status quo and a decision to transition to a higher level of education as a minimum requirement entail similar uncertainty and as great a potential consequence for outcomes for children.

The committee therefore makes the recommendation to transition to a minimum expectation of a bachelor’s degree for lead educators working with young children on several grounds. The current differential in education requirements lags behind the science of child development and early learning, which clearly indicates that the work of lead educators for young children of all ages is based on the same high level of sophisticated knowledge and competencies. It follows that they should be on an equal footing in their preparation for practice. Furthermore, holding lower educational expectations for early childhood educators than for elementary school teachers perpetuates the perception that educating children before kindergarten requires less expertise than educating early elementary students, which in turn helps justify policies that make it difficult to maximize the potential of young children and the early learning programs that serve them. Disparate degree requirement polices also create a bifurcated job market, both between elementary schools and early care and education as well as within early care and education as a result of degree requirements in Head Start as well as other settings and publicly funded prekindergarten programs. This situation potentially perpetuates a cycle of disparity in the quality of learning experiences for young children.

Most important for this recommendation is that simply instituting policies requiring a minimum bachelor’s degree is not sufficient, and this recommendation is closely interconnected with those that follow. A degree requirement will be feasible and its potential benefits fully realized only if it is implemented carefully over time and in the context of efforts to address interrelated factors that affect the quality of professional practice and with supportive federal, state, and local policies and informed, supportive leadership. Pathways and timelines will be needed to improve quality, availability, and access for both high-quality higher education and

---

\(^2\) Lead educators are those who bear primary responsibility for children and are responsible for planning and implementing activities and instruction and overseeing the work of assistant teachers and paraprofessionals. They include the lead educator in classroom and center-based settings, center directors/administrators, and owner/operators and lead practitioners in home-based or family childcare settings.
ongoing professional learning; to implement systems and policy changes to licensure and credentialing; and to effect parity across professional roles in compensation, workplace policies, and working conditions. Pathways and timelines for individuals will need to be differentiated for currently practicing professionals and prospective educators, and recruitment plans will be needed to engage a new, diverse generation of care and education professionals who will be incentivized to give equal consideration to roles across the birth through age 8 continuum.

Assessments of resource needs will be important, followed by resource mobilization plans and innovative financing strategies for scholarships and stipends for individuals, subsidies for higher education programs, and adjustments to the increased labor costs that will result from parity in compensation and benefits in the care and education sector. Strategies will also be needed to assess, monitor, and mitigate possible negative consequences, such as workforce shortages, reduced diversity in the professions, increased disparities among current and future professionals, upward pressure on out-of-pocket costs to families, and disruptions to the sustainability of operating in the for-profit and not-for-profit care and education market.

**Recommendation 3: Strengthen practice-based qualification requirements, including a supervised induction period, for all lead educators working with children from birth through age 8.**

The opportunity for supervised practice is important to ensure that practitioners have mastered the competencies necessary to work with children from birth through age 8, yet many professional roles in care and education currently are not required to have a supervised induction period as a transition to autonomous practice. In introducing this requirement, it will be necessary in parallel to consider and develop strategies for the significant investment needed to develop a greater number and diversity of field placements capable of providing this kind of professional learning with appropriately qualified supervisors and mentors. It will also be necessary to consider how to differentiate and apply this requirement for experienced practitioners who are acquiring this level of qualification while already practicing.

**Higher Education and Ongoing Professional Learning**

**Recommendation 4: Build an interdisciplinary foundation in higher education for child development.**

The goal of this recommendation is for higher education to foster a fundamental shared knowledge base and competencies around child development for professionals in all sectors who work with young children, based on requirements for core coursework, other learning activities, and field-based learning experiences. Guided by the science of child development, this could serve as a baseline prerequisite for further study or as a child specialization enhancement. This would support preparation for various professional roles working with children from birth through age 8 in education, social services, and health/allied health professions. Additional coursework, learning, and practicum requirements would be differentiated according to the specific professional pathway students follow.
Recommendation 5: Develop and enhance programs in higher education for care and education professionals.

Building on the cross-disciplinary foundation described in Recommendation 4, high-quality programs in higher education are needed that further ensure and document the acquisition of the knowledge and competencies needed for quality professional practice in care and education for children from birth to age 8. These programs need to provide a formally defined, accredited course of study in child development, early learning, and instruction. Such a course of study needs to provide students with coursework in development, subject-matter content, and instructional and other practices to foster development and early learning; field experiences; and methods to document demonstrated mastery of practice. In some cases this defined, accredited course of study could be a specified degree or major, but it could also be a concentration or certificate in child development, early learning, and instruction that a student would complete alongside another major or as a postbaccalaureate program.

Programs that are differentiated for specific age ranges, subject matter specialization, or responsibilities should also ensure adequate knowledge of the development and learning of children across the birth through age 8 continuum so that care and education professionals will be prepared to support consistent learning experiences for children.

Recommendation 6: Support the consistent quality and coherence of professional learning supports during ongoing practice for professionals working with children from birth through age 8.

The goal of this recommendation is to incentivize greater quality, consistency, and parity in learning opportunities across settings and roles for care and education professionals who work with children from birth through age 8 through technical assistance; funding mechanisms such as interagency pooling of resources; and support for clearinghouses, quality assurance systems, and other means of better coordinating professional learning systems. Support of this kind should promote joint professional learning opportunities among care and education professionals across roles, age groups, and settings; provide a forum to facilitate collaborations; and provide guidance for individuals and employers on how to set professional learning objectives; select and prioritize sequenced, high-quality professional learning activities; and access financial and other supports.

Evaluation and Assessment of Professional Practice

Based on the science of child development and early learning and its implications for professional competencies, current systems for measuring the performance of educators—and even current reforms to those systems—are not sufficient for those who work with children in the early elementary years and younger; indeed, they may produce unreliable data about children’s learning and development and the quality of instruction. Current reforms focus on student outcomes and instructional practices in one or two areas instead of capturing the developmental nature of early learning and the full range of domains that are important. In addition, evaluation and assessment systems fail to capture important competencies such as trauma-informed practice, family engagement, and collaboration and communication with other professionals. As a result, current evaluation and assessment policies and systems may reinforce and reward a narrow view of effectiveness while missing best practices that should be fostered and recognized in professionals working with children from birth through age 8.
Recommendation 7: Develop a new paradigm for evaluation and assessment of professional practice for those who work with children from birth through age 8.

Developing and implementing more appropriate systems for evaluating and assessing the performance of care and education professionals in elementary schools and early care and education settings will require a shift from the current paradigm. Because of the variable nature of children’s learning and development from birth through age 8, considering multiple sources of evidence derived with multiple methods and at multiple times is important when evaluating and assessing educator performance. A continuous improvement system of evaluation and assessment should align with research on the science of how young children develop and learn, be comprehensive in its scope of early developmental and learning objectives, reflect day-to-day practice competencies and not just single-point assessments, reflect what professionals do in their practice settings and also how they work with professional colleagues and with families, be tied to access to professional learning, and account for setting-level and community-level factors beyond the control of practitioners that affect their capacity to practice effectively (such as overcrowded classrooms, poorly resourced settings, lack of access to professional learning supports, community factors, and home environments).

The Critical Role of Leadership

Elementary school principals, early care and education center directors or program directors, and other administrators are an important factor in the quality of early learning experiences for the children in the settings they oversee. These leaders play an instrumental role in helping care and education professionals strengthen their core competencies and in creating a work environment in which they can fully use their knowledge and skills. Principals and directors often take a lead role in selecting content and activities for professional learning. In addition, leaders have a major influence because they are responsible for workforce hiring practices and for the systems used for evaluating the performance of the professionals they oversee. They need to have the knowledge and competencies to hire and supervise educators who are capable of working with children in the settings they lead.

Recommendation 8: Ensure that policies and standards that shape the professional learning of care and education leaders (elementary school principals and directors in early care and education settings) encompass the foundational knowledge and competencies needed to support high-quality practices for child development and early learning in their organizations.

Statements about what these leaders should know and be able to do should be aligned in both specific competencies and the general principles on which they are based, including the science of early childhood development. States and organizations that issue statements of core competencies and other policies related to professional learning and qualifications for leadership in elementary education would benefit from a review to ensure that the scope of instructional leadership is inclusive of the early elementary years, including prekindergarten as it increasingly becomes included in public school systems. States and organizations that issue statements of core competencies and other policies related to professional learning and qualifications for leadership in centers, programs, family childcare, and other settings for early childhood education would...
benefit from a review to ensure that competencies related to instructional leadership are emphasized alongside administrative and management competencies. In addition, both types of leaders need specific competencies for collaboration and communication because of their important role in bridging systems to support greater continuity in early learning experiences before and after young children enter school systems, as well as to support linkages with other sectors such as health and social services.

**Interprofessional Practice**

A critical factor in providing consistent support for children from birth through age 8 is the ability of care and education professionals to work in synergy with other professionals both across settings within the care and education sector and in other closely related sectors, especially health and social services.

**Recommendation 9: Improve consistency and continuity for children from birth through age 8 by strengthening collaboration and communication among professionals and systems within the care and education sector and with closely related sectors, especially health and social services.**

Continuity across care and education settings and among diverse services and agencies is important not only to provide more consistent and better-coordinated services for individual children and their families but also to create shared understanding of the interconnected quality of developmental processes that each practitioner, focused on a specialized scope of practice, may see only in part. In this area of recommendation, the committee emphasizes the important need for consultation between educators and infant and child mental health professionals, with a focus on improving the availability of mental health services and consultation.

**Support for Implementation**

Implementing the preceding recommendations will require better alignment, more inclusive coordination, and support for collaborative efforts among the multiple stakeholders that influence children from birth through age 8.

**Recommendation 10: Support workforce development with coherent funding, oversight, and policies.**

This recommendation calls for national, state, and local governmental and nongovernmental agencies and organizations to review and revise their policies, guidelines, programmatic portfolios, oversight provisions, and incentives for professional learning and quality professional practice to ensure that they are oriented to the primary aim of optimal support for child development and early learning and aligned with the unifying foundation set forth in this report. These efforts should include revision of categorical policies and funding streams to identify and remove barriers to continuity across practice settings, professional roles, and age ranges from birth through 8 age.
Recommendation 11: Collaboratively develop and periodically update coherent guidance that is foundational across roles and settings for care and education professionals working with children from birth through age 8.

This recommendation calls for national nongovernmental organizations that currently offer resources and support for the care and education workforce to engage in a collaborative effort to provide and periodically update shared, coherent foundational guidance for care and education professionals working with children from birth through age 8. The aim is to promote consistency among the various entities with oversight and influence over the many professional roles that entail working with these young children. Providing comprehensive guidelines based in evidence and drawing on collective expertise in the field will improve the availability of high-quality, continuous developmental support and learning experiences for children as they age.

This collaborative effort will be most effective if it draws and builds on the existing resources of participating organizations to create both a robust and coherent platform for what is common across professional roles and a shared foundation to consistently inform the work of collaborating organizations in their specialized areas of workforce development. The success of this effort will depend on balanced representation among professional roles and settings involved in care and education across the birth through age 8 continuum, from infancy through early elementary school. Representation will also need to reflect practice communities, the research community, policy research and analysis, policy makers and government leadership, higher education, agencies that oversee licensure and credentialing as well as accreditation, and organizations that provide ongoing professional learning. Another key consideration for participating organizations is to reflect the racial, ethnic, and linguistic diversity of the workforce itself and the children and families served, as well as geographic diversity to represent the varied circumstances in different local contexts.

Recommendation 12: Support comprehensive state- and local-level efforts to transform the professional workforce for children from birth through age 8.

This recommendation calls for support of collaborative efforts at the state and local levels. To this end, federal and state government agencies and national nongovernmental resource organizations should provide technical support and cross-sector financial resources, including public-private partnerships, that can be combined with local resources. To model this approach, the committee calls for national governmental and nongovernmental funders to jointly support at least ten local or state coalitions to undertake 10-year initiatives to review, assess, and improve professional learning and workforce development for the care and education workforce for children from birth through age 8. Guided by the science of child development and early learning, these initiatives should implement a collective effort to build a more coherent infrastructure of professional learning supports; improve the quality, availability, and accessibility of professional learning activities; and revise and align policies, incentives, and financial and technical support. To that end, these state or local coalitions should be supported in carrying out the following efforts:

- Ascertain the current status of the local care and education workforce for children from birth through age 8 across professional roles, settings, and age ranges (including demographics, practice settings, qualification requirements, salaries, and participation in current professional learning systems).
SUMMARY

- Map the local landscape of stakeholders with a role in professional learning and workforce development, including the activities they are undertaking.
- Identify the strengths, gaps, unmet needs, and fragilities in current systems.
- Estimate resource needs, and develop a plan for financing and resource mobilization to increase, diversify, and strategically allocate funding that takes into account public investments at the federal, state, and local levels; investments from private philanthropic and corporate sources; and out-of-pocket spending by families.
- Establish and clearly articulate an organizational and decision-making structure, priorities, goals, planned activities and policy changes, timelines, and benchmarks for progress.
- Facilitate ongoing stakeholder coordination and sharing of information related to funding, activities, and data collection and use.
- Document and share actions undertaken and lessons learned.

Improvement of the Knowledge Base

Several of the preceding recommendations for workforce development hinge on the ability of local, state, and national stakeholders and policy makers to understand the current status, characteristics, and needs of the workforce across professional roles and settings that serve children from birth through age 8; to monitor progress over time; and to draw on research findings regarding effective policies and practices. This information also is essential for mobilizing resources and galvanizing public support for new initiatives.

Recommendation 13: Build a better knowledge base to inform workforce development and professional learning services and systems.

An important component of the knowledge base for workforce development and professional learning is the dynamic cycle of continuously learning about child development and best practices and translating that knowledge into widespread professional practice. This is a shared responsibility: support is required to advance the research itself, and mechanisms are also needed to connect that research to the practice community. The latter might include involving the practice community in research, as well as making research findings and their implications more timely, accessible, and available to practicing professionals. Professionals in turn need to understand the importance of continuously updating their knowledge and competencies and to have the motivation and incentives to do so. In the course of reviewing the existing knowledge base, the committee identified several ongoing research and evaluation needs, which are listed in Chapter 12.

A CALL TO ACTION

Many of the challenges discussed in this report are not new. For too long, the nation has been making do with the systems and policies that are rather than envisioning the systems and policies that are needed, and committing to the strategies necessary to achieve them. Implementing the committee’s recommendations will produce substantive changes that elevate the perception of the professionals who work with children from birth through age 8 and improve the quality of professional practice, the quality of the practice environment, and the status and
well-being of the workforce—and ultimately, outcomes for children. Comprehensive implementation of these recommendations will not happen overnight and will not come cheaply. It will require a strategic, progressive trajectory of change over time to transform the professional landscape, accompanied by significant commitment and investment of financial and other resources.

The committee expects that building on a unified foundation, driven by the science of child development and early learning, will introduce a self-perpetuating cycle of excellence, supported by policy makers and a society that recognize the complex and important role of early care and education professionals; the intellectually, physically, and emotionally challenging nature of their work; and the deep, extensive, and ongoing professional learning required for them to be successful. These changes hold promise for helping to retain highly effective practitioners in these professional roles and to bolster the recruitment of a robust and viable pipeline of new professionals. It is through the quality work of these adults that the nation can make it right from the very beginning for all of its children.