COMMONWEALTH OF MASSACHUSETTS

Preschool Development Grant Birth-Five (PDG B-5) Needs Assessment: An Examination Of The PDG B-5 Mixed Delivery System in Massachusetts

2020

Acknowledgements

This Needs Assessment was developed as part of the Preschool Development Birth-Five (PDG B-5) Grant, awarded to the Massachusetts Executive Office of Education in 2019 by the federal Administration for Children and Families. The grant focuses on improving the coordination and collaboration across the PDG B-5 Mixed Delivery System of State programs serving children birth to five, and their families. For the purposes of this Needs Assessment, the Birth to Five (B-5) PDG B-5 Mixed Delivery System in Massachusetts is limited to those programs within the scope of the PDG B-5 grant focus (see Image 1 or Appendix 1 for a detailed list of those programs). These programs are managed at the state level and support the broader developmental health and the optimal cognitive and social emotional development of the child. An interagency governance structure was developed to provide oversight, manage, and implement the PDG B-5 project. This governance structure is emblematic of our approach to building a sustainable, integrated, and equitable B-5 delivery systems.

Accenture Consulting was retained to support the development of this Needs Assessment in 2019 and worked closely with members of the PDG B-5 OSC on this effort. They developed the framework for the analysis, reviewed national and Massachusetts specific research, and analyzed available program specific data to identify the trends and findings that are presented in this report.

The Needs Assessment was completed prior to the beginning of the COVID-19 pandemic in March 2020. Although it does not represent or anticipate the breadth and depth of the pandemic's impact, there are key takeaways that will support our efforts to build a more effective PDG B-5 Mixed Delivery System:

- An integrated data system will allow us to respond and adapt more effectively and more quickly to changing needs and circumstances, including the ability to compare participation in the PDG B-5 Mixed Delivery System pre-and post-pandemic across demographics and geographies
- Technology has already transformed how families engage with the services and programs administered by the state's PDG B-5 Mixed Delivery System, including home visits being done virtually instead of in-person. This could provide interesting insights into expanding opportunities for reaching families with children B-5.
- The focus on diversity, equity and inclusion must be central to our work, with the goal of ensuring programs and services are culturally relevant and appropriate so that we can reach all families that could benefit.
- Families and providers are innovative and adaptive, providing insight and important lessons that can be incorporated into agency practice. Engaging them in the conversation related to improving our PDG B-5 Mixed Delivery System is critical to the system's success.
- Home-based child-care environments are often outside of the traditional service delivery model and may become even more important to understand as the response to COVID 19 continues and may impact multi-generational households disproportionately.
- In addition to the economic and social disruption, we need to be responsive to the trauma and behavioral health impact of COVID-19. Our services should continue to be delivered in a manner that is trauma informed.

This Needs Assessment lays the groundwork, and the Strategic Plan establishes a framework, for how to strengthen our system to meet an increasing need. More than ever, we need to work together to build cross-agency communications and governance structures, use robust data analytics to inform policymaking, deepen parental engagement, and provide consistent and meaningful professional education in developmental screening to build our services and programs for children birth to five into a strong and connected PDG B-5 Mixed Delivery System.

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY

This Needs Assessment is a central component of the federal Preschool Development Birth-Five (PDG B-5) Grant. The focus of the grant is to support and strengthen cross-agency efforts to create a thriving *system* of early education and care in Massachusetts that leads to improved services for children B-5, and ultimately improves their outcomes in school and life.

This Needs Assessment is the basis for the Commonwealth's PDG B-5 Strategic Plan, representing our efforts to identify and implement state-level strategies that are needed to achieve our vision of providing families of B-5 children equitable access to a coordinated and robust network of quality programs and supports that enable the development of their children into lifelong learners and contributing members of their communities.

Vision

The B-5 Mixed Delivery System, as defined for the purposes of the PDG B-5 project and this Needs Assessment, includes a range of programs and services provided through four state agencies within two Massachusetts secretariats-- the Department of Early Education and Care (EEC), the Department of Elementary and Secondary Education (DESE), and the Children's Trust (CT) within the Executive Office of Education (EOE); and, in the Executive Office of Health and Human Services (EOHHS)-- the Department of Public Health (DPH). Within these agencies, the Mixed Delivery System includes those programs whose primary purpose is supporting families in the broader developmental health and the optimal cognitive and social emotional development of their children, either through direct supports to the child or through related family supports.

The agencies, programs and services included in the B-5 Mixed Delivery System for the purposes of the PDG B-5 project are depicted in **Image 1**.

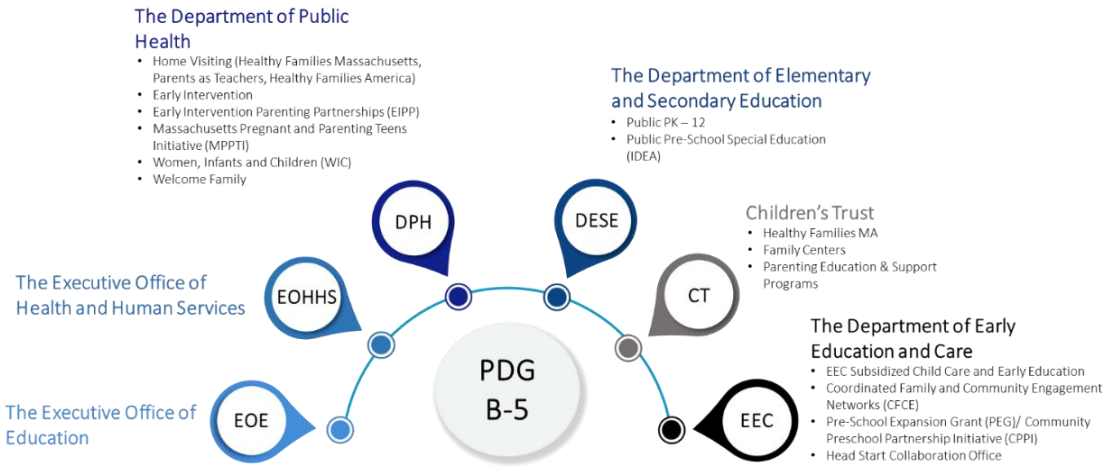


Image 1. Secretariats, agencies and programs in the Massachusetts Mixed Delivery System that are in scope for the PDG project.

With input from - and ongoing collaboration with - a wide range of stakeholders, these public entities are collaborating towards a vision in which all families of B-5 children have equitable access to a coordinated

and robust system of quality programs and supports that enable the development of their children into lifelong learners and contributing members of their communities.
The vision is guided by these **core principles**:

1. Provide equitable access to services that meet the needs, and are reflective of, the diverse population of families in the Commonwealth
2. Meet families where they are
3. Focus on vulnerable children and families in the greatest need
4. Provide the foundation to help families take the lead in supporting their children's development

Logic Model

To build a system that encompasses these principles, we developed a framework that connects specific inputs and activities to expected outputs and outcomes, as depicted in the logic model from the PDG B-5 grant application:

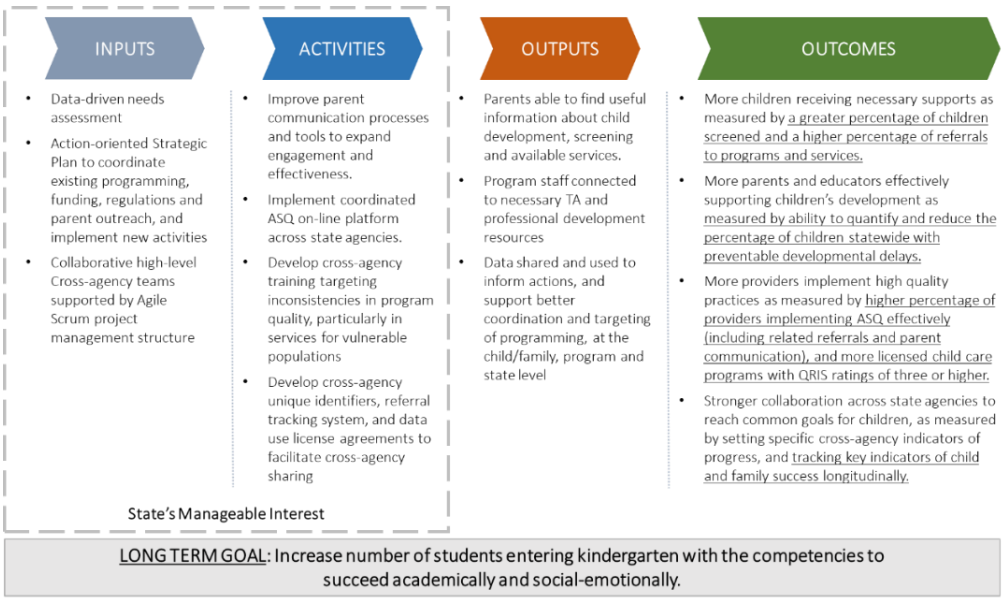


Image 2. Logic Model

Summary of Findings

The desired "Outputs" from the PDG B-5 logic model fall into three general categories of findings which help frame this Needs Assessment and our Strategic Plan:

1. The need to understand **B-5 children and their families** – those who access our services, and those who do not- to empower families in supporting healthy child development.
2. The need to provide tools and resources to **providers and educators** so they can effectively engage parents on issues related to child development.
3. The need to improve **system-building, governance and data sharing** across our Mixed Delivery System to improve outcomes for young children, by coordinating and leveraging our strengths through sustainable operational and governance systems, and by using data to inform policy and programs.

This Needs Assessment resulted in the following Findings across these three areas:

1. *Related to B-5 children and their families:*
   - Demographics
     - The number of B-5 children is decreasing overall, but the number of low-income B-5 children is increasing. The number of nonwhite (especially Latinx), foreign-born, and those with an identified disability is also increasing.
     - There are persistent disparate outcomes on the MCAS ELA scores among low-income children, English language learners, students with disabilities, and children of color. In addition, low-income children are more likely to experience chronic absenteeism once they are school-aged.
     - Although programs have shown remarkable flexibility to adapt to these changing demographics, our Mixed Delivery System as a whole is not always equipped to ensure that programs provide equitable and culturally and linguistically responsive services.

   - Child Development Information & Access to Services
     - Many state agencies provide families with comprehensive information about developmental milestones and refer families for more information and services. However, this information is not tracked uniformly, consistently, or Statewide.
     - There is a lot of information available to families about developmental milestones and supports, but families don't necessarily know where to find what would be most helpful to them, may be confused by the variety of information, which may not always be culturally relevant, and may not be able to appropriately assess which programs are available and suitable for their needs.

   - Enrollment, Quality, and the Number of Children Being Served
     - The programs in the Mixed Delivery System collect different types of data, and use different metrics to define capacity, quality, and services, making it difficult for families and State agencies to compare programs and services, and understand the overall quality and effectiveness of programs.

   - Transition Support and Gaps
     - Many of the programs in the Mixed Delivery System provide guidance and information about how to support children and families in transitioning from one provider to another within a State agency program, or from one State agency program to another, including the critical transition from Early Intervention to other programs in the B-5 Mixed Delivery System. However, we don't know how effective this guidance and information is in helping families make successful transitions, or where there are gaps.

   - Needs and Expectations of Families Receiving Services in our Programs
     - Information about family needs and expectations for early childhood services is often collected at the program level for families they serve. However, this information is not collected uniformly or connected at the State level across the system, resulting in gaps in understanding the needs of families, as well as little understanding about families who are not engaged in services.

2. *Related to providers and educators within the Massachusetts Mixed Delivery System:*

- Professional Development and Education
  - Although many programs require and provide meaningful training and other professional development opportunities to support developmental screening competencies, the training is inconsistent across programs, and there are gaps within what is available.
  - There are no consistent State standards or defined competencies related to observation-based early childhood assessment, documentation of findings, the use of screening data to make appropriate and effective referrals to needed services.

- Variation in Use of Developmental Screening
  - Developmental screening is a common practice for engaging families and learning more about children over time.
  - Developmental screening in Massachusetts most often involves the Ages and Stages Questionnaire (ASQ), although there are multiple products and formats of the ASQ tool.
  - There is no coordinated system for connecting and tracking the rich dataset that is gathered through developmental screening, making it challenging to share information across providers, and to understand if screening led to needed referrals and services.

- Referrals and Service Utilization
  - The results of developmental screening and related referrals are not systematically tracked or aggregated across the Mixed Delivery System.
  - While programs track the progress of individual children enrolled, there is no way for families to see their child's progress across multiple programs, or to help providers safely and appropriately share information to understand if the child they are working with has been previously screened.

3. *Related to System Building, Governance & Data Sharing:*

- Availability of Statewide B-5 Data
  - Massachusetts does not currently have any statewide data on B-5 outcomes prior to third grade MCAS scores. There are school related data points, such as chronic absenteeism, that provide critical information related to B-5 outcomes, as well as data for specific programs in the B-5 Mixed Delivery System, but these are not connected or analyzed statewide to inform early childhood policy.

- Data Silos and the Need to Share Information
  - Agencies across the Mixed Delivery System collect vast amounts of data on the people they serve, the services they provide, and more. However, this data is siloed and not connected at the child-level, nor are there common metrics to measure progress towards statewide outcomes for young children.

- Ongoing Governance
  - Massachusetts' Mixed Delivery System programs vary in size, location, services offered, focus of services, and population served; and they largely operate separately from one another, rather than as a cohesive set of offerings. This makes it challenging for families to find the right program or service, in the right place, with the right availability to meet their needs. Transitioning from one program to another, and moving to elementary school, is also difficult outside of a cohesive system.

- There is no established structure to ensure the sustained coordination across B-5 programs and services in Massachusetts. Past B-5 coordination efforts have been successful but not sustainable beyond the end of a specific initiative or grant program.

Strategic Focus Areas The findings from this Needs Assessment, as well as the need to measure our success, lay the foundation for three strategic goals and chart the path of our Strategic Plan and future work:

1. Empower families by understanding their diverse needs, providing them with easy access to critical information about their children's development, and providing timely and appropriate services through a comprehensive early childhood system.
2. Give providers access to the training and tools they need to do developmental screening, share information with families about child development, and make referrals for necessary services.
3. Build a strong, equitable, data-driven, early childhood delivery system through meaningful and collaborative governance.

Section by Section Summary of this Needs Assessment

This Needs Assessment provides an overview of the Mixed Delivery System; the experiences and needs of the families that we serve; the tools that educators and providers use to engage families during developmental screening; and how state agencies – in partnership with a range of stakeholders – could use data to deliver a more coordinated and effective network of services to B-5 families in Massachusetts.

Section 2: PDG B-5 Project & Needs Assessment: Background:

- Provides background on the PDG B-5 project with a description of our Mixed Delivery System and the governance structure that was put in place to envision, implement, manage, and operationalize this project. This structure also provides a framework for ongoing coordination and collaboration with partners and stakeholder engagement. This section also identifies data sources for the report and defines key terms.

Section 3: B-5 Children and Their Families: Demographics, Services & Enrollment

- Establishes the focal populations for the grant. This section describes the demographics of the B-5 population and their families in Massachusetts – the children being served and those awaiting services, including enrollment, availability, quality and the number of people being served. We explore the services and needs to support families during transitions across B-5 programs, and from these programs into elementary school and we address opportunities to maximize family choice.
- Describes gaps in data on quality and availability of programming and supports for children and families, families' needs and expectations, and issues related to facilities. Finally, this section also details some of the barriers to the funding for programs across the Mixed Delivery System.

Section 4: Developmental Screening and Engaging with Families Providers & Educators:

- Explores how providers and educators within the Mixed Delivery System, engage in the screening process for developmental milestones. There is wide variation across the system of how providers screen for developmental milestones; how this information is used to refer for appropriate services; and, how information is shared with families so that it is meaningful and has the greatest impact. By documenting the variation in the use of screening tools, as well as other training that providers receive, we demonstrate the need for additional training and professional development.

Section 5: Data: Improving Outcomes & Measuring Success Across the Mixed Delivery System

- Details the need for data sharing and measuring outcomes and success. In addition to our overall findings, the Needs Assessment identifies key metrics, *Success Indicators*, those measurable indicators of progress that align with our vision. These indicators, over time, will help us gauge the long-term success of the PDG initiatives and further highlights the need to integrate and analyze data to for insight. These metrics will help identify the number and characteristics of students entering kindergarten with the competencies to succeed academically and social-emotionally. Some of these indicators can be measured now, others will be measurable upon implementation of an integrated data system, and the approach to measuring others needs further development.

Section 6: Governance and Operations: Key to Sustainability

- Establishes the need to build on the work of the PDG B-5 and create an integrated inter-agency collaborative and sustainable system to meet the needs of B-5 children and their families through governance, data sharing, continued support of providers, and ongoing engagement of families - all with an ongoing commitment to addressing issues of equity across the B-5 Mixed Delivery System.

Section 7: Next Steps: Research Gaps, Strategic Areas of Focus & Conclusion

- Concludes the Needs Assessment by identifying research and data gaps that supports collaboration between programs and the next steps to empower families, support providers, and build strong governance to help us meet our goals and lay the foundation for an integrated data-driven approach to providing services to B-5 children and their families in Massachusetts.

In summary, this Needs Assessment focuses on nineteen key findings within the three strategic areas of focus: Empower families; give providers access to the training and tools they need to engage families in developmental screening; and build a strong, equitable, data-driven, early childhood delivery system through meaningful and collaborative governance. These categories provide the framework for this Needs Assessment and lays the foundation for the PDG B-5 Strategic Plan. The Strategic Plan further articulates specific goals and activities funded by the PDG B-5 grant to address these needs in each of the three strategic areas of focus. As we complete the grant-funded activities, we will continue to work closely with state and local partners, family-centered coalitions and organizations, and other stakeholders, and continue the development and improvement of an equitable Mixed Delivery System for young children and their families in Massachusetts.

2 PDG B-5 Project & Needs Assessment: Background

2.1 Our Mixed Delivery System

This Needs Assessment explores both the strengths and limitations of state-managed programs serving children birth to five, and their families. The PDG B-5 project was developed out of a need to improve the PDG B-5 system by improving coordination and collaboration across the programs within that system, while simultaneously enhancing the value of each of those programs. Although there is a range of stakeholder and policy organizations and forums that focus on the B-5 population, there is no formal structure that spans all of the state programs serving young children, which makes it challenging to connect policies, share data, and track progress toward common goals.

Our Mixed Delivery System, as defined for the purposes of the PDG B-5 project and this Needs Assessment, includes a range of programs and services provided through four state agencies within two Massachusetts secretariats-- the Department of Early Education and Care (EEC), the Department of Elementary and Secondary Education (DESE), and the Children's Trust (CT) within the Executive Office of Education (EOE); and, in the Executive Office of Health and Human Services (EOHHS)-- the Department of Public Health (DPH). Within these agencies, the Mixed Delivery System includes those programs whose primary purpose is supporting families in the broader developmental health and the optimal cognitive and social emotional development of their children, either through direct supports to the child or through related family supports. The programs within the scope of the PDG B-5 work are listed below by participating agency:

1) The Department of Early Education and Care (EEC), through Child Care Development Block Grant (CCDBG) funding, manages childcare licensing, quality improvement, subsidies, and the Head Start Collaboration Office.
   EEC programs in this grant include:
   a. EEC Licensed Subsidized Child Care
   b. Pre-School Expansion Grant (PEG) / Community Preschool Partnership Initiative (CPPI)
   c. Head Start Collaboration Office
   d. Coordinated Family and Community Engagement (CFCE) Networks
2) The Department of Elementary and Secondary Education (DESE), is the state education agency that manages and oversees all local education agencies (LEA's), and Special Education Part B.
   DESE led programs in this grant include:
   a. Public Pre-School and Kindergarten
   b. Public Pre-School Special Education
3) The Children's Trust (CT) operates the Healthy Families Massachusetts home visiting program.
   Children's Trust led programs in this grant include:
   a. Home Visiting (Healthy Families Massachusetts)
4) The Department of Public Health (DPH), regulates, licenses and provides oversight of a wide range of healthcare-related professions and services, including home visiting programs, IDEA Part C/Early Intervention, and Women, Infants and Children (WIC). Additionally, DPH focuses on preventing disease and promoting wellness and health equity for all.
   DPH led programs in this grant include:
   a. Home Visiting (Healthy Families Massachusetts, Parents as Teachers, Healthy Families America)
   b. Early Intervention
   c. Early Intervention Parenting Partnerships (EIPP)

d. Welcome Family
e. Women, Infants and Children (WIC)
f. Massachusetts Pregnant and Parenting Teens Initiative (MPPTI)
g. Massachusetts Early Childhood Comprehensive Systems Project (MECCS)

Through the PDG B-5 grant, leaders from representing these agencies and programs are working together on a set of PDG B-5 grant activities aimed at strengthening interagency connections and providing families of B-5 children with a more coordinated and robust network of quality programs and supports.

In addition to this Needs Assessment, PDG B-5 deliverables include:

- A Strategic Plan
- An Integrated Data System created a through a comprehensive data sharing agreement to provide state leaders with aggregate, unduplicated actionable information related to young children
- Targeted efforts to strengthen connections with families of young children to ensure state programs and services meet their needs including streamlined and enhanced communication approaches about developmental milestones and related services and supports, tailored to reach all families, especially those who are not currently being reached or reached effectively.
- Robust training and other professional developmental opportunities that include standards for, and competency in, observation, assessment, documentation and use of screening data to make appropriate referrals vary across programs and individual providers.
- A single statewide approach to the online administration of the Ages and Stages Questionnaire[1] for developmental screening across all programs in the Mixed Delivery System.

2.2 PDG B-5 Governance Structure

The PDG B-5 project was driven by an inter-agency, inter-secretariat, governance and operations model with leadership, buy-in and support from the Executive Steering Committee, co-chaired by the Secretaries from the Executive Office of Education (EOE) and the Executive Office of Health and Human Services (EOHHS) with participation from the Commissioners, Executive Director and their designees to oversee grant activities. An Operational Steering Committee (OSC) provides day-to-day management of the grant. The Undersecretaries of EOE and EOHHS are Co-Chairs of the OSC, and members include senior leaders from each of the participating state agencies. Several workstream teams managed specific grant activities. The Parent, Knowledge, Choice team was led by DPH and included cross-agency participation from family engagement specialists at each of the partner agencies and programs. The Professional Development and Best Practices team was led by DESE and included training and professional development specialists from each of the partner agencies. Both of these teams also provided input on, and shaped the scope of, this Needs Assessment.

The development of the PDG B-5 Data Use License Agreement (PDG B-5 DULA) and the early childhood integrated data system involved reaching consensus on policy and legal issues across all of the participating agencies, programs and secretariats. This work also involved key representatives from each of the participating agencies. Once signed, the PDG B-5 DULA will continue to be managed by an inter-agency board of directors. The final interagency team met to develop a strategy for implementing a statewide approach for the online administration of the ASQ tool to screen for developmental milestones. Each of the interagency team leaders participate in the OSC, assuring continuity and accountability across all aspects of the project.

Details regarding participation in the committees and workstreams can be found in Appendix 1.

Image 3. Project management structure for the Massachusetts PDG-B5 grant

2.3 Stakeholder Engagement

Massachusetts is home to an extensive network of public and private agencies and organizations that work on behalf of children and their families. We recognize that there are many state and local supports, services, and programs that touch the lives of young children in Massachusetts, beyond those agencies that are identified in this project as being part of the Mixed Delivery System.

Intentionally, our Operational Steering Committee and the PDG working groups are comprised of people who are involved in related projects and initiatives within their agencies and are active with a wide range of organizations throughout the State. Through this cross-Secretariat, cross-agency involvement, multiple entities have directly and indirectly informed this Needs Assessment and will continue to inform the Strategic Plan and strengthen our ability to sustain grant initiatives going forward.

The PDG B-5 project seeks to build on existing work, fill gaps, and develop structures to help improve outcomes for B-5 children and their families. As a governmental inter-agency collaborative focusing on the most vulnerable B-5 children and their families, we have an opportunity to maximize our impact by working in partnership with affiliates and stakeholders across the Commonwealth.

The OSC also worked with stakeholders to compile available national and state research on family needs and expectations and provider challenges including the following sources:

- Annual reports and school district profiles from programs and agencies serving children B-5
- Reports from the Administration of Children and Families on Child Care Decision Making and Understanding Family Engagement Outcomes
- Data from the American Community Survey and the US Census Bureau on Massachusetts' child population and demographics
- Reports and research about Family Needs and Expectations
- Recommendations for Early Education and Childcare from the Boston City Council Committee on Healthy Women, Families and Communities, and more
- Report from the Massachusetts Partnership for Infants and Toddlers: *What do families want? Findings from a statewide family survey and focus groups*

Stakeholder engagement is an ongoing and iterative process. As we gather data, learn more about family and community needs, and focus on providers - we continue to talk with a wide range of provider and stakeholder groups. Additional information about key stakeholder groups and membership is detailed in Appendix 1.

Parents | Family Members | Guardians

Engaging with and empowering parents and family members is a central objective of the PDG work. There are several entities in Massachusetts that focus on bringing families' voices to policy discussions, and to ensure that our services are reaching all families. Examples of these partnerships include:

PDG B-5 Parent Knowledge and Choice workstream ("PKC team") was formed to lead the PDG B-5 effort to understand what families across the State know about developmental milestones, and where they go with questions and for services and who they look to for support. Driven in part by the findings from this Needs Assessment, the team focused on understanding how to reach families that have historically not accessed State services. The goal of the PKC team's work is to help streamline and enhance the way that the State communicates with families about developmental milestones and related services and supports.

The PKC team is led by staff from DPH and includes participation across each of the four PDG B-5 participating agencies. Through a collaborative process, and involvement of the OSC, the team selected a communications company to research and recommend improvements to make information provided by state agencies more seamless, consistent, culturally responsive, and effective.

The research included in-depth interviews 36 key informants, representing across all services within our PDG scope, and included people from community-based organizations, State agencies, advocacy organizations, and more. The list was representative of all regions of the State. Individuals or organizations with particular cultural and linguistic community connections were prioritized, knowing that their input would be most valuable to gain insight into effective communication practices.

The research also includes surveys and focus groups in three languages with family members across the State and a screening process to help ensure that the research reflects diverse populations, including people that are not currently engaged with services in the Mixed Delivery System. Families are our primary stakeholders. This research has informed this needs assessment and many of the people that

were interviewed will impact the strategic plan and the policy and programmatic work that will continue beyond the grant period.

The Massachusetts Partnership for Infants and Toddlers (MPIT) is a unique collaboration among early childhood professionals, inside and outside of government, at the state and local level, spanning early education and health. The MPIT steering committee represents six partner organizations including three of the agencies that are part of the PDG B-5 Mixed Delivery System- the Massachusetts Department of Early Education and Care, the Department of Public Health, and the Executive Office of Education. Other members are Boston Children's Hospital, Office of Community Health, and the United Way of Massachusetts Bay and Merrimack Valley. There are also six private philanthropy funders, working under the umbrella of the Massachusetts Early Childhood Funder Collaborative.

MPIT membership consists of 45 partner organizations and 20 family engagement specialists, with significant overlap with PDG B-5 agencies and networks such as the Coordinated Family and Community Engagement (CFCE) grantees.

Through targeted research, the Partnership collects input and perspectives of families, practitioners, and other community stakeholders across Massachusetts, to inform state plans for early childhood. In July 2020, MPIT released *What do families want? Findings from a statewide family survey and focus groups*. The results of the findings included the full analysis, as well as a break-out of "lower income" families, as those with a combined income of below $50,000/ year, or approximately 200% of the federal poverty level which is consistent with other data throughout this report. Some of the findings from the MPIT report are included in this Needs Assessment and provide initial insight into whether our programs are meeting the needs and expectations of enrolled families.

MPIT will continue to be a partner as we develop the Strategic Plan and design and implement activities that help address these needs, and also identify meaningful ways to keep families' voices at the center of State polices.

Early Education and Care Providers Across Settings and Across the State

The work of the Early Education and Care providers and educators across our Mixed Delivery System is central to our success. There are many stakeholder groups that are organized on behalf of providers to help support a robust workforce. Examples of these partnerships include:

PDG B-5 – Best Practices and Provider Training workstream is part of the PDG effort with an aim towards increasing the competencies of providers across the Mixed Delivery System. Driven in part from findings of this Needs Assessment, the workgroup identified six categories of core competencies to provide a baseline competency to aid providers in assessing their proficiency with conducting developmental screening. The PD team is led by staff from DESE and includes participation across each of the four PDG agencies. Through a collaborative process, and involvement of the OSC, the team developed and issued an RFQ to do the background research and create a framework for coordinated professional development and an associated set of online trainings.

The vendor surveyed individuals throughout the Mixed Delivery System and provider network based on either their membership on advisory boards of training and technical assistance staff for one of the four

partner agencies and/ or serving as a director or professional development director or coordinator for program overseen by these agencies. Each of these individuals provided input into this Needs Assessment.

The Head Start Collaboration Office Advisory includes key stakeholders across State systems and Head Start Directors and is located within the EEC and is directed by a member of the PDG OSC, who also serves as Associate Commissioner for Programming and Grants at EEC. There are many goals of the Advisory that align with the work of the PDG and there is significant overlap of members of agencies represented on the Advisory and members of the PDG OSC and working groups. During the PDG Needs Assessment process, members of the Advisory were regularly updated, and the needs of Head Start families and educators were incorporated into the activities of the PDG. The Head Start Collaboration Office Advisory will continue to be a partner through the strategic planning process and into the future, beyond the grant period.

Other Early Childhood Service Providers

There are several entities that focus on early childhood services, outside of early education and care. As with the other categories of stakeholders, there is significant overlap of PDG OSC and workstream participation and these groups. The work of the following groups helped to inform this Needs Assessment as well as the Strategic Plan by focusing on health and ensuring that our research and activities reflect the needs of all families.

- Early Intervention Provider Community
  - Led by DPH, includes parents of children who are receiving or have received EI service
- Early Intervention Parent Leadership Project (PLP)
  - Led by DPH, includes parents of children who are receiving or have received EI services
- Healthy Families MA Coordinators meeting
  - Coordinators and supervisors of the 24 community-based Healthy Families MA home visiting programs
- Infant Early Childhood Mental Health Policy Working Group
  - Led by DMH, includes DMH, DPH, DCF, DTA, EEC, DESE, DHCD, Doctors, Mass Association for Infant Mental Health; Boston Public Health Commission

In turn, members of the PDG B-5 OSC and workstream teams also provided updates to these groups about the PDG B-5 activities.

State Early Childhood Advisory Council – Early Education and Care Board

The Board of Early Education and Care (BEEC) is the body that serves as the Massachusetts State Advisory Council. The Board sets policies and regulations related to early education and care programs administered by the Department of Early Education and Care (EEC). Secretary of Education Peyser and Secretary of Health and Human Services Sudders, the chairs of our project's Executive Steering Committee, serve as ex-officio members. The Co-Chairs of the OSC made a presentation to the Board on PDG B-5 activities and sought input on the Needs Assessment from the Board in December 2019. The Commissioner of EEC and the Secretary of Education work closely with the Board and the Board Chair, engaging and involving the Board as-needed to guide PDG B-5 activities.

System Building Entities / Key Partner Agencies

The Massachusetts Family Engagement Coalition is led by DESE and includes school districts, family engagement organizations, parents, and community members. The primary goal of family engagement is to facilitate shared responsibility that contributes to the healthy development, learning, and growth of children - from the earliest ages into young adulthood. Over the course of more than three years, DESE has led a broad group that includes eleven State agencies, and a core group representing five of them with significant overlap with PDG members at DPH, EEC, and DESE.

The Coalition has engaged forty practitioners and overall, more than 500 people weighed in on Strengthening Partnerships: A Framework for Prenatal through Young Adulthood Family Engagement in Massachusetts[2]. There have been both formal and informal discussions and planning to align the work of the coalition with the research and other aspects of the PDG work. This includes input into this Needs Assessment, engagement with the Strategic Plan, and on-going collaboration where we will share data and insights from the single ASQ platform. As the Coalition transitions into an implementation phase with a focus on training, and PDG transitions towards a sustainable governance, we will continue to find opportunities for alignment to improve services to families.

The Massachusetts Early Childhood Comprehensive Systems Project (MECCS) includes collaborative partnerships across City, State and Federal agencies, private organizations, businesses, and individuals, to work together towards a seamless system of care for children from birth until they enter kindergarten. Partners include representation across early childhood education; physical, mental, and public health; social services; local government; and families or other caregivers. Collaborations in Chelsea and Springfield participate in the nationally led Collaborative Innovation and Improvement Network (CoIIN). MECCS collaborations are developing two-generation approaches to improving young children's developmental skills; and are strengthening provider use of data to enhance program delivery and address service gaps.

The PDG Needs Assessment has been informed by MECCS in several ways including their innovative approach to data and potential use of the ASQ. In turn, the PDG has informed the work of MECCS by taking a statewide leadership role which can advance, and potentially scale these innovations. MECCS will continue to be a strategic partner of the PDG.

The MA Young Children's Council is a multi-disciplinary group formed to advise EOHHS and DPH particularly on issues of mental health. There was a presentation to the Council in January 2020 to provide updates on the PDG work and how children's mental health relates to the project.

2.4 Data sources for this report

Information in this report - specifically data related to the demographics of the B-5 population in Massachusetts, and the state programs that serve them - was derived from information that is generally available to the public, and what is available directly from the programs cited. The process revealed significant insights about the population, but also

Data Sources Used to Compile the Needs Assessment

- Department, agency, and programmatic reports
- Program websites
- Massachusetts specific research and reports including from The Boston Foundation, the Boston Mayor's office, and the Massachusetts Partnership for Infants and Toddlers
- National trend data from the U.S. Census, national early education and care organizations, and think tanks
- Program-level data on screening, enrollment

identified major gaps in our data and understanding. These gaps laid the foundation to develop a data sharing mechanism across programs, as well as common success metrics, which provide a baseline to measure service delivery and track progress longitudinally. The need for an integrated B-5 data system and Success Indicator metrics is detailed in Section 5 of this report.

Our assessment substantiated several known gaps in our data, highlighted critical data needs, and identified areas that require additional research to more deeply understand how to meet the diverse needs of vulnerable children and families. A list of sources used can be found in Appendix 3.

2.5 Definition of Key Terms

Identifying the key terms that are defined below (**Table 1**) helped to establish a common baseline of understanding across the programs of the Mixed Delivery System. The terms were also used to shape the research and data gathering process and to define the Success Indicators as described in section five.

Term	DEFINITION
ASQ Screening	Includes both ASQ-3 and ASQ SE-2, recognizing the importance of understanding all the domains of child development.
Availability	As services to meet child and parents' needs range widely, availability is defined broadly to generally establish whether our Mixed Delivery System has the right resources in the right place at the right time to meet the needs of families with B-5 children.
Chronic Absenteeism	For public school students: percent of students that miss more than 10% of their days in membership over the course of the school year. "In membership" refers to a school the child is currently attending. No definition yet for children participating in subsidized early education and care programs or other programs and services in scope for the PDG Needs Assessment.
Competency / Essential core skills for effective developmental screening	The PDG team developed six competencies to effectively conduct developmental screenings and positively affect the other screening related Success Indicators. These competencies are not intended to supplant program specific requirements. Rather, they seek to establish a common baseline to aid providers in assessing their proficiency with conducting, communicating and acting on developmental screening results in a Mixed Delivery System. See Section 8. Subsection Providers for additional context.
DULA	A Data Use Licensing Agreement (DULA) is the template for all interagency data sharing agreements among Massachusetts state agencies. The PDG B-5 DULA will allow the agencies participating in the PDG B-5 grant work to share their respective early education and care data sets, and create an aggregate, deidentified, unduplicated data set that will allow the participating agencies to analyze aggregate information related to children participating in one or more of those programs.
Early Childhood Care and Education System	The Massachusetts Early Childhood Care and Education System , referred to in this document as the Massachusetts Mixed Delivery System, refers to the programs and structure in image 1 and in section 2.1 of this Needs Assessment and. includes a multitude of programs serving young children that receive funding from local, state, federal and private streams.
Enrolled	Necessary family information has been submitted to and processed by the program or service and a child/family has been offered and has accepted a slot/seat in a program or service. *NOTE:* "Enrolled" is being used in place of the term "participate," as the definition of participate can vary significantly across programs, specifically in regard to the duration a child/family receives services (e.g. 1 day, the full duration of the program).
Gateway Cities	As defined by Section 3A of Chapter 23A of the Massachusetts General Laws, municipalities that have: 1. A population greater than 35,000 and less than 250,000, and 2. A median household income that is below the Commonwealth's median income, and 3. A median rate of educational attainment (of a bachelor's degree or above) that is below the Commonwealth's median.

Term	DEFINITION
	The 26 Gateway Cities in Massachusetts are Attleboro, Barnstable, Brockton, Chelsea, Chicopee, Everett, Fall River, Fitchburg, Haverhill, Holyoke, Lawrence, Leominster, Lowell, Lynn, Malden, Methuen, New Bedford, Peabody, Pittsfield, Quincy, Revere, Salem, Springfield, Taunton, Westfield, and Worcester.
Low Income	The family of a B-5 child has an income at or below 200% of the federal poverty level.
Providers	Organizations that deliver services and are funded as part of one of the programs/ services that make up the Massachusetts early childhood Mixed Delivery System (e.g. Home Visiting providers, child care providers, Early Intervention providers, pre-school programs).
Referral	Documented referral to one or more specific programs or services, either those within or outside of the defined Massachusetts early childhood Mixed Delivery System, to address concern(s) identified through a developmental screening (versus a general suggestion that a child needs additional reading support).
Rural Areas	Municipalities with a population density below 500 people per square mile and a population under 10,000. (This is the definition used by the Department of Early Education and Care and the Department of Public Health.)
Quality Early Childhood Care and Education System	Programs and services that meet or exceed established benchmarks (e.g. QRIS level 3 or better for programs licensed by the Department of Early Education and Care, other specific standards or benchmarks for home visiting, early intervention and public pre-k) *NOTE:* As part of the PDG Strategic Plan, the OSC will work with each participating agency to understand what quality benchmarks are used now to gauge quality across different types of programs and services, and how those agency-determined measures of quality improvement could be tracked at the state level over time.
State Advisory Council	The Massachusetts State Advisory Council is the Board of Early Education and Care, which oversees the Department of Early Education and Care (EEC). Secretary of Education Peyser and Secretary of Health and Human Services Sudders, the chairs of the PDG Executive Steering Committee, both serve as ex-officio members of the Board. The Board also has representation from the early education and care field, as well as the business, academic and medical communities.
Vulnerable or Underserved Children	To define "vulnerable children", the OSC sought to align on a common term that could be used and understood consistently across agencies and programs. The OSC determined that "low income" would be the best proxy at this time to represent the definition of vulnerable, since the majority of children who are vulnerable in other respects are also low income. To further understand certain groups of interest that may not also be low income, data on the broader B-5 population will be broken down by the dimensions listed in the "Overview of Success Indicators" section of this Needs Assessment, where available. This will help the OSC address questions about access and participation for specific populations. The term "underserved" is still understood and defined differently at each agency/program within the Massachusetts Mixed Delivery System. The Massachusetts Department of Early Education and Care (EEC), the concept of underserved drives prioritization of providing subsidized care. For example, homeless children or children in foster care may receive a higher prioritization for care. For the DPH run Home Visiting Massachusetts program, there are 9 federal priorities and 4 state ones that drive the concept of underserved, such as families with a history of child abuse or substance use, low student achievement or developmental delays, among others. For Children's Trust's home visiting programs, "underserved" includes at-risk newborns, born to first time parents under 21 years of age and low-income. Since a key tenant of MA's PDG efforts is to increase equity across our EEC system, we are focused on assessing different dimensions of the term "underserved" to identify the level of services provided to families with different needs, and address gaps in access.

Table 1: Definition of Key Terms

3 B-5 Children and Their Families: Demographics, Services & Enrollment

3.1 Demographic Trends of Vulnerable B-5 Children & their Families

Findings:

- The number of B-5 children is decreasing overall but the number of low-income B-5 children is increasing and the number of nonwhite (especially Latinx), foreign-born, and those with an identified disability, is also increasing.
- There are persistent disparate outcomes on the MCAS ELA scores among low-income children, English language learners, students with disabilities, and children of color. In addition, low-income children are more likely to experience chronic absenteeism once they are school-aged.
- Although programs have shown remarkable flexibility to adapt to these changing demographics, our Mixed Delivery System as a whole is not equipped to ensure that programs provide equitable and culturally and linguistically responsive services.

Our core principles relate to equity, meeting families where they are, and focusing on vulnerable children and families with the greatest need. We value the parents', and other caregivers', role as a child's first teacher and aim to support them in best meeting their child(ren)'s needs, particularly when it comes to understanding – and addressing - issues related to developmental milestones so that the child can stay on track.

In order to increase equity, and improve outcomes for all children, we have to enhance family awareness of early developmental milestones. We need to continually respond to the changing demographics and the range of cross-cultural health beliefs and expectations regarding developmental delays and the role of services. In addition to culture and language, there is also a critical gap in providing and targeting resources for single fathers, as most resources are geared towards mothers. [3] This is particularly crucial as the number of single-family households – for both single mothers and single fathers – increases.

To be effective, we need to have a deeper understanding of who the families are - where are the people who need our services the most living? What are the cultural and linguistic needs of these families? What are we seeing with disabilities? What else?

Trends

In 2000, Massachusetts had a B-5 population of 480,354 children. By 2017, that number had decreased by 9.7% (46,657 children) to a total B-5 population of 433,697. However, the number of B-5 children living in a low-income household below the 200% Federal Poverty Line, rose from 113,263 in 2000 to 117,450 in 2017, a 3.7% *increase* (4,187 children).[4]

While there are many factors that will help us identify families that we want to focus on for this project, the PDG Steering Committee determined that low-income, i.e., those families earning less than 200% of the federal poverty level is an adequate proxy as significant data is analyzed through an income lens.

Gathering detailed demographic data on the B-5 population is a challenge, as different sources collect and report information differently. This report includes recent B-5 data as is obtainable, also includes

information on children in general (B-18) when that is available; as well as some historical context, going back to 2000. So, while there is some misalignment of population and dates, the data overall illustrates how the population is changing in significant ways that challenge the ability of our existing programs and network to serve children equitably across the State. It highlights the need for our Mixed Delivery System to evolve and transform in order to effectively engage with, and meet the needs of, this changing population. The image below summarizes some of the demographic trends of the B-5 population in Massachusetts:

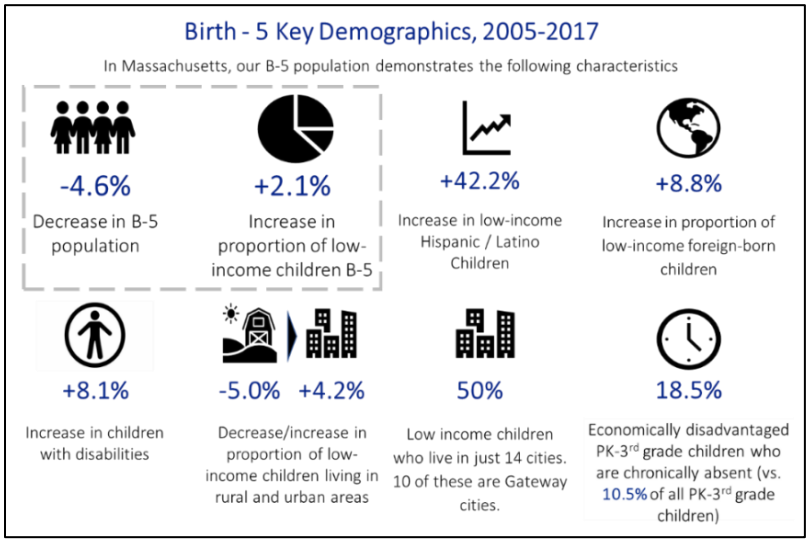


Image 4. Summary of key birth – age 5 demographics from 2005 to 2017[i]

The data shows that while the total B-5 population in Massachusetts has decreased, the number of low-income B-5 Children has increased.

Race and Ethnicity

Low-income children in Massachusetts are increasingly likely to be non-white (Image 5). Between 2006 and 2017, although the total number of low-income B-18 children remained relatively constant, the number of low-income non-Hispanic White children decreased by 26.2%. The number of low-income Black or African American decreased by 4.65%. However, the number of low-income Hispanic/Latino children increased by 42.2% and the number of low-income Asian and Pacific Islander children increased by 23.8%.[5]

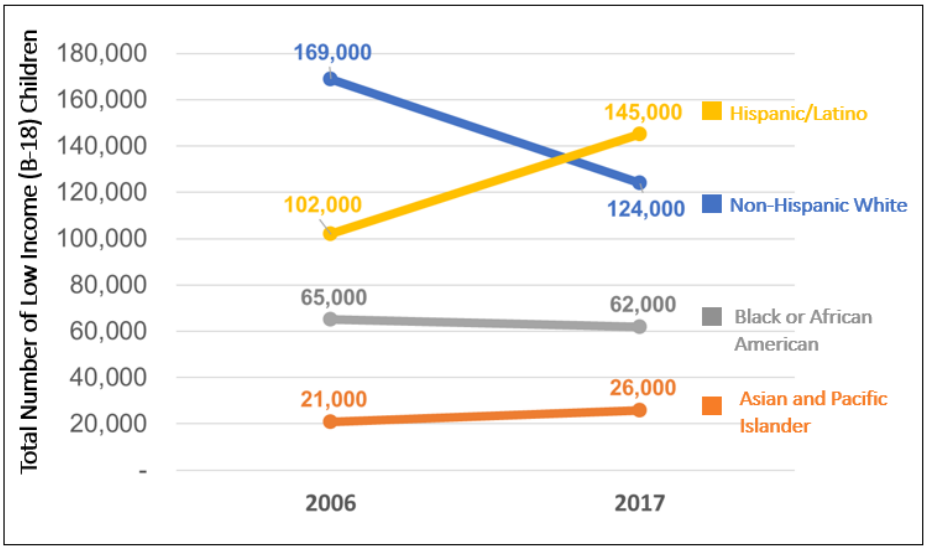


Image 5. Low-income children are increasingly likely to be non-white, especially Latinx[6]

First Generation Children

Low-income children (B-18) are increasingly likely to be foreign born (defined as children who are themselves foreign-born or resident with at least one foreign-born parent). Between 2000 and 2017, foreign-born children increased from 27% of the total B-18 population to 37% of the total B-18 population.

Most foreign-born children came from Latin America (41%), with 15% coming from an African country, 26% coming from an Asian country, and 17% coming from a European country. [7] Over time, this may increase the need for resources for English language learners.

Household Composition

For all, not just low-income, households, between 2000 and 2016, the percentage of children (B-18) living in a married-couple household decreased, while single-parent household (both mother-only and father-only) increased. Understanding and addressing the needs of fathers, through targeted initiatives will help increase parental engagement. Similarly, understanding the needs of grandparents raising children, as well as teen parents, should inform our approach and services that we offer.

Children with Disabilities

Nationally, there was an increase in identified disabilities.[8] The CDC reports that between 2014 and 2016, the prevalence of children ever diagnosed with a developmental delay other than autism spectrum disorder or intellectual disability increased, from 3.57% to 4.55%. (Image 6)

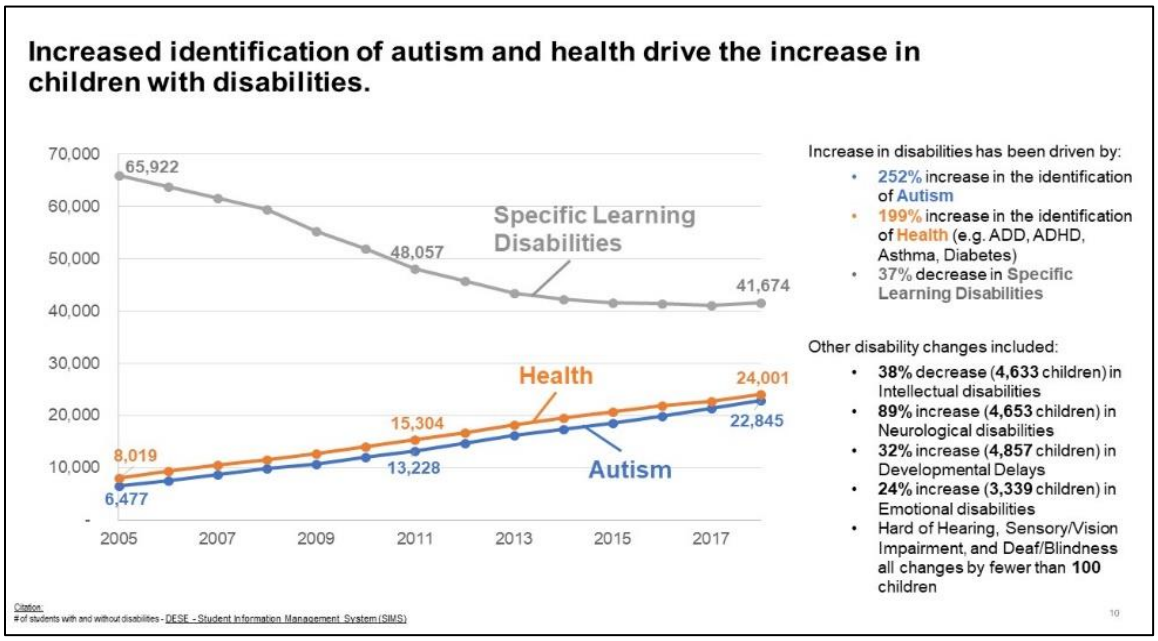


Image 6: Increased identification of autism and health drive the increase in children with disabilities.

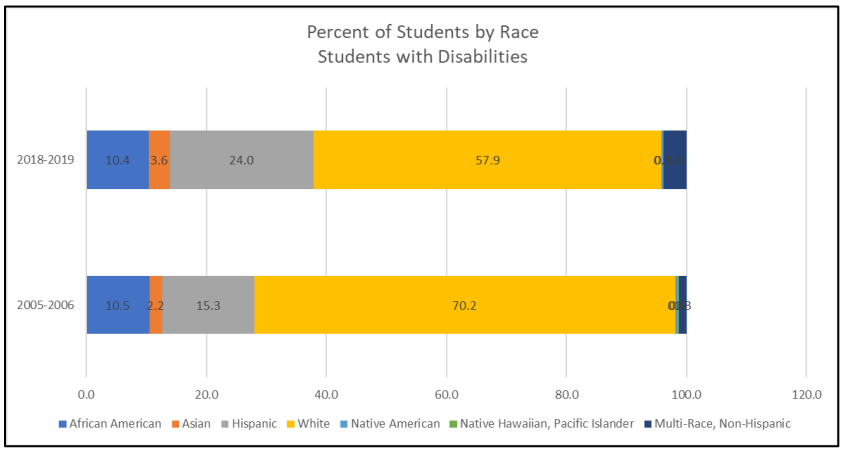
As shown in Table 2 below, based on published Massachusetts school enrollment reports, between 2005 and 2018, the number of children with an identified disability has increased (by 13,091 children or 8.1%). The data show a dramatic increase in autism, health, neurological and developmental delays, but a decrease in specific learning disabilities or intellectual disabilities for all children statewide[9]. These data reveal the need to further understand the prevalence of disabilities through more consistent and coordinated examination of key data across the PDG B-5 Mixed Delivery System.

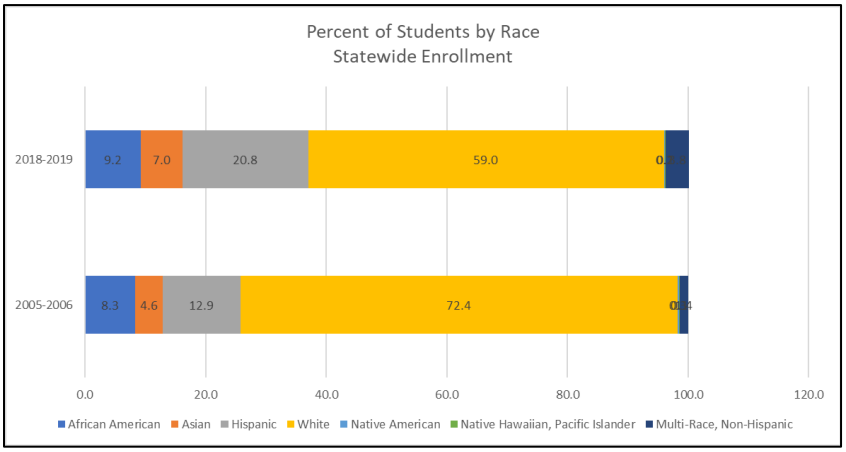
Year	Autism	Health	Neurological	Developmental Delay	Specific Learning Disability	Intellectual	Total
2005- 06	6,477	8,019	5,199	15,405	65,922	12,245	160,752
2018- 19	22,845	24,001	9,852	20,262	41,674	7,612	173,843
Change	+16,368 (252.7%)	+15,982 (199.3%)	+4,653 (89.5%)	+4,857 (31.5%)	-24,248 (-36.8%)	-4,633 (-37.8%)	+13,091 (8.1%)

Table 2. Disabilities Among Children

Race and Ethnicity Analysis of Children with Identified Disabilities

The racial breakdown of children enrolled in school with identified disabilities also shifted between 2005-2006 and 2018-2019. The charts below depict both disability by race and show that there are similar trends in the percent of students by race for students with disabilities and the overall statewide enrollment[10].





Images 7-8: Between 2005 – 2018, although there were increases in the percentage of Hispanic students with identified disabilities and decreases in the percentage of White students with identified disabilities, this closely reflects demographic changes in the overall student body.

Geography: Where Low-Income Families Live

Understanding the geographic distribution of our target population helps guide our investment of resources and services. Massachusetts is divided into several geographic categories: The city of Boston; 26 gateway cities[11], 176 other urban municipalities; and 134 rural municipalities.

Fifty percent of all low-income children live in just 14 cities across Massachusetts (Boston, Brockton, Cambridge, Fall River, Holyoke, Lawrence, Lowell, Lynn, New Bedford, Quincy, Revere, Somerville, Springfield, and Worcester). Eleven of these are Gateway cities (the three that are not Gateway cities are Boston, Cambridge and Somerville).[12]

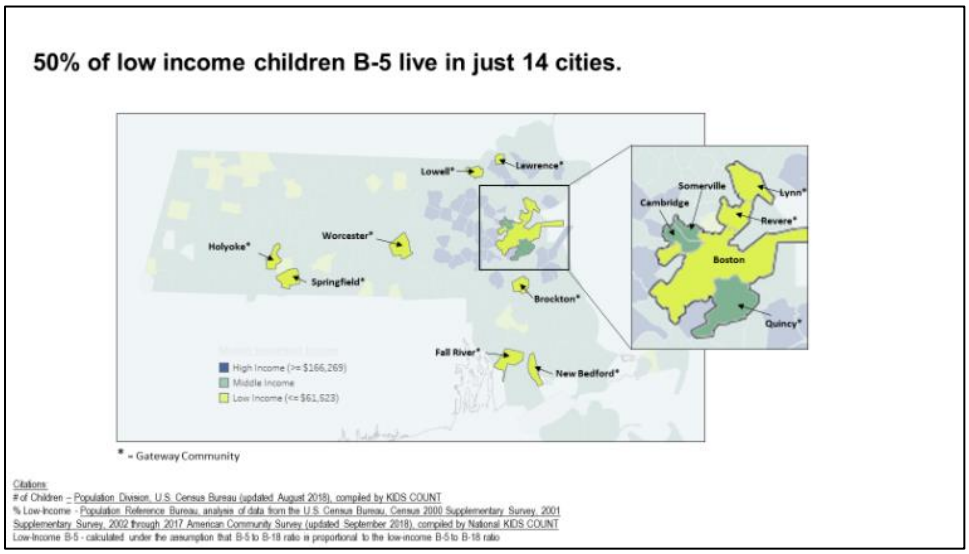


Image 9: 50% of low-income children live in just 14 cities in Massachusetts

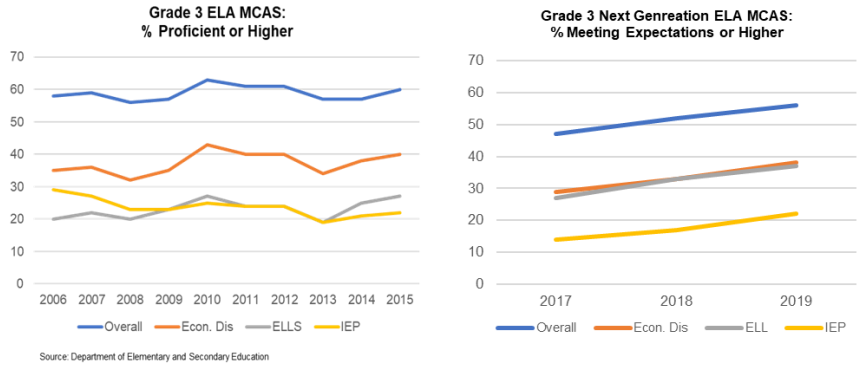
The table below (Table 3) highlights both where low-income children live as well as the portion of low-income children in a geographic type. Both measures are important as we look at the overall reach of our programs and the related policy issues.

	Geographic Type			
	Gateway	Boston	Other Urban Area	Rural
Median Household Income[13]	$53,558	$52,100	$120,351	$93,637
Total Population[14]	1,826,146	694,583	3,822,042	536,423
Population as % of state total	27%	10%	56%	8%
# Children under 6	115,047	43,759	240,789	33,795
# Low-income children under 6[15]	56,346	22,015	42,997	6,205
% children under 6 in geographic area who are low-income	48.9%	50.3%	17.9%	18.4%
Proportion of state's total low-income children under 6 living in the geographic area	44%	17%	34%	5%

Table 3. Demographic characteristics of Massachusetts by geographic area type.

MCAS Scores Indicate Disparities

In addition to the trends above which indicate an increasing need among some segments of the population, the third grade reading and math scores which are assessed through the Massachusetts Comprehensive Assessment System (MCAS), and are the first statewide data-point on child outcomes in the Commonwealth that is widely collected, aggregated, and shared, shows that our vulnerable children are falling behind the overall population. (*The need for statewide B-5 metrics is detailed later in this report*).



Key: Econ. Dis: Economically Disadvantaged. ELLS: English Language Learners. IEP: Individualized Education Program.

Image 10. Third grade English Language Arts MCAS scores.[2]

From 2006–2015, third grade English language MCAS scores remained largely constant. The Commonwealth changed the test and scoring system in 2016. From 2017–2019, while scores trended upwards for all categories of students, 2019 results are still no higher than they were in the previous assessment. More importantly, large disparities remain between scores of the overall population and those for economically disadvantaged students, students with disabilities and English language learners.[16]

3.2 Supporting Child Development & Access to Services

If families are aware of child developmental milestones and seek resources to support their child early in life, we can help identify children who are at risk of developmental delay earlier and improve the likelihood that they might receive appropriate additional screening and related supports.

Findings:

- **Many state agencies provide families with comprehensive information about developmental milestones and refer families for more information and services. However, this information is not tracked uniformly, consistently, or Statewide.**
- **There is a lot of information available to families about developmental milestones and supports, but families don't necessarily know where to find what would be most helpful to them, may be confused by the variety of information, which may not always be culturally relevant, and may not be able to appropriately assess which programs are available and suitable for their needs.**

Multiple Sources of Information for Families on Program Access and Developmental Milestones

Information about program access and child development is provided from several state agencies and at the program level across the Mixed Delivery System, reaching parents who have access to a particular

service, but the information is not consistent, is limited, and may not be reaching families who would benefit from it.

Despite there being multiple sources of information, in a recent study, when asked why families were not enrolled in a program, approximately one third of lower income families reported not knowing about the service[17].

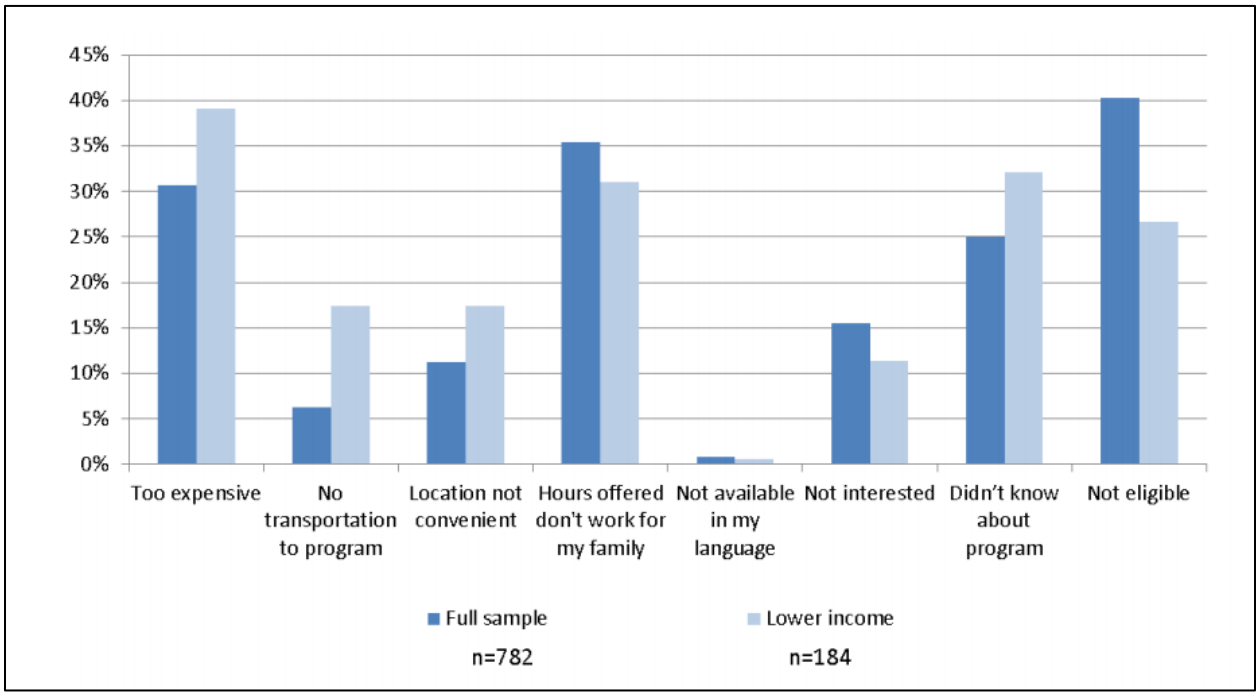


Image 11: Reasons why families are not enrolled in programs of the PDG B-5 Mixed Delivery System[18]

Despite the multitude of resources available, families seeking information about services and resources primarily rely on friends and family as their trusted sources of information,[19] indicating that our efforts to reach families should be broadly targeted.

Table 4 below shows the range of publicly funded websites communicating information about child development milestones and state supports in Massachusetts, where a family member may look for help.

State and Federal resources about developmental milestones and supports			
AGENCY	TITLE	TYPE OF INFORMATION	TARGET AUDIENCE GROUP
ACF	Child Care Aware	• Program information: state-by-state child care resources, health and social services • Information about financial assistance	• Families • Caregivers • Educators
CDC	Learn the Signs Act Early materials	• Child development milestone checklists and "Milestone in Action" videos, searchable by age of child Screening information • Free tools to help Educators, Women, Infants and Children (WIC) program staff and Home Visitors to support and track child development	• Families B-5 • Caregivers B-5 • Educators B-5

AGENCY	TITLE	TYPE OF INFORMATION	TARGET AUDIENCE GROUP
CT	One Tough Job	• Community based resource finder, searchable by zip code, including: Early Head Start programs, child care programs, CFCE programs and other parenting resources • Child development milestones, searchable by age of child • Parenting articles and resources to support child development at different ages and stages	• Families B-6 • Caregivers B-6
CT	Children's Trust Website	• Local program information, including: Family centers, Parent Education and Support Programs, Healthy Families, Fatherhood Initiative • Professional Development Training Opportunities open to family support professionals across Massachusetts topics including: Strengthening Families Framework, Child Sexual Abuse Prevention, Fatherhood and Family Support Topics • Parenting resources such as All Babies Cry curriculum • Local program information, including: Family centers, Parent Education and Support Programs, Healthy Families, Fatherhood Initiative	• Families • Caregivers • Educators
DPH	1, 2, 3 grow! Videos	• Child development milestones: videos offered in 8 languages • Parenting resources, featuring a parent story and discussion about strengths and barriers specific to each culture	• Families B-5 • Caregivers B-5
DPH	MA Home Visiting Facebook Group	• Community page with 672 followers on Facebook • Parenting resources (links and articles) • Child development information	• Families • Caregivers • Educators
DPH	Community Support Line	• Assessment of family needs • Program information for families with children and youth with special health needs and the providers serving these families • Eligibility for services and benefits • Community-based resources • Training for providers	• Families of children with special health needs • Providers serving children with special health needs
EEC	Child care search	• Program locator: geographically searchable online directory of licensed child care programs across the state	• Families • Caregivers
EEC	Child development guidance for parents of young children	• Child development guidance for parents of infants on toddlers, offered in 6 languages, on topics such as: fostering brain development through communication, physical health and well-being, cognitive development, social-emotional development, learning styles • Parenting resources about children from Birth to 14 years of age, including: child development milestones, suggested activities, parenting tips, reading lists	• Families • Caregivers
EEC	Resources for Early Learning: Brain Building in Progress	• Child development information, in partnership with WGBH Educational Foundation • Parenting resources: Everyday activities to bolster child development, customizable by age of child • Educator resources: Detailed lesson plans customizable by age of child	• Families B-5 • Caregivers B-5
EEC	Brain Building in Progress	• Statewide public awareness campaign to raise awareness of the importance of young children's healthy development and early learning, in partnership with United Way	• Families B-5 • Caregivers B-5 • Educators B-5 • Policymakers
EOHHS, EEC, MEMA	Mass211/ Help Steps	• Provides information about what state programs and services, nonprofit organizations, support groups, and other local	• Families • Caregivers

AGENCY	TITLE	TYPE OF INFORMATION	TARGET AUDIENCE GROUP
		resources are available by area, including program locators and how to apply to programs/services	

Table 4: State and Federal resources about developmental milestones and supports[20]

3.3 The Experience of Families in the Mixed Delivery System

3.3.1 Enrollment, Quality, and the Number of Children Being Served

Finding:

- **The programs in the Mixed Delivery System collect different types of data, and use different metrics to define capacity, quality, and services, making it difficult for families and State agencies to compare programs and services, and understand the overall quality and effectiveness of programs.**

This Needs Assessment catalogues participation data across the Mixed Delivery System of the PDG B-5 project to understand the capacity, enrollment, and quality of our programs. However, our current approach to collecting program level data, as well as our limited ability to aggregate and deduplicate information, results in a duplicated count of children participating in our programs, as well as the needs of children who are being served, or awaiting services, and finally, how we measure the quality of our programs.

To understand who is participating in our Mixed Delivery System, we need to capture enrollment in a common way. Currently, our programs define participation differently, collect different data points, and use different timeframes for collecting data.

Despite the varying metrics, adding up all enrollments in state funded programs detailed in the table below provides a duplicated count across our Mixed Delivery System programs of approximately 216,017, ages birth to five served during program year 2018.[21]

Summary of Participation in Programs across the Mixed Delivery System

The B-5 Mixed Delivery System programs vary in structure, services, and population served.[22] Table 5 summarizes participation information for each agency and establishes whether they collect child level data to integrate with data across the system. This is an important factor in establishing B-5 data sharing mechanisms.

AGENCY	PROGRAM	CHILD LEVEL DATA AVAILABLE TO STATE (Y/N)	# OF PARTICIPATING 0-5 CHILDREN	POPULATION SERVED	TIMEFRAME	LOCATION OF SERVICES
CT + DPH	Healthy Families Massachusetts	Y	2,101	Young, first-time parents, age 20 or younger. Support provided from time of pregnancy to 3 years of age.	State fiscal year 2018	• 24 state-funded programs with catchment areas covering all 351 cities and towns in MA
DPH	Healthy Families America	Y	100	First time parents (or parenting for the first time	Federal fiscal year 2018	1 provider at MGH Chelsea Health Center, serving 5 communities:

AGENCY	PROGRAM	CHILD LEVEL DATA AVAILABLE TO STATE (Y/N)	# OF PARTICIPATING 0-5 CHILDREN	POPULATION SERVED	TIMEFRAME	LOCATION OF SERVICES
				in this country); support provided prenatally through the child's third birthday. (To enroll, must be a client of the MGH Chelsea Health Center; enrollment is prenatal through four months of age for child).		• Chelsea • East Boston • Everett • Lynn • Revere
DPH	Parents as Teachers	Y	320	All prenatal and parenting parents. Services are provided through child's kindergarten completion.	Federal fiscal year 2018	8 programs statewide, serving 64 communities
DPH	Early Intervention	Y	41,076 total; of those, 21,717 (52.9%) are at or below 200% of the federal poverty line	Families expecting a child or with an infant 3 months or younger, with service up until the child's 1st birthday.	Fiscal year 2018	Statewide 60 program offices in 6 catchment areas statewide[23]: • Western Region • Central Region • Northeast Region • MetroWest Region • Greater Boston Region • Southeast Region
DPH	Welcome Family	Y	1,757	Caregivers with newborns up to 8 weeks old	Fiscal Year 2019	• Fall River • Boston • Lowell • Holyoke • Springfield
DPH	Women, Infants, Children (WIC)	Y	141,803	Families with children under age 5 earning <185% of FPL. Infants eligible due to MassHealth/ Medicaid status are eligible at <200% of FPL.	State fiscal year	Statewide (113 program locations)
EEC	Pre-School Expansion Grant *(ended 2018)*	Y	865	4-year-old children.	Program year 2017-2018	• Boston • Holyoke • Lawrence • Lowell • Springfield
EEC	Subsidized Childcare[24]	Y	As of September 2019, Total enrollment: 53,727 Below 200% FPL: 36,006 And, 11,307 children 0-5 were on the waitlist	Families < 50% state median income upon eligibility. If a parent or child has a documented disability or special needs, then <85% state median income. Parents must be working, retired, 65+, or have a documented disability to be income eligible. . EEC also runs priority access programs for families referred by the Department	State fiscal year 2019 (7/1/2018-6/1/2019 service months)	Statewide Child Care Resource and Referral Agencies (CCR&Rs) are present in all municipalities to help connect families to services.

AGENCY	PROGRAM	CHILD LEVEL DATA AVAILABLE TO STATE (Y/N)	# OF PARTICIPATING 0-5 CHILDREN	POPULATION SERVED	TIMEFRAME	LOCATION OF SERVICES
				of Transitional Assistance (DTA) or the Department of Children and Families (DCF) and for homeless families.		
DESE	Public Pre-Kindergarten	Y	30,684 total; 11,348 (37.0%) economically disadvantaged	Children from age 2 years and 9 months to age 5/ kindergarten entry age	2017-2018 school year	• 289 school districts
DESE	Public Pre-School Special Education	Y	10,059 total; 4,475 (44.5%) are economically disadvantaged (subset of public pre-k)	Children ages 3-5 with educational disabilities.	2017-2018 school year	Statewide: Public Pre-School Special Education is available to every family in every district
CT	Family Centers	N				• 7 Family Centers in 40+ communities
CT	Parenting Education & Support	N				Statewide
EEC	Coordinated Family and Community Engagement (CFCE)	N	235,909 total instances of participation: 133,132 (56.6%) parent-child playgroups, 36,216 (15.4%) parent education, 66,560 (28.2%) referrals, 832 (0.3%) / Parent Child[i]	Families from prenatal through age 8.	Fiscal year 2018 for all programs except Parent Child+, which is FY2019	• 88 grantees serving 351 MA municipalities
EEC	Head Start Collaboration Office	N	15,154	Children under age 5 from families earning <100% of FPL.	Program year 2017-2018	Statewide (117 program locations)
DPH	Massachusetts Pregnant and Parenting Teens Initiative (MPPTI)	N	245	Pregnant or parenting adolescents aged 14-24	Fiscal year 2019	• Chelsea • New Bedford • Holyoke • Lawrence • Springfield
DPH	Massachusetts Early Childhood Comprehensive Systems Project	N		Creating a seamless system of care for children from birth until they enter kindergarten		
DPH	EI Parenting Partnerships (EIPP)	N	163	Families during pregnancy, continuing through the child's first birthday		

Table 5. State of MA B-5 programs, participants, eligibility criteria, and geographic location.

[i] CFCE programs were not included in the total count of children served - they do not have unique identifiers creating a duplicated count. For playgroups, families are counted each time they attend a session, (e.g. if they attend a 4-part series, they will appear 4 times in the data).

The image below provides an overview of publicly funded programs by the age of children they serve, and by the state agency that oversees the provision of services.

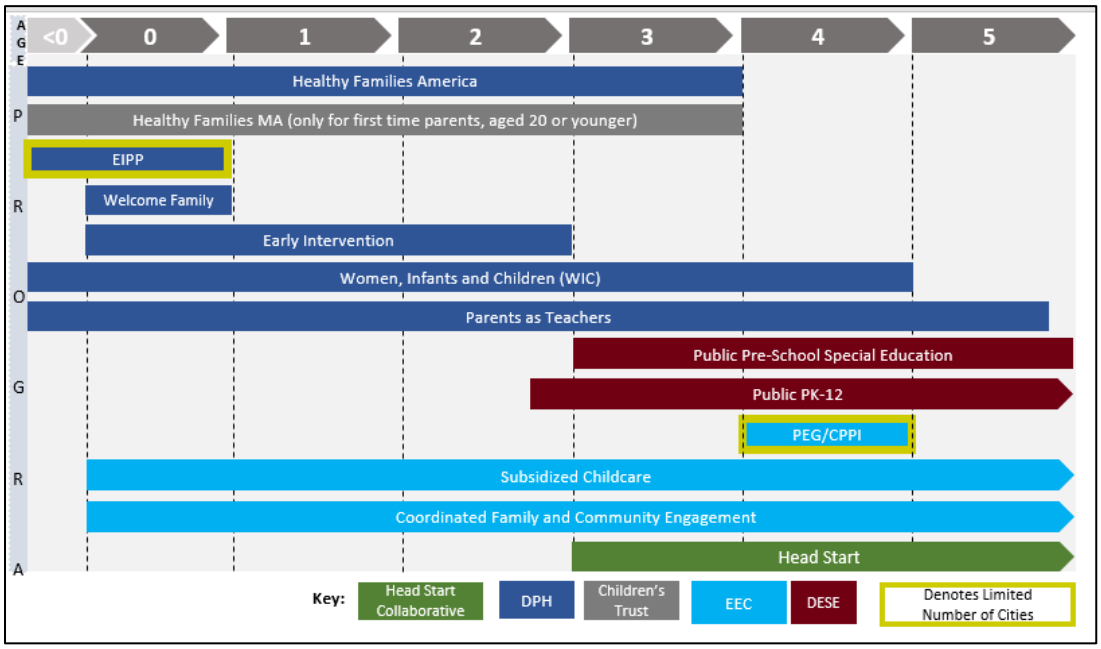


Image 12. State of Massachusetts PDG programs by age.

Capacity

Capacity measures the total number of slots to meet a wide range of needs for services which is an important indication of our ability to meet the needs of B-5 families. Programs within our Mixed Delivery System define capacity differently based on the nature of their program, making it impossible to aggregate or have a sense of total capacity. These are some examples:

- Children's Trust: The Healthy Families Massachusetts program, allocates funding with the expectation that each full time equivalent (FTE) home visitor serves 20 participants each year, with a point in time caseload expectation of 12 participants per FTE home visitor. They use those thresholds as the standard by which to measure programs. In FY19, the point in time capacity of Healthy Families Massachusetts home visitors was 1,764.
- The Department of Public Health: The Healthy Families America and Parents as Teachers programs define capacity as the highest number of families (or households) that could potentially be enrolled at any given time if the program were operating with a full complement of hired and trained home visitors. Capacity percentage is a calculated indicator that results from dividing the current caseload by the maximum service capacity, (which is 68 for the Healthy Families America program and 281 for Parents as Teachers), and multiplying by 100.
- The Department of Public Health: The Women, Infants, Children (WIC) program defines capacity as the number of cases funded for local agencies. The statewide WIC caseload for FY18 was 121,600 per month; 71% of participants served were infants and children, equaling to 86,336 "slots" for infants and children each month.
- The Department of Early Education and Care: Coordinated Family and Community Engagement (CFCE) program, grantees offer a blend of programming reflective of the needs of their communities. In FY18 each of the grantees conducted an assessment which informed their

understanding of required capacity in the community. They are expected to maintain an understanding of the strengths and gaps in programs and supports for families in their service areas, to address needs that would be within the purview of the grant and to avoid duplication of programs and services by working intentionally with community partners in order to meet the capacity they identified.

- The Department of Early Education and Care: Licensed Early Education and Care defines early education capacity as the licensed capacity for serving children ages 0-4 of all early education and care providers licensed by EEC. In a 2019 report, EEC reported a total licensed capacity of 120,070 slots[25].
- The Department of Early Education and Care: Subsidy System serves children whose family meets the income eligibility threshold for childcare assistance which is set at no more than 50% of the state median income (for analytic purposes, this approximates 200% of the federal poverty level) or that are referred by the Department of Transitional Assistance (DTA) or the Department of Children and Families (DCF). Subsidy-participating providers include providers who served at least one child using childcare assistance, through a childcare voucher or a contracted childcare slot, during the month of September 2019. Massachusetts reports serving 30,241 children ages 0-4 receiving subsidies during this month.[26]
- The Department of Elementary and Secondary Education: Public Preschool Classrooms run by local public school districts also serve children 3-4 years old across the state. Enrollment data on these classrooms reports 38,198 preschool slots.

Enrollment

Enrollment in programs of the Massachusetts early childhood Mixed Delivery System provides insight into how families are utilizing services and helps understand the capacity of our system to meet the needs of children age 0-5. Families may enroll children in multiple programs over time for a variety of reasons. As an overall system, we aim to ensure that there is the right number of programs, at the right size and type, to meet the needs of the low-income B-5 population in every geographic location throughout the Commonwealth. Furthermore, if we tackle enrollment as a comprehensive system, we can address some of the barriers to enrollment and provide a holistic view of each child, while also supporting each program to provide its own services, and supporting transitions between programs as children age or move from one geographic location to another (as distinct from referrals for additional services based on the results of a screening).

Although the availability of a slot in a program is often the driving variable, there are multiple factors that impact enrollment levels of children. For example, a national study from the American Academy of Pediatrics shows that low-income African-American and Hispanic mothers cite limited and conflicting information about EI referral and eligibility processes, resulting in delayed or forgoing EI services.[27] Families are challenged by program communication, language barriers, and "burdensome" requirements, and may not understand relevant eligibility criteria, in part because programs and services are not always tailoring their work in a culturally representative or client-centered manner.[28, 29]

The Children's Trust has identified that inconsistent communication from home visiting programs has also contributed to the varying levels of understanding about eligibility requirements and services offered (Table 6). [30]

	PERCENTAGE OF SURVEY RESPONDENTS[31] WHO…

Children's Trust Program	...knew eligibility requirements.	...knew of services offered.	...could accurately explain services to other prospective families.
Healthy Families MA	63.9%	73.6%	51.4%
Parents as Teachers	48.6%	56.8%	45.9%
Welcome Families	60.0%	60.0%	55.0%

Table 6. Knowledge of programs by surveyed respondents. [32]

There are additional gaps in our knowledge of what programs are needed for families with children with behavioral special needs, father-only households, households where English is not the primary language, and other categories of families.[33] While parents who have access to advocates and support groups for children of special needs may be able to navigate the system, those who lack this support express frustration and stress. [34] Families might also benefit from early care and education service providers receiving greater training in teaching dual language learners. [35] This information further supports the need for communication to be relevant and meaningful for families.

The Massachusetts Department of Early Education and Care (EEC):

Availability, Need, and Gaps

Among the programs in the Mixed Delivery System, EEC supports the majority of slots for early education and childcare. A report commissioned by EEC and shared with the Board of Early Education and Care in December 2019, "*The Geography of Early Education and Care in Massachusetts*"[36] assessed the need, capacity, and gaps of childcare services across the State. The report examined the system overall, and included a separate analysis of the "subsidy system", comprised of all providers serving children in subsidized early education and care. In addition to providing a summary of this report's findings, this section also analyzes policy-relevant community contextual factors and related patterns by race and ethnicity.

EEC reports an **overall capacity of 158,268 slots** across all licensed childcare facilities as well as public pre-school programs. The *potential* estimated total need is 363,173 children based on census data, which provides an upper bound estimate since not all families of children age 0-4 will need or want licensed early education or preschool. The difference between this upper bound estimate and capacity is just over **200,000 children statewide**. Expressed as a percentage of potential need, the total statewide gap is **56%**[37].

Age	Need	Capacity – Licensed	Capacity – Preschool	Capacity - Total	Gap – Absolute	Gap as a % of Need	Share of Gap by age
0-4	362,173	120,070	38,198	158,268	203,905	56%	
0-2	212,118	53,239		53,239	158,879	75%	78%
3-4	150,055	66,831	38,198	105,029	45,026	30%	22%

Table 7: Licensed Childcare capacity and gap analysis - Overall

The eligibility threshold for childcare subsidies for children 0-4 is 50% of the state median income which approximates 200% of the federal poverty level. This estimation approach modestly underestimates the number of children eligible on the basis of income, and at the same time modestly overestimates eligibility by including children with nonworking parents. Overall, using an upper-bound estimate, **statewide potential need for subsidized care is up to 111,880 children** ages 0-4, representing 31% of

children ages 0-4 statewide. Estimated statewide total capacity (i.e. children ages 0-4 served by subsidy-participating providers) is 30,241. The difference between *potential* need and capacity is just over **80,000 children statewide** ("absolute gap"), and expressed as a percentage of potential need, the **statewide gap is up to 73%** ("percentage gap").

It is important to note that a portion of children ages 3-4 estimated to need subsidized childcare may be served by public preschool programs or Head Start programs, so this estimate should be considered an upper bound estimate of the gap between need and capacity to serve subsidy-eligible children ages 3-4 as not all families of children age 0-4 will need or want licensed early education or preschool and further reflects the need to be able to assess both capacity and need across the entire Mixed Delivery System.

Age	Need	Capacity – Licensed	Gap – Absolute	Gap as a % of Need	Share of Gap /age
0-4	111,880	30,241	81639	73%	
0-2	66,324	13,894	52,439	79%	64%
3-4	45,554	16,347	29,207	64%	36%

Table 8: Licensed Childcare capacity and gap analysis - Subsidized

Measuring Quality across the Mixed Delivery System

Enrollment in Quality Licensed Childcare Programs

Massachusetts uses the Quality Rating and Improvement System (QRIS), which is a method to assess, improve, and communicate quality for licensed childcare programs. There are four levels of quality in the QRIS and programs advance once they meet all criteria. Childcare programs that serve subsidized children are required to participate in QRIS but are not required to achieve any specific MA QRIS level past level one. All programs can opt into the program and achieve appropriate ratings. The Commonwealth reviews and grants levels in an ongoing manner as programs submit applications.

QRIS ratings are the most readily available data point the Commonwealth collects on program quality and approximately 50% of childcare slots offered by licensed childcare providers in Massachusetts are in programs that participate in the QRIS across the four levels. In total, 5,314 programs participated in QRIS in FY18; of these, 5,245 has QRIS rating level confirmed by EEC.[38,39]

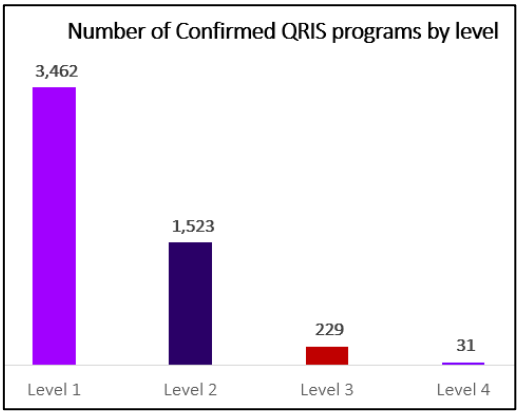


Image 13. Approximately 50% of childcare slots in MA are in programs that participate in the QRIS.

Other Programs: Enrollment in Programs that Meet Quality Thresholds

Other critical programs in the Mixed Delivery System, such as home visiting programs and Early Intervention, have measures of quality to inform state program administration, but no measures that could be summarized and communicated like the QRIS ratings. Creating and tracking a consistent measure for "quality," and the need to track the number of children enrolled in programs that meet that threshold is a need that emerged through the PDG B-5 work.

3.3.2 Transition Support and Gaps

Finding:

- **Many of the programs in the Mixed Delivery System provide guidance and information about how to support children and families in transitioning from one provider to another within a State agency program, or from one State agency program to another, including the critical transition from Early Intervention to early childhood programs However, we don't know how effective this guidance and information is in helping families make successful transitions, or where there are gaps.**

The Massachusetts Mixed Delivery System takes a broad perspective regarding transition support across age spans and across multiple needs. We are interested in supporting transitions between providers within existing PDG B-5 programs, settings, and state agencies, as well as transitions from any PDG B-5 program to elementary school.

While children are enrolled in programs, educators and caretakers can provide services and connect families to additional supports. However, when a child transitions between programs, from early childhood and education programs into school, as well as transitions within a day - moving between programs in which they participate, services and opportunities may get dropped. There are a multitude of these transition points within the Mixed Delivery System, and systematically coordinating these transitions across programs will enhance the well-being of B-5 children and their families.

Below are examples of transition efforts within the Mixed Delivery System illustrating innovative efforts as well examples of engaging families in the process.

Massachusetts Home Visiting Initiative (MHVI)

Most programs structured around home visits provide services through the child's third birthday. Although MHVI[40] supports discharge/transition planning and warm hand-offs to other programs within the B-5 service delivery system, there is a gap in support services for children between the ages of three and five. Children in this age range who cannot access preschool or other services, or who do not qualify for an Individualized Education Program (IEP), may face a shortage of support service options. While warm hand-offs between programs are a crucial element of home visiting programs, in these situations there are often no services to which to provide a warm handoff. This is a gap in available services.

Parents as Teachers (PAT)

Parents as Teachers is a program that emphasizes parent-child interaction, development centered parenting, and family well-being. In this way, it models the goals of family engagement. It is available in eight communities in Massachusetts. The PAT program works with parents of B-5 (prenatal –

kindergarten) children and includes family centered assessments and a structured curriculum. There are several opportunities for families to engage with services around transitions for the children.

- Families aging out of Early Intervention, Early Head Start, or Healthy Families may transition into Parents as Teachers (PAT). Programs are encouraged to coordinate with other programs to facilitate a warm transition for families into PAT. This warm handoff may include conducting joint visits with the other program.
- Programs are proactive and can help families plan for anticipated changes and transitions
- Families may choose to exit from the program at any time.
    - When there is a planned discharge (e.g. a family graduates from the program), programs will complete a written transition plan with families, using either the Parents as Teachers template or a preferred template identified by the program. When a discharge is anticipated (e.g. for a child aging out of the program), transition planning will begin six months prior to discharge. This transition period will include ensuring families are connected to the appropriate services and supports.
    - In cases of unplanned transitions (e.g. a program loses contact with a family), programs are not able to engage in transition planning with the family. However, families may re-enroll in PAT at any point while their child is age eligible should they choose to resume services.

Healthy Families Massachusetts

Healthy Families Massachusetts[41] is a free and voluntary support program for young, first-time moms and dads across the State that serves families from prenatal until age three. Families may leave the program for a variety of reasons, often creating a gap in care. In addition to a child aging out (graduating) at their third birthday, other reasons may be because the participant is no longer pregnant or parenting, the participant moves out of service area, the participant chooses to end services, the participant has lost of custody of a child, or the child has died.

Transition policies for Healthy Families Massachusetts are divided into the following sections:

- *Transitions Out of Services and Planning Requirements*: When a transition is well planned such as when primary participants transition out of services, either through graduation (i.e., child turning three years of age) or those who have given the program three months prior notice that they intend to transition out of service, programs are required to develop a transition plan catered to their circumstance. The primary focus of these plans is to ensure comprehensive services and supports are in place for the family and/or to facilitate the child's successful connections to early education. The development of a transition plan must be completed collaboratively by the participant(s), home visitor, and supervisor and consider their most recent family goal plan (FGP), needs, interests, and community linkages. Participants can decline the opportunity to develop a formal transition plan. A participant's decision to decline transition planning must be documented within the participant's record.
- *Transitions Within Healthy Families Massachusetts Services:* Transitions within HFM services can be due to transfers, re-enrollment, or new home visitors. In each case, programs must follow due protocol. In the case of transfers where the receiving program has no capacity to take new referrals, it must accept the transfer, assign them to service level "Other," and provide all services required for that service level to ensure continuity of services for that participant.

From Early Intervention to Early Childhood Special Education

To meet the needs of children with developmental delays and other special needs, the transition out of Early Intervention services happen when the child turns three. Transition planning occurs as part of a child's Individualized Family Service Plan (IFSP), outlining the steps and services to be taken to support the child through the program transition.

In 2018, the State issued a Technical Assistance Advisory to address the transition from Early Intervention Programs to Early Childhood Special Education[42] within the public education system. The Advisory has two purposes: (1) to promote best practices for helping eligible children and their families transition into Early Childhood Special Education (ECSE) and related services; and (2) to explain the roles and responsibilities of Early Intervention (EI) programs and school districts in that transition.

Under the federal Individuals with Disabilities Education Act (IDEA) and the Massachusetts Special Education Regulations, children referred by EI and found eligible for ECSE are entitled to begin receiving services pursuant to an Individualized Education Program (IEP) by their third birthday. The Advisory provides guidance on how to facilitate the transition from EI programs to ECSE. Additionally, the Departments of Public Health (DPH) and Elementary and Secondary Education (DESE) have jointly developed a sample EI/ECSE Transition Planning Tool template to be used by EI programs and school districts to assist in planning a child's transition to ECSE.

Within the Early Intervention program, transition planning begins with program staff convening a Transition Planning Conference (TPC), consisting of the child's parents or guardians and a representative from the district. This meeting can take place any time up to nine months before the child's third birthday, but no later than 90 days before the child's third birthday. The purpose of the TPC is to review the child's EI services and development, discuss options and services once the child leaves EI, and establish or review transition activities. If EI program staff determine that a child may be eligible for Early Childhood Special Education, the EI program staff will make a referral for special education evaluation to the child's school district of residence, with consent from the child's parent. The referral must be made no later than 90 days before the child's third birthday; consent from the child's parent must be received at least 60 calendar days prior to the child's 3rd birthday.[43]

As part of this Needs Assessment process, we convened an interagency meeting with representation from Early Intervention at DPH, childcare programs at EEC, and Preschool Special Education at DESE to discuss how this process works for families.

Efforts to smooth transitions through the Pre-School Expansion Grant

Through the Pre-School Expansion Grant[44], public school coordinators facilitated partnerships with EEC-licensed partner programs to manage collaboration, including identifying key points of alignment to ensure smooth transition to kindergarten such as aligned curriculum, familiarity with kindergarten expectations, conversations between PEG teachers and kindergarten teachers about classroom structures and expectations, and information to share with kindergarten teachers. They have also coordinated information sharing with parents about kindergarten enrollment and transition.

3.3.3 Needs & Expectations of Families of B-5 Children in Massachusetts

Finding:

- Information about family needs and expectations for early childhood services is often collected at the program level for families they serve. However, this information is not collected uniformly or connected at the State level across the system, resulting in gaps in understanding the needs of families, as well as little understanding about families who are not engaged in services.

If we can meet families' needs, we can engage and empower them to support healthy child development, benefitting from education, support, and a range of services to help children meet their developmental milestones. It is also imperative that we do this in a way that is culturally responsive as we work to increase equity across our system. According to a review of literature conducted by HHS, parents living in poverty express concern about being unable to provide both basic needs and culturally enriching activities.[45] As a Mixed Delivery System, we need to respond to both.

Child related support and services are often the first opportunity for families to engage and learn about developmental milestones. Currently, we lack comprehensive data to understand what needs and expectations families have to best support child development, or other related issues. We lack information from families who are engaged with our services, and from those whom we have been unable to reach with our current approach.

As part of our effort to learn more about the needs and expectations of families of B-5 children, the PDG effort collaborated with the Massachusetts Partnership for Infants and Toddlers to conduct research with families through surveys and focus groups.[46] Whether a family's needs were being met was asked along three key metrics - schedule, location, and affordability. Overall, most families identified that their needs were being met along these metrics, but private-pay childcare is the only area where more than 30% of low-income respondents answered "No" along all three measures. The charts below show the responses for each of the measures.

For program you are/were enrolled in, were your family's needs met by the following for each program? (Convenient schedule=No) [Image 14]

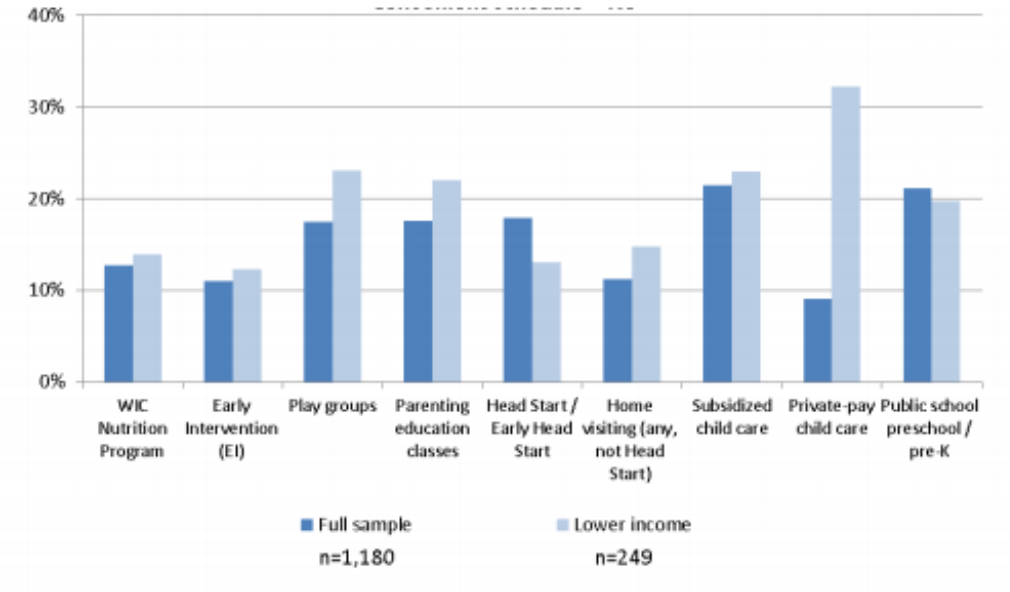


Image 14: For program you are/were enrolled in, were your family's needs met by the following for each program? (Convenient schedule=No)

For programs you are/were enrolled in, were your family's needs met by the following for each program? (Convenient location=No) [Image 15]

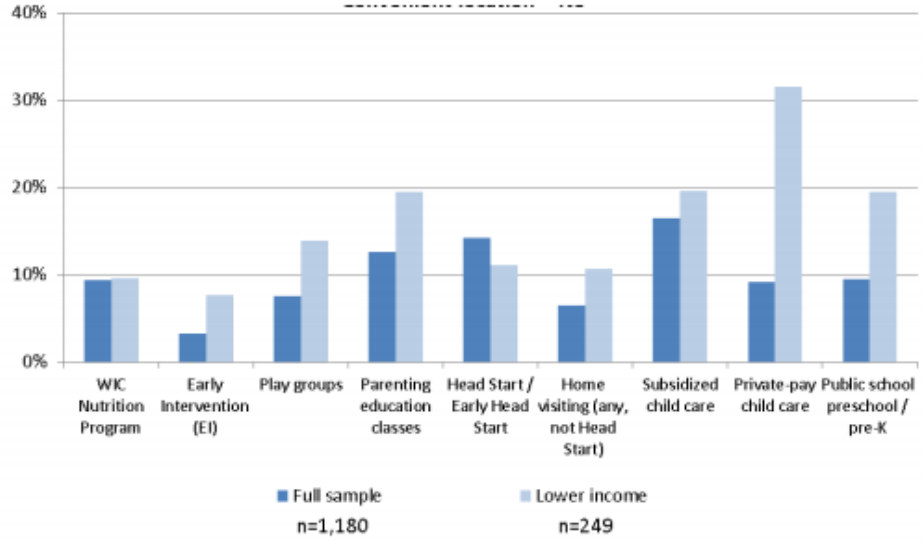


Image 15: For program you are/were enrolled in, were your family's needs met by the following for each program? (Convenient location=No)

For programs you are/were enrolled in, were your family's needs met by the following for each program? (Cost was affordable =No) [Image 16]

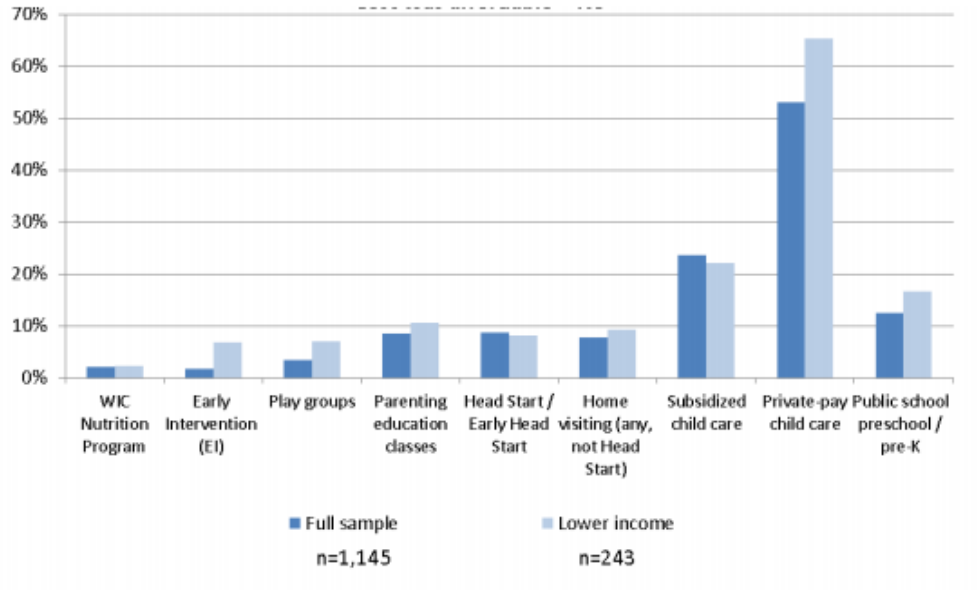


Image 16: For program you are/were enrolled in, were your family's needs met by the following for each program? (Convenient cost =No)

Similarly, a Language, Disability and Childcare survey distributed to all Boston residents in February 2019 found 86% of respondents listed "Not Affordable" as a childcare challenge, and 45% of respondents said that childcare was either too far or too difficult to find.[47]

Although the information about whether our programs are meeting family needs and expectations is not widely available, and is not systematically collected, some of our programs incorporate family feedback and engage with families in various ways to assess and respond to family needs and expectations. For example:

- Coordinated Family and Community Engagement (CFCE) Networks conduct quarterly family satisfaction surveys to assess the effectiveness of their programming. In FY19, 83% of parents surveyed responded that they know more about child development as a direct result of participating in CFCE programming—up from 78% in FY18.[48]
- Families participating in home visiting programs engage with their home visitors about needs and expectations through visits.
- Early Intervention (EI) provides individualized support in facilitating transitions between EI, Preschool and other programs for children turning 3 to ensure family needs, concerns and expectations are incorporated into their child's Individualized Education Plans (IEP).

Similarly, state agencies and programs strive to understand and meet parent's needs, there is no mechanism to coordinate, share feedback, and understand how family expectations are being met. A systematic approach would help each individual program and may also provide insight into how best to meet the needs of more families.

Barriers to Funding and Providing High-Quality, Early Childhood Care

Funding for the programs included in the scope the PDG B-5 Mixed Delivery System is represented in Table 9 below:

Agency	Line Item	Program	Fiscal Year 2020 Funding
EEC	3000-1042	Center-Based Child Care Rate Increase	$ 20,000,000
EEC	3000-2000	Access Management	$ 10,086,311
EEC	3000-3060	DCF and DTA Related Child Care (ages 0-13)	$ 275,987,080
EEC	3000-4060	Income-Eligible Child Care (ages 0-13)	$ 276,480,376
EEC	3000-6025	Commonwealth Preschool Partnership Initiative	$ 5,000,000
EEC	3000-6075	Early Childhood Mental Health Consultation Services	$ 2,500,000
EEC	3000-7050	Family and Community Engagement Services	$ 14,042,000
CT	3000-7000	Children's Trust Home Visiting and other Programs	$ 15,438,152
DPH	4513-9113	Federal Maternal Infant Early Childhood Home Visiting	$ 7,212,800
DPH	4513-1020	Early Intervention	$ 30,825,435
EHS	Multiple	Early Intervention- MassHealth (estimated total)	$ 73,000,000
DPH	4513-1002	WIC	$ 11,869,725
DESE	7043-7002	Federal Early Childhood Special Education Services	$ 7,760,817
DESE	7061-0008	Chapter 70 state education aid (pre-k allocation only)	$ 45,654,677

Agency	Line Item	Program	Fiscal Year 2020 Funding
EEC	3000-1042	Center-Based Child Care Rate Increase	$20,000,000
EEC	3000-2000	Access Management	$10,086,311

EEC	3000-3060	DCF and DTA Related Child Care (ages 0-13)	$275,987,080
EEC	3000-4060	Income-Eligible Child Care (ages 0-13)	$276,480,376
EEC	3000-6025	Commonwealth Preschool Partnership Initiative	$5,000,000
EEC	3000-6075	Early Childhood Mental Health Consultation Services	$2,500,000
EEC	3000-7050	Family and Community Engagement Services	$14,042,000
CT	3000-7000	Children's Trust Home Visiting and other Programs	$15,438,152
DPH	4513-9113	Federal Maternal Infant Early Childhood Home Visiting	$7,212,800
DPH	4513-1020	Early Intervention	$30,825,435
EHS	Multiple	Early Intervention- MassHealth (estimated total)	$73,000,000
DPH	4513-1002	WIC	$11,869,725
DESE	7043-7002	Federal Early Childhood Special Education Services	$7,760,817
DESE	7061-0008	Chapter 70 state education aid (pre-k allocation only)	$45,654,677
			$795,857,373

Table 9. FY2020 Funding for programs in the scope of the PDG B-5 Mixed Delivery System.

A total of $723 million was available in the Fiscal Year 2020 state budget through 13 appropriations for each the programs included in the PDG B-5 Mixed Delivery System. This includes federal funding made available to all states on a formula basis through the Child Care Development Block Grant (CCDBG), the Individuals with Disabilities Education Act (IDEA), and the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program, but does not include federal funding for the Head Start program, which is awarded directly to community-based organizations. It also does not include local investments in public pre-school or other locally-driven initiatives and programs.

Each of the federal funding streams and the state budget appropriations comes with its own compliance and reporting requirements. The burden of these requirements means that child-serving organizations often need to focus their operational processes on the needs of the funder, and then on the needs of the families. In Massachusetts, many of the programs in the B-5 Mixed Delivery System also have different service footprints, which further complicates the landscape and is a barrier to providing a more holistic approach to working with families to meet their children's needs. The fragmented system results in providers who are administratively burdened and families who need to navigate across multiple agencies, programs and providers.

The complexity of blending and braiding these funding streams towards common goals for children is a barrier to making informed policy and budget decisions. As we begin using data analytics made possible through the Early Childhood Integrated Data System, we will have a clearer picture of how many children are benefiting from our current program funding, and where there are gaps in services. This information will be critical to inform future policy and budget decisions.

Quality of Licensed Childcare Facilities

A key part of meeting the needs of families seeking early education and care is understanding and supporting the need for high quality facilities. In order to obtain a license to operate a childcare program in Massachusetts, the facility must meet established standards of quality.[49] Helping providers meet these requirements is critical to maintaining the supply of licensed facilities. In Massachusetts, we have the Early Education and Out of School Time (EEOST) Capital Fund to help meet this need. [50] The EEOST Capital Fund supports physical improvement of education centers that serve low-income children in Massachusetts by providing general obligation bond funding to finance new construction and renovation.

Funding is allocated to the Department of Early Education and Care, which partners with the Children's Investment Fund at the Community Economic Development Assistance Corporation (CEDAC) to award grants of up to $1 million to EEC-licensed large group early education and out of school time programs. All programs selected to receive an EEOST Capital Fund grant award serve publicly subsidized families, have demonstrated financial need, and have secured additional funding to pay for a portion of their project costs. For FY21, the Secretary of Administration and Finance has authorized $4 million in EEOST Capital Fund grants to be awarded by June 30, 2020.

Table 10 displays the agencies that were awarded EEOST Capital Fund grants and the total amount awarded in 2018.Lead Agency	Service Area	Award
Citizens for Citizens	Fall River	$1,000,000
Crispus Attucks Children's Center	Dorchester	$1,000,000
Elizabeth Stone House	Roxbury	$1,000,000
Holyoke-Chicopee-Springfield Head Start	Springfield	$1,000,000
TOTAL		$4,000,000

Table 10. 2018 EEOST Capital Fund grant awards.[i]

4 Providers & Educators: Developmental Screening and Engaging with Families

4.1 Professional Development and Education

Finding:

- Although many programs require and provide meaningful training and other professional development opportunities to providers to support their development of critical screening competencies, the training is inconsistent across programs, and there are gaps within what is available.
- There are no consistent State standards or defined competencies related to observation-based early childhood assessment, documentation of findings, the use of screening data to make appropriate and effective referrals to needed services

Education and Certification Thresholds

In general, staff training and requirements for certification vary by program and there is little consistency or alignment in provider certification and ongoing professional development requirements across the system. There is a need for high quality training that is coordinated across the Mixed Delivery System and that equips providers with core competencies to effectively utilize developmental screening.

For example:

- EEC requires all educators to have completed, at a minimum, a high school diploma, a 3-credit college course in Child Growth and Development from an accredited college, 9 months of supervised work and at least 3 months of work with specified age groups.
- DESE requires educators to have a bachelor's degree and to have completed the Massachusetts Test for Educator Licensure (MTEL)-Early Childhood (PK-2) in order to be licensed. They evaluate classroom teachers using a Classroom Teacher Rubric assessing 4 standards, across 4 levels (Unsatisfactory, Needs Improvement, Proficient, Exemplary).
- Early Intervention (EI) staff that provide direct service to children and families in the Massachusetts system are required to have attained a bachelor's degree from an accredited institution and be certified through DPH as an EI Specialist or Specialty Service Provider. For all categories of Developmental Specialist, transcripts of their bachelor's degree work or subsequent transcripts must reflect successful completion of at least 4 approved 3-credit courses that focus on infants, toddlers, and/or families, and at least 300 hours of practicum or work experience with young children (under the age of 5) is required and documented on a résumé. [51]

Professional Development Related to Effective Developmental Screening

Although there are many trainings across the Massachusetts' ECCE system that are designed to equip providers with competencies to effectively support early childhood development, there are few trainings and resources that are specific to engaging families in the developmental screening process, or specific to using data to make appropriate referrals. While some programs offer screening-related trainings and resources, there is currently no statewide observation rubric, and no systematic requirement in certification for cultural awareness and communicating with families when administering screening and making referrals. The data and demographics section of this report highlights the need for cultural competency and other factors to support trust and effective service delivery.

As an example of training, Children's Trust requires all home visiting staff to complete "Using the ASQ/ASQ-SE" as part of their Foundations for Family Support Core Training program. The training covers topics related to scoring the ASQ-3 and the ASQ-SE:2 and prepares staff to use the developmental screens on home visits. It also covers the developmental domains on the tools and provides background on the intent behind the questions on the intervals; engaging parents in the developmental screening process; sharing screening results with parents; and, partnering with parents to plan home visit content using information gathered from the screening process.

This competency-based training, which was developed for Healthy Families Massachusetts Home Visiting staff (home visitors, supervisors, program managers) and is open to other Massachusetts Home Visiting Initiatives, is one of few trainings specifically geared towards administering and utilizing screening results to make appropriate referrals across the Mixed Delivery System. Children's Trust also requires all home visiting staff to take an in-person "Family Profile Training" which provides general guidance on using a variety of screenings with families.

Early Intervention is another example of a program which offers staff a series of online modules geared towards understanding and using Social-Emotional Screening Tools. One online module, titled "Using Social-Emotional Screening: Tools to Build Understanding of the Child and Foster a Connection with the Family," explores how the experience of social emotional screening and assessment can support infant and toddler mental health.

It also provides an overview of the screening and assessment process, strategies for engaging families, and guidance and practice in the use of two social emotional screening tools: The Ages & Stages Questionnaire: Social Emotional (ASQ-SE) and the Greenspan Social-Emotional Growth Chart.

This variation in training practices and available professional development makes it difficult to compare provider competency in this area across programs.[52] It also highlights the need for coordinated training across the Mixed Delivery System so that families experience some consistency, which will support engagement and success.

PROGRAM	SCREENING RELATED TRAINING REQUIRED
DESE Certifications and Required Knowledge	Subject Matter Knowledge (SMK) and ability to apply the theories of cognitive, social, emotional, language, and physical development from childhood through adolescence Knowledge needed to support students through use of assessment for instruction and intervention[53]
EEC Educator Certification	Completion of a 3-credit college course in Child Growth and Development from an accredited college
Early Intervention	Specialty based degree requirements, including: Occupational Therapy, Physical Therapy, or Special Education

Table 11. Training requirements for understanding and applying developmental stages and milestones / program.[54]

Standardized Competencies

To help assess provider competency in a more standardized way across the Mixed Delivery System, and to help ensure consistency in the way developmental screenings are administered and results utilized by programs across the Mixed Delivery System, the PDG Professional Development working group, comprised of participants from across the PDG B-5 participating agencies and programs, identified six categories of core competencies that all providers should be equipped with in order to effectively engage

families in the developmental screening process and positively impact screening related outcomes. These competencies are not intended to supplant program specific requirements. Rather, they seek to establish a common baseline competency to aid providers in assessing their proficiency with conducting developmental screening and enable the Mixed Delivery System to understand the extent to which our provider community is equipped with the skills to positively influence our Success Indicators.
The six categories of core competencies are:

1. Baseline competencies required for interacting with children
2. Interacting with families / family engagement when conducting developmental screenings
3. Understanding basics of a developmental screening, including referrals
4. Use of data
5. Understanding developmental stages/milestones in conducting screenings/assessing results
6. How are we applying understanding of developmental stages/milestones to inform next steps

Supporting providers across the Mixed Delivery System to develop and maximize these competencies is central to the overall strategic goals of the PDG B-5 work.

Table 12 includes a description of each of the six core competency categories, and a list of existing trainings and professional development resources related to each competency across agencies and programs.

	CORE COMPETENCY CATEGORY	DESCRIPTION OF CORE COMPETENCIES	EXISTING TRAININGS & PROFESSIONAL DEVELOPMENT RESOURCES
1	**Interacting with children**	➢ Interacts with children with mutually positive or appropriate emotions ➢ Displays reciprocal and inclusive interactions during joint activities	**EEC: Subsidized Childcare** ➢ Pyramid/Social Emotional/Positive Behavior Community Programs **CT: Home Visiting** ➢ Facilitating Attuned Interactions (FAN) Training ➢ Partners for a Healthy Baby Training ➢ Foundations of Family Support Training ➢ Supporting Parent Child Interaction Training ➢ Infant Toddler Days 1&2 Training **DPH: EI** ➢ Supporting Infant & Early Childhood Social-Emotional Well-being: Introduction to theory and practice ➢ Overview of the Pyramid Model Framework Training ➢ Integrating Early Childhood Social and Emotional Development into Part C Systems Webinar Series
2	**Interacting with Families / Family Engagement when conducting developmental screenings**	➢ Utilizes and models welcoming, respectful, reflective and active listening communication practices when interacting with families and works collaboratively on behalf of the child ➢ Demonstrates cultural and linguistic awareness (CLAS) and humility to establish a positive, reciprocal relationship with families ➢ Uses trauma informed principles to guide their interactions with families	**EEC: CFCE** ➢ Administer ASQ, as part of grant priorities **CT: Home Visiting** ➢ Using the ASQ/ASQ-SE Training ➢ Family Profile Training ➢ Trauma Informed Practices Training ➢ Culture in Parenting Training

	CORE COMPETENCY CATEGORY	DESCRIPTION OF CORE COMPETENCIES	EXISTING TRAININGS & PROFESSIONAL DEVELOPMENT RESOURCES
			DPH: EI ➢ Supporting Infant & Early Childhood Social-Emotional Well-being: Introduction to theory and practice training
3	**Understanding Basics of a Developmental Screening, including referrals**	➢ Understands purpose of developmental screening and the tool and process for administering screening with families and can effectively introduce the tool/process to families ➢ Demonstrates knowledge of family context, including environment, family concerns, culture and care giver relationships to understand results of the developmental screen ➢ Understands impact of implicit bias on interpreting developmental screening results and ensure that all families receive fair access to programs regardless of developmental screening results	**CT: Home Visiting** ➢ Using the ASQ/ASQ-SE Training ➢ Supervisor Documentation Training ➢ Documentation Training **DPH: EI** ➢ Using Social-Emotional Screening: Tools to Build Understanding of the Child and Foster a Connection with the Family Online Module
4	**Use of Data**	➢ Uses data from developmental screening to identify individual strengths and weaknesses and to make appropriate referrals and ongoing assessments as necessary ➢ Can effectively engage families in conversations about their child's individual strengths and areas of growth based on developmental screening results ➢ Understands factors that influence learning and uses them to guide children and their families: 1) in making decisions regarding referrals for diagnostic and other intervention services/individualized support and 2) with transitions within and between programs* within Massachusetts Mixed Delivery System as the OSC has defined it	**CT: Home Visiting** ➢ Using the ASQ/ASQ-SE Training **DPH: EI** ➢ Using Social-Emotional Screening: Tools to Build Understanding of the Child and Foster a Connection with the Family Online Module **DESE: PK-12** ➢ Early Literacy Grant ➢ Dyslexia Training/Screening
5	**Understanding Developmental Stages/Milestones in conducting screenings/assessing results**	➢ Demonstrates knowledge of typical/atypical development ➢ Engages and supports families in understanding developmental milestones and stages for their child	**CT: Home Visiting** ➢ Using the ASQ/ASQ-SE Training **DPH: EI** ➢ Principles and Practices of Early Intervention: Child Development - On-line Training Course
6	**How are we applying understanding of developmental stages/milestones to inform next steps**	➢ Able to communicate recommendations to families with respect and humility ➢ Matches interventions to the family's concerns in the moment to help them feel understood and empowered to support their child's learning	**CT: Home Visiting** ➢ Supervisors Intensive Training Series

	CORE COMPETENCY CATEGORY	DESCRIPTION OF CORE COMPETENCIES	EXISTING TRAININGS & PROFESSIONAL DEVELOPMENT RESOURCES
		➢ Accepts without judgment that individuals' experiences shape their responses and reactions to situations	

Table 12. Core Competencies and Currently Existing Trainings[55]

4.2 Variation in Use of Developmental Screening

Findings:

- ➢ Developmental screening is a common practice for engaging families and learning more about children over time.
- ➢ Developmental screening in Massachusetts most often involves the Ages and Stages Questionnaire (ASQ), although there are multiple products and formats of the ASQ tool.
- ➢ There is no coordinated system for connecting and tracking the rich dataset that is gathered through developmental screening, making it challenging to share information across providers, and to understand if screening led to needed referrals and services.

As described above, developmental screening and appropriate referrals are critical components of a service delivery system that connects children to the services they need to start kindergarten with the competencies to succeed academically and social-emotionally. It is also a key opportunity to engage parents in the development of their child. The focus on screening stemmed largely from the recommendations of the Massachusetts' Early Literacy Expert Panel (ELEP). The ELEP was legislatively established in 2011 *by An Act Relative to Third Grade Reading Proficiency* and comprised of nine members from across the Mixed Delivery System. ELEP recommended the use of the Ages and Stages Questionnaire (ASQ) as a developmental screener in early childhood to ensure early identification and appropriate referrals to address developmental delays.

As a development screener, ASQ provides valuable reference points for child development to identify possible developmental delays, but it cannot be used for diagnostic purposes. This screener and its companion, the ASQ Social Emotional (ASQ SE) screener, are used widely across the Massachusetts Mixed Delivery System, including by Early Intervention (only using ASQ-SE, and not universally), the Coordinated Family and Community Engagement (CFCE) grantees, and home visiting programs. Many of the early childcare programs participating in the state's QRIS system at Levels 3 and 4 also use the ASQ, and revised QRIS will include use of ASQ as the only approved screening tool for children B-5. A study looking at childcare programs in Massachusetts found that of those participating in QRIS across the four levels, 23% of Level 1 programs and 65% of Level 2 programs offered developmental screening of children, specifically the Ages and Stages Questionnaire.[56, 57]

To understand how the ASQ is used throughout the State, this Needs Assessment includes a review of available data on screening and referrals across Mixed Delivery System programs. From this baseline understanding, we identified several key needs and gained insight into how we might analyze screening information in the future.

The data we collected shows that programs across the Commonwealth utilize different screening tools as part of their practice, and there is inconsistency across the various programs in the Mixed Delivery System on how screening data is obtained, tracked, and reported on. While there is value to the programs to have their own processes and results for individuals at the program level, this is where it currently stays - the State cannot aggregate this data. Without data at the State level, we are unable to assess trends or needs, and we miss the opportunity for deeper analytics that can drive policy and inform coordination across programs and systems.

The table below (Table 13) summarizes how each program across our system integrates the ASQ into their services.

AGENCY	PROGRAM	NUMBER OF PARTICIPANTS (0-5)	NUMBER OF CHILDREN SCREENED	SCREENING TOOL(S) USED	SCREENING USAGE	SCREENING INTERVALS
CT + DPH	**Healthy Families Massachusetts**	2,101	1,585	ASQ-3 and ASQ-SE	Required	Required at: 2, 4, 9, 12, 18, 24, 30, 36 months Optional at: 6, 8, 10, 14, 16, 20, 22, 27, 33, 42 months
DPH	**Healthy Families America**	100	28 Participants who had at least one screening during the reporting period (Of all those eligible to be screened at 9, 18, 24 or 30 months of age, 67% were)	ASQ-3; *ASQ:SE is conducted but screening data are not collected for MIECHV purposes*	ASQ-3 Required	AAP-recommended age intervals at 9, 18, 24, and 30 months
DPH	**Parents as Teachers**	320	75 Participants who had at least one screening during the reporting period (Of all those eligible to be screened at 9, 18, 24 or 30 months of age 56% were)	ASQ-3; *ASQ:SE is conducted but screening data are not collected for MIECHV purposes*	ASQ-3 Required	AAP-recommended age intervals at 9, 18, 24, and 30 months
DPH	**Early Intervention**	41,076	All enrolled children receive Social / Emotional screenings	Batelle Developmental Inventory and ASQ-SE	Depends on agency (ASQ-SE usage administered by local programs and not tracked)	AAP-recommended age intervals at 9, 18, 24, and 30 months of age
EEC	**Subsidized Childcare**	53,727 As of September 2019, 11,307 children 0-5 were on the waitlist	Screening information not collected as it is unrelated to whether a program is eligible to provide subsidized care	Data not collected	Not Required	N/A
DESE	**Public Pre K-12**	30,684	Not measured or collected at statewide, aggregate level	Schools are not mandated to use a specific screening tool	Required	Prior to kindergarten entry
DESE	**Pre-School Special Education**	10,059	Not measured or collected at statewide, aggregate level		Required	Prior to kindergarten entry

AGENCY	PROGRAM	NUMBER OF PARTICIPANTS (0-5)	NUMBER OF CHILDREN SCREENED	SCREENING TOOL(S) USED	SCREENING USAGE	SCREENING INTERVALS
EEC	**Coordinated Family and Community Engagement (CFCE)**	235,909 (total instances of participation)	4,875	ASQ-3 (all) and ASQ-SE (some)	ASQ-3 Required	Varies based on program
DPH	**Massachusetts Pregnant and Parenting Teens Initiative (MPPTI)**	245	185	ASQ-3	ASQ-3 Required	Administered at all key developmental stages through age 5
DPH	**Early Intervention Parenting Project (EIPP)**	163 infants born while their parent was an EIPP participant	125 of the 163 infants born received an ASQ at 2 months postpartum	ASQ-3	ASQ-3 Required	Administered at all key developmental stages: 2, 4, 6, 10, and 12 months post-partum

Table 13. Differences in screening tools across programs. Participation numbers in the chart are duplicated.[58]

Coordination of ASQ Administration

In addition to what the table above shows - wide variation of how the ASQ is used across B-5 programs, there is also variation in how ASQ is administered. The ASQ-3 is used more than the ASQ-SE, and screenings are done both online and on paper. Providers who administer the ASQ using both paper and online formats, indicate they need assistance with data entry and understanding the online process. Providers report that it is difficult to persuade families to use the online version, due to both family preference and provider familiarity, although this may be rapidly changing as the role of technology is advancing substantially in the service delivery system, particularly in the wake of the health crisis.

If a child is enrolled in more than one program, families may also experience multiple screenings with no ability to see the results across settings.[59] And if an organization receives funding and conducts screening for more than one state-funded program (e.g. home visiting and child care), they cannot connect screening information between the funded programs. More uniform and universal ASQ screening at programs within the Massachusetts Mixed Delivery System is central in our goal to improve the overall quality of our services and improve outcomes for young children.

4.3 Referrals & Service Utilization

Findings:

- **The results of developmental screening and related referrals are not systematically tracked or aggregated across the Mixed Delivery System**
- **While programs track the progress of individual children enrolled, there is no way for families to see their child's progress across multiple programs, or to help providers safely and appropriated share information to understand if the child they are working with has been previously screened**

The results of developmental screening may indicate a need for additional services of different types and at different levels. The referral from one program to another is an essential component of building an

effective Mixed Delivery System that leverages the strength of each of the participating agencies and knits the services together.

Tracking the outcomes of those referrals is an important component of measuring the effectiveness of the hand-off and is a gap across many of the agencies of the Mixed Delivery System. A referral is the first step but ensuring that the referral leads to the intended service or program for the child is the critical step in meeting the long-term objective of increasing the number of children beginning kindergarten on track. Multiple agencies collect and report on relevant data, but the web of services and referrals is not coordinated or centralized, so the data is fragmented, and we can't view it as a system.

Healthy Families Massachusetts currently offers a comprehensive data set for B-5 children who have been screened and referred. Image 17– shows the continuum from the number of participants, to those who are screened with results indicating the need for a referral, and the number who actually connect with the service.

Based on data provided, we can see that of the 2,101 participants aged 0-5:

- 71.5% of all participants (1505 of 2101) were screened using the ASQ-3.
- Of those screened, 357 (23.7%) indicated the need for a referral.
- Ninety-five referrals were offered (16.6% of those with an indicated need) (Of the 262 that did not receive a referral, 144 (55.0%) were already enrolled in Early Intervention.)
- 16 (16.8%) enrolled in services after being offered a referral; six (6.3%) did not enroll due to the desired service having a waitlist.

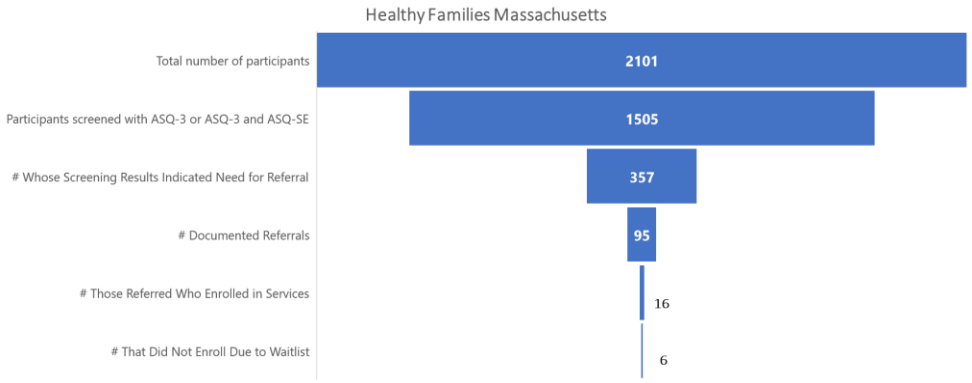


Image 17: Number of children 0-5 in Healthy Families MA who were screened and offered referrals in 2018.

Developing and implementing a statewide approach to administering the ASQ and developing an integrated B-5 referral tracking system will improve screening, referrals, and service provision at the individual level, and also enable analysis at the aggregate level. Providers will be able to coordinate data collection and reporting on screening, referrals, and service delivery, thus providing more streamlined services to families. The PDG Data Use Licensing Agreement (DULA) will enable the state to aggregate and assess this data in an unduplicated and more systematic way across agencies and programs for all children 0-5 participating in the Massachusetts Mixed Delivery System and use it to drive programmatic and policy decisions.

5 Data: Improving Outcomes & Measuring Success Across the Mixed Delivery System

5.1 Data: Insights and Outcomes

Finding:

- **Massachusetts does not currently have any statewide data on B-5 outcomes prior to third grade MCAS scores. There are school related data points, such as chronic absenteeism, that provide critical information related to B-5 outcomes, as well as data for specific programs in the B-5 Mixed Delivery System, but these are not connected or analyzed statewide to inform early childhood policy.**

As identified in the demographics section of this report, there are currently no Statewide metrics that are used to understand the development needs of the B-5 population. The first statewide data available on child outcomes is from the 3rd grade Massachusetts Comprehensive Assessment System (MCAS) scores. Connecting, deidentifying, deduplicating, and analyzing data to inform and guide policy and services for B-5 children and their families is a driving factor of the PDG B-5 project.

For the purposes of this Needs Assessment, we explore existing statewide data on chronic absenteeism, and MCAS scores as indicators of - or proxies for - child outcomes. These indicators help us understand the scope and the need to provide a more effective B-5 system that also prioritizes equity across our system.

Chronic Absenteeism

Chronic absenteeism assesses the percentage of students that miss more than 10% of their days in membership[60] over the course of a school year, measured for two age groups (students prior to kindergarten and students in kindergarten to third grade) and is well-documented as representative of risk to child outcomes.

Data on chronic absenteeism is available for public pre-k, is part of the federal Every Student Succeeds Act (ESSA), and is a key part of the Massachusetts state Early Warning Indicator System (EWIS), a comprehensive system spanning first grade through high school graduation and beyond that provides tools for districts to identify students who are at risk of not meeting important academic goals to help them get back on track.[61] On average, the typical student in Massachusetts misses 9 days, or 5%, of school days each year. However, 12.8% of all school children, and 23% of pre-k children, are chronically absent.

By contrast, using weighted averages, there is a twelve percentage point difference between low-income pre-kindergarten children and all students and overall, 18.5% of economically disadvantaged pre-kindergarten to third grade children are chronically absent, meaning 8% more economically disadvantaged pre-k to third grade students are chronically absent during the school year than the student population. These differences are particularly profound in pre-kindergarten, where 36% of economically disadvantaged students are chronically absent, compared to 23% of all children in pre-k. In

kindergarten, 23% of economically disadvantaged students are chronically absent, compared to 13% of the population as a whole.

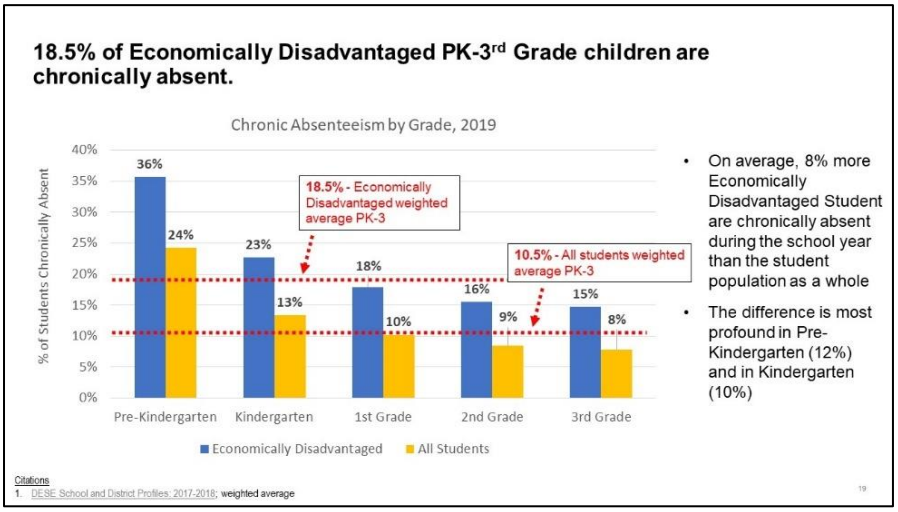


Image 18: 18.5% of Economically Disadvantaged PK-3rd Grade children are chronically absent

Reducing chronic absenteeism will drive better educational outcomes by ensuring children are learning in a school setting. Chronic absenteeism is a downstream strategic indicator so decreases or increases in this number provides insight into the success or failure of efforts earlier in a child's life to provide better supports around child developmental milestones.

Grade 3 ELA MCAS Scores

The 3rd grade MCAS scores are the first statewide data available on child outcomes. MCAS English Language Arts (ELA) scores increased for all students between 2017 and 2019. In 2017, 47% of all third graders met or exceeded expectations; in 2019, 56% of all third graders met or exceeded expectations. While scores trended upwards for all categories of students during this timeframe, 2019 results are still no higher than they were in 2015 before the test and scoring system was changed in 2016.

Large disparities remain between scores of the overall population and those of economically disadvantaged students, English language learners, and students with disabilities. While MCAS ELA scores are improving for these target populations, they remain worse than outcomes for the overall population.

In 2017, just 29% of economically disadvantaged third-graders met or exceed expectations in ELA; in 2018, 33% met or exceeded expectations (**Image 19**), and in 2019, 38% met or exceeded expectations.[62] Twenty-seven percent of third-grade English language learners met or exceeded expectations in 2017, with 33% meeting or exceeding in 2018 and 37% meeting or exceeding expectations in 2019.

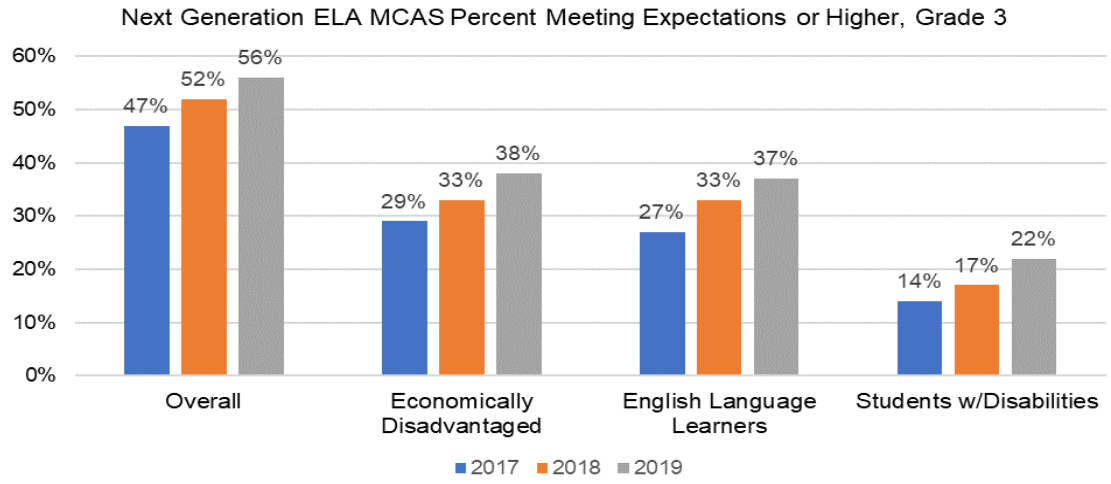


Image 19. Next Generation ELA MCAS Results.[63]

Third graders not meeting expectations continue to be more likely to be economically disadvantaged, English language learners, and/or those with disabilities. (Image 20)

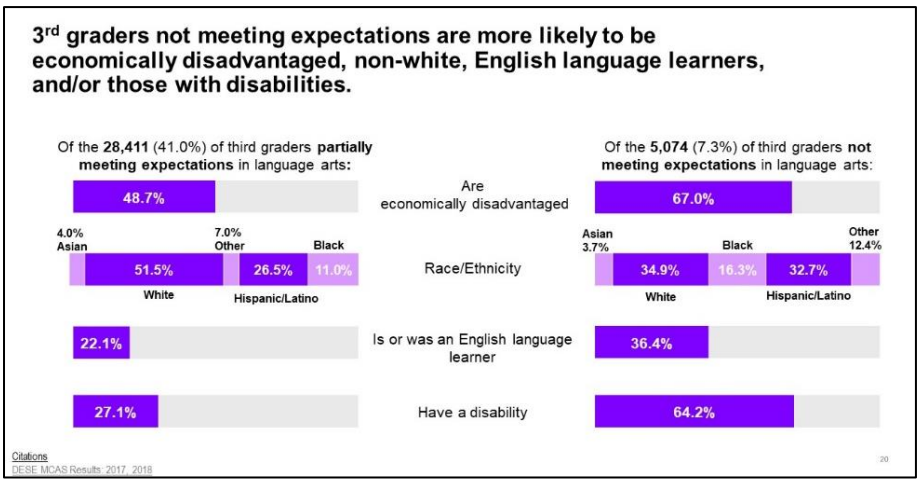


Image 20: Demographics of 3rd graders partially meeting or not meeting expectations/ disabilities.

Disturbingly, large disparities remain between scores of the overall population and those of economically disadvantaged students, English language learners, and students with disabilities.

Communities of color have particularly disparate outcomes on MCAS ELA scores. Despite making up only 9.9% of the K-3 population[64], black students comprised 16.3% of third graders not meeting expectations on the MCAS ELA exam.[65] Hispanic/Latino students make up 23.9% of the K-3 populations[66], but 32.7% of third graders not meeting expectations on the MCAS ELA exam.[67] More data and contextual information is required to fully address these outcome gaps.

Like chronic absenteeism for K-3rd grade, measuring MCAS scores is a downstream indicator that can help evaluate the success of earlier interventions targeted at improving the program offerings and resources

available to families and providers to help ensure children are meeting developmental milestones. One of our strategic focus areas for consideration includes developing mechanisms to increase awareness and understanding of how early childhood development, and the work of the Massachusetts Mixed Delivery System programs, impacts long term outcomes, such as absenteeism, suspensions / removals, and MCAS scores.

5.2 Data Silos and the Need to Share Information

Finding:

- **Agencies across the Mixed Delivery System collect vast amounts of data on the people they serve, the services they provide, and more. However, this data is siloed and not connected at the child-level, nor are there common metrics to measure progress towards statewide outcomes for young children.**

Our ability to understand who we are serving and report on Statewide outcomes for B-5 depends on our ability to share and integrate data across our programs. Across the Commonwealth, there are a multitude of programs that are providing services and benefits to children aged five and under, and their families. While an individual child may have a range of needs, each agency is primarily designed to serve a single need and to operate independently from each other, even if that child or family is receiving services from two or more agencies. Agencies and programs collect a lot of data as required by funders and stakeholders, and to meet particular policy objectives. However, data collection is siloed by agency with significant implications. As addressed earlier, we are currently unable to generate an unduplicated count of children enrolled in our programs, limiting our understanding of the populations of children that we are serving as well as our ability to assess if we are reaching all B-5 families throughout Massachusetts. Wrangling of the vast amounts of data that is captured in multiple systems throughout the State has been one of our greatest challenges in answering questions about our system and is a driving factor of the PDG B-5 project.

Sharing and integrating data is the cornerstone to understanding who we are serving across the State and provides a foundation for developing and tracking common metrics to measure success. Sharing data across programs throughout our Mixed Delivery System in a way that meets all of the technical and legal requirements including privacy and security, while also meeting the needs and serving the missions of each of the participating agencies, is complex. Through the PDG B-5 project, we are developing a framework for sharing data around core variables and metrics and identifying the process and requirements to facilitate effective data sharing.

Facilitated by the Executive Office of Technology Services and Security (EOTSS), the Commonwealth has laid the foundation for sharing data across agencies. Every State agency in the Executive Branch has signed a common Memorandum of Understanding (MOU) that facilitates and champions sharing key information to facilitate data driven programs and policy. Based on that MOU, agencies can develop specific data sharing agreements more quickly and easily, clearing the way for even greater coordination.

A key component of the PDG work is to develop a PDG data use license agreement (PDG DULA) between the programs identified in the PDG B-5 work as part of the Mixed Delivery System. The PDG DULA is the mechanism by which we will create the Massachusetts Early Childhood Integrated Data System (MA

ECIDS) which will allow us to aggregate, deduplicate, and analyze data related to program participation, education, and early intervention. This analysis will provide valuable insights to inform and improve the administration and impact of programs serving young children and their families.

Data analyzed through the MA ECIDS will include the following dimensions, where available: Age, Sex/Gender, Income, Race/Ethnicity, First language/ Home language, Location (rural/ urban/ county), Disability Status, Special Status: Homeless/Foster Care, and Family Size/Structure. These fields provide common metrics and support our ability to measure specific success indicators based on these data dimensions, where relevant.

Executing the PDG DULA and establishing the ECIDS are activities within the Strategic Plan. A governance structure will be implemented to manage the ECIDS, the ongoing data collection from agencies, and data analysis across the system. Once the PDG DULA is signed and the ECIDS is launched, we will be able to analyze information across a specific set of questions based on an unduplicated count of children being served among all of the programs participating in the DULA (See Appendix 2 for authorized PDG DULA questions.

The table below **(Table 14)** provides a description of each of the programs included in the PDG B-5 Mixed Delivery System and indicates whether or not the program collects child level data.

AGENCY	PROGRAM	PROGRAM OVERVIEW[i]	CHILD LEVEL DATA
Children's Trust & Department of Public Health	Healthy Families Massachusetts	Healthy Families Massachusetts is a home-based family support and coaching program targeted at young, first-time parents aged 20 or below, and provides support from pregnancy to when the child is 3 years of age.	Y
Department of Public Health	Healthy Families America	Healthy Families America (HFA) provides home visiting to support healthy child and family development from pregnancy through the first three years of life.	Y
Department of Public Health	Parents as Teachers	The Parents as Teachers program works with parents from prenatal to kindergarten age by doing family centered assessments and following a structured curriculum to: increase parent knowledge of early childhood development & improve parenting practice, provide early detection of developmental delays and health issues, prevent child abuse and neglect, and increase children's school readiness and school success. Parents as Teachers programming is offered in North Adam and Pittsfield, Springfield and Holyoke, Fitchburg, Lawrence, Lynn and Chelsea, New Bedford and Fall River and Revere	Y
Department of Public Health	Early Intervention	Massachusetts Early Intervention (EI) is a program for children ages 0-3 who have developmental delays or are at risk of a developmental delay.	Y
Department of Public Health	Welcome Family	Welcome Family is a free program offered to caregivers with children up to 8 weeks old, including a one-time nurse home visit to all mothers with newborns. Welcome Family assesses mother and newborn health and well-being and provides education, support, and referrals to services as needed. Welcome Family visits are currently available to moms in Fall River, Boston, Lowell, Holyoke, and Springfield.	Y
Department of Public Health	Women, Infants, Children (WIC)	Women, Infants and Children (WIC) is a nutrition program that provides healthy foods, nutrition education, breastfeeding support, and referrals to healthcare and other services, free of charge, to Massachusetts families with children under age 5, earning less than 185% of FPL. Infants eligible due to MassHealth/ Medicaid status are eligible at less than 200% of FPL. There are 113 WIC program locations statewide.	Y
Department of Early Education and Care	Pre-School Expansion Grant / Commonwealth Preschool	The federal Preschool Expansion Grant, which ended in 2018, funded a year of free, high-quality preschool for 4-year-old children The Preschool Expansion Grant was focused on schools and partnerships in 5 cities: Boston, Holyoke, Lawrence, Lowell, and Springfield.	Y

AGENCY	PROGRAM	PROGRAM OVERVIEW[1]	CHILD LEVEL DATA
	Partnership Initiative	The Commonwealth Preschool Partnership Initiative (CPPI) is an extension grant, intended to continue expanding high-quality pre-kindergarten or preschool opportunities on a voluntary basis to children who will be eligible for kindergarten by September 2021 using the Massachusetts Preschool Expansion Grant public-private partnership model. This grant covers nine communities: New Bedford, Somerville, North Adams, Springfield, Lowell, Boston, Northampton, Holyoke and Lawrence.	
Department of Early Education and Care	Subsidized Childcare	The Massachusetts Department of Early Education and Care helps eligible low-income families find and pay for childcare. In most cases, families must be at or below 50% of the state's median income to be eligible.	Y
Department of Elementary and Secondary Education	Public Pre-Kindergarten	Public Pre-Kindergarten is available to children starting as young as age 2 years and 9 months old and is available in 276 school districts across Massachusetts.	Y
Department of Elementary and Secondary Education	Public Pre-School Special Education	Early Childhood Special Education (ECSE) services are designed for young children (aged 3-5) with disabilities who need specially designed instruction or related services and whose disability(ies) causes the children to be unable to participate in developmentally appropriate typical preschool activities.	Y
Children's Trust	Family Centers	Family Centers are community hubs where parents go to get support navigating the joys and challenges of parenting. They can tap into community resources, learn new parenting skills, get individualized family support during times of stress, meet other families, and participate in activities and programs that support them in their care-giving role. Children's Trust has 7 Family Centers, serving over 12,000 parents, caregivers and children in over 40 communities	N
Children's Trust	Parenting Education & Support Programs	Parenting Education and Support Programs help parents with young children enhance the knowledge, skills, and confidence they need to be the best parents they can be. Group-based series are led by trained professionals and provide opportunities for parents to learn new skills, connect with peers, and receive information and resources. Groups are accessible and held in child-friendly spaces, such as elementary schools and childcare centers.	N
Department of Early Education and Care	Coordinated Family and Community Engagement (CFCE)	Through community-based programming and local coordinators, Coordinated Family and Community Engagement (CFCE) grantees help to promote and support parent education and family engagement, early literacy and child development, and collaboration between local early education and care partners. There are 88 CFCE grantees across the state, providing services in all 351 cities and towns in Massachusetts	N
Department of Early Education and Care	Head Start Collaboration Office	The Massachusetts Head Start State Collaboration Offices (MAHSSCO) is located in the Massachusetts Department of Early Education and Care (EEC). The director is appointed by the Department of Early Education and Care Commissioner as designee of the Governor. In Massachusetts EEC is designated as the State Advisory Council (SAC), where the HSSCO is administered. The Head Start State Collaboration Director is heavily involved in supporting the work of the SAC. Head Start is a federal program that promotes school readiness of children under age five with families earning less than 100% of FPL. Services include comprehensive education, health, and social services. There are 117 program locations in the state of Massachusetts.	N
Department of Public Health	Massachusetts Pregnant and Parenting Teens Initiative (MPPTI)	The Massachusetts Pregnant and Parenting Teen Initiative (MPPTI) aims to increase life opportunities and enhance family stability among young. Services are tailored to individual needs, and include: Health and social service assessments, case management, counseling, health education, referrals, and infant/children services. MPPTI services are offered in 5 priority communities: Chelsea, Holyoke, Lawrence, New Bedford, and Springfield.	N
Department of Public Health	Massachusetts Early Childhood Comprehensive Systems (MECCS) Project	Massachusetts Early Childhood Comprehensive Systems (MECCS) Project is a collaborative approach for city, state and federal agencies, private organizations, businesses and individuals, to develop, build and strengthen their relationships with the common goal to create a seamless system of care for children from birth until they enter kindergarten. Partners include representation across early childhood education; physical, mental and public health; social services; local government; and families or other caregivers	N

AGENCY	PROGRAM	PROGRAM OVERVIEW[i]	CHILD LEVEL DATA
Department of Public Health	Early Intervention Parenting Partnerships (EIPP)	Early Intervention Parenting Partnerships (EIPP) is a home visiting program, through a team approach, to engage with and support families during pregnancy, continuing through the child's first birthday. The EIPP team includes a maternal and child health nurse, a mental health clinician and a community health worker.	N

Table 14. Description of Massachusetts Mixed Delivery programs included in this grant.

5.3 The PDG B-5 Success Indicators

The Early Childhood Integrated Data System provides an opportunity to track statewide B-5 metrics, closing an enormous gap in our current system, which does not have a statewide metric for measuring child outcomes until third grade MCAS. As a first step towards identifying additional metrics, the PDG B-5 team developed a set of possible "Success Indicators". These Success Indicators were grounded in our PDG B-5 Logic Model, to identify how we might measure progress toward child success. The PDG B-5 Data Use License Agreement provides a mechanism to begin making several of these Success Indicators available to track at the state level , including measuring key outcomes related to families, young children, and providers across our Mixed Delivery System.

Statewide measures allow a systems-level response to target resources, and tailor programs, in ways that increase the number of students entering kindergarten with the competencies to succeed academically and social-emotionally. There are fifteen indicators grouped within five categories that were developed as possible statewide measures to inform and guide the PDG B-5 work and ongoing efforts. These do not substitute for the guidelines or parameters used by individual programs to define their target populations or to measure progress.

We are currently only able to measure three of these indicators- the ASQ usage by providers, and third grade MCAS scores of children in low-income families, and chronic absenteeism of public school students. The PDG DULA will enable us to analyze an additional six indicators, including an unduplicated count of which children are enrolled in the PDG B-5 programs, and the number of developmental screenings and related referrals that those children received.

The Needs Assessment process helped identify six other possible success indicators, such as measuring the needs and expectations of families, as well as competencies of providers engaging in developmental screenings. Although further research is needed to identify best approaches to measuring these indicators, this Needs Assessment, and the activities in the Strategic Plan, lay the groundwork for understanding more about the need for this information to guide the Mixed Delivery System.

The image below reflects our current status regarding measurement of the Success Indicators, falling into one of the the following descriptors:

- Currently Measured: Data is currently collected by participating agencies and is available to the PDG team.
- Partially Measured: Data is measured for a portion of the age range or programs in the PDG scope.

- PDG DULA: Data to measure the Indicator would be available pending the development and execution of a PDG Data Use License Agreement (DULA) signed by all participating agencies and Secretariats.
- Requires Development: A mechanism to measure the Indicator needs to be developed and likely requires new data collection.

Awareness of Developmental Milestones and Supports	-	Family Awareness of Developmental Milestones and Supports: % of families who are aware of child developmental milestones and available supports	Requires Development
Family Needs and Expectations	-	Family Needs Fulfilled by Program and Service Offerings: % of families enrolled in programs/ services that make up the MA early childhood Mixed Delivery System reporting that the programs or services are fully meeting their family's needs, this year	Requires Development
		Family Expectations Met by Program and Service Delivery: % of families enrolled in programs/services that make up the MA early childhood Mixed Delivery System reporting that their expectations have been met or exceeded by the programs and services being provided to their children, this year	Requires Development
Enrollment, Quality and the Number of Children Being Served	-	Enrollment (unduplicated count): % of low-income children 0-5 who are enrolled this year in at least one of the programs/services that make up the MA early childhood Mixed Delivery System	DULA
	-	Enrollment in Quality Programs and Services: % of low-income children enrolled in programs/services that make up the MA early childhood Mixed Delivery System which have met or exceeded quality benchmarks recognized by the state	Requires Development
Screening and Referrals	-	ASQ Screening: % of low-income children 0-5 enrolled this year in at least one of the programs/services that make up the MA early childhood Mixed Delivery System that receive at least one ASQ screening this year	DULA
		On Track (based on ASQ screening): % of low-income children 0-5 whose ASQ screening this year indicates they are developmentally on track	DULA
	-	Referral: % of low-income children 0-5 whose ASQ screening this year indicates there is a potential or strong concern that are offered a referral for additional developmental support or monitoring, as needed	DULA
		Service Utilization: o % of low-income children 0-5 offered a documented referral this year that enroll in a program or service, this year o % of low-income children 0-5 offered a documented referral this year that do not enroll in a program or service due to limited program capacity (waitlist)	DULA
		ASQ Screening at Multiple Intervals: % of low-income children entering kindergarten who were screened at all ASQ-prescribed intervals	DULA
	-	ASQ Usage by Providers: % of providers using ASQ for developmental screening this year	Currently Measured* *Available now at the

Providers & Professional Development		individual agency level; more readily available pending development of a statewide approach to ASQ online
	Competency in Conducting Developmental Screenings and Utilizing Data to Make Appropriate Referrals: % of providers' staff that directly provide services to families and children who demonstrate competence in the essential core skills needed to effectively support early childhood development	Requires Development
Child Outcomes	**Chronic Absenteeism:** % of low-income students that miss more than 10% of their days in membership over the course of a school year: Prior to K; K-3rd Grade	Partially Measured
	3rd Grade ELA MCAS Scores % of low income students meeting or exceeding expectations in English Language Arts, this year	Currently Measured
	Suspension/Removal, Birth-3rd grade % of low-income children removed from programs and services due to behavioral issues	Requires Development

Image 21. Possible Success Indicators by Category and Measurement Description

Analyzing available data across agencies and programs in a reliable way will deepen and broaden our understanding of our Mixed Delivery System, providing deeper insights into the needs of vulnerable families, highlighting where inequities exist, and informing where and how to improve availability, quality and equity within the system. Developing and measuring common indicators will provide an opportunity to measure our success, and with a feedback loop to inform programs and policies, these indicators will provide a foundation for our system as a whole.

6 Governance and Operations: Key to Sustainability

Findings:

- Massachusetts' Mixed Delivery System programs vary in size, location, services offered, focus of services, and population served; and they largely operate separately from one another, rather than as a cohesive set of offerings. This makes it challenging for families to find the right program or service, in the right place, with the right availability to meet their needs. Transitioning from one program to another, and moving to elementary school, is also difficult outside of a cohesive system
- There is no established structure to ensure the sustained coordination across B-5 programs and services in Massachusetts. Past B-5 coordination efforts have been successful but not sustainable beyond the end of a specific initiative or grant program.

There is a long history of collaborative relationships and effective work to best serve B-5 children and their families throughout Massachusetts. Through deep personal commitment, and often rooted in a

particular opportunity, many of the individuals involved in this PDG B-5 project have been working together for more than a decade on a variety of programs, grants, and initiatives.

Members of the PDG B-5 leadership were involved in the Massachusetts Early Comprehensive Childhood System (MECCS) which was funded by the Health Resources and Services Administration (HRSA) and led by the Department of Public Health. The MECCS grant began in 2003 and expanded to include interagency collaboration in 2006 with multiple commissioners, or their designees, across state signing supporting the work. Like the PDG B-5 work, MECCS had two levels of governance that included an interagency steering committee. The work was focused on family engagement and infant, early childhood mental health. Through a change in administrations, the work continued, and with the support of some small grants the team created an Early Childhood Mental Health Strategic Plan. However, without a formal structure, the cross-systems work was not as effective or sustainable.

In 2011, Massachusetts participated in federally-funded Race to the Top Early Learning Challenge grant which funded good cross agency work, especially around professional development, but the end of funding and leadership transition meant that much of what had been accomplished could not be sustained.

In 2012, legislation established the Early Literacy Expert Panel to discuss and develop new policies and policy-based initiatives in a number of domains that influence children's early literacy development on a range of topics and domains. Many of the recommendations that emerged from this panel informed the PDG B-5 work, but the Panel does not have a structure to support programs itself.

In 2013, Massachusetts convened a cross-sector team to participate in the *National Governor's Association (NGA) Policy Academy on State Strategies to Improve Early Learning Outcomes*, which provided support in developing a comprehensive state Birth- Grade 3 Policy Framework and formalized structures for collaboration and coordination of early learning policies and programs. Massachusetts' NGA team, which included representatives from the Department of Early Education and Care (EEC), the Department of Elementary and Secondary Education (ESE), the Department of Higher Education (DHE), and the Executive Office of Education (EOE) as well as early childhood partners, developed guidance on the types of high quality learning experiences that support positive developmental outcomes for children Birth through Grade 3, across a range of early education settings. In May 2014, there was a major day-long policy convening that brought together three Commissioners and addressed major issues for this population, which was a significant milestone for the Commonwealth in early education policy and planning.

In 2015, Massachusetts established the original NGA state team as the state's Birth to Grade 3 Advisory Group and expanded its membership to include the Head Start State Collaboration Office Director, a Family Engagement Policy Specialist, an Early Literacy Specialist, a Student Assessment Specialist, an Early Childhood Special Education Coordinator, the Preschool Expansion Grant team, a Professional Development Specialist, as well as representatives from the Department of Public Health, focused on Early Intervention, home visiting, and early childhood mental health. Through diverse and inclusive membership, strong leadership and governance structure, and a commitment to early education among multiple stakeholders, Massachusetts has been able to increase alignment and coherence across the early education, K-12, higher education sectors, and health and human services in support of improving learning outcomes for children from Birth through Grade 3.

The Birth-3rd Grade Advisory Group issued a policy document and subsequent policy agenda; they presented at numerous state and federal conferences and meetings, including the Early Literacy Expert Panel, Race to the Top Early Learning Challenge/Preschool Development Grant national meeting, and national Smart Start Conference. The group collaborated on programs initiatives to advance a comprehensive Birth to Grade 3 policy agenda that supports improved developmental and learning outcomes for young children through the provision of high-quality early learning experiences.

The Birth-3rd Grade Advisory Group continued to meet after the grant funding ended because they understood the need to sustain the work and the focus on infants and toddlers, and they were empowered by each of the Commissioners of the participating agencies. However, they did not retain any of the formal structures that are inherent to any grant-driven project, and eventually stopped meeting as other priorities took precedence.

The PDG B-5 grant created an opportunity to build on hard work, concrete results, and long-term relationships to advance some of the long-term goals among leadership at key state agencies as described in the governance structure section of this Needs Assessment.

A sustainable system requires a sustainable governance structure that is not tied to a specific grant and is not tied to particular individuals who may leave leadership positions when administrations change. There needs to be high level leadership engagement and buy-in as well as meaningful staffing to keep making progress and innovate. The PDG activities provide the foundation for significant systems change and establish critical technical bridges across programs, but a governance mechanism is necessary to sustain the work beyond the end of the grant period.

In addition to a sustainable governance structure, there needs to be processes and tools in place for people to effectively and efficiently communicate and collaborate. A working operational structure that leverages a wide range of tools and platforms will support further efforts to build an integrated B-5 Mixed Delivery System.

7 Next Steps: Research Gaps, Strategic Areas of Focus & Conclusion

This Needs Assessment highlights key findings as they relate to the needs and experiences of B-5 children and their families with our Mixed Delivery System; the skills and competencies of our providers and educators related to developmental screening across agencies and programs; and the needs for governance and data sharing. In order to move towards our goal of providing all families of B-5 children equitable access to a coordinated and robust network of quality programs and supports, we need to systematically gather input from families that reflect the diversity of the Commonwealth on their needs, particularly to support meeting the developmental milestones of B-5 children; coordinate developmental screening and give providers and educators the tools they need to work with parents more effectively in this area; and build an early childhood integrated data system and a governance structure to support and sustain interagency evidence-based early childhood policymaking across State government.

Through collaboration, involving key stakeholders, and maximizing parental choice, we will significantly deepen our knowledge about our programs and provide a more holistic approach to services. By

developing system-wide services, we will be better equipped to innovate and provide more equitable access to robust, high quality, and affordable childcare and B-5 services.

7.1 Gaps in Research

Current gaps in available data limit our ability to comprehensively understand the families we are serving, the needs of our providers, and the impact of our Mixed Delivery System. The Strategic Plan identifies strategies to explicitly engage parents and providers through targeted research and outreach. The findings from these efforts, as well as input from a wide range of stakeholders, will inform our work.

The following list identifies many of the gaps that were identified through this process in each of the key areas:

Empowering Families:

- The specific needs of vulnerable families and barriers to accessing services
- The best way to reach low income and vulnerable families
- Metrics to ensure that state programs and services meet the needs of families
- There is limited knowledge, at the state level, of the degree to which families are aware of developmental milestones and available supports or how they use the information they do have in making choices for their children.
- We lack information about families who are not already participating in the Mixed Delivery System and may have limited knowledge of programs and enrollment processes, program availability (particularly for non-traditional work schedules), program subsidies, and actual costs.

Supporting Early Childhood Care Providers:

- While many providers conduct screenings and referrals of children in the system, programs do not all use the same screening tools, data is not tracked systematically across programs in order to measure the ratio of referrals to screenings or service utilization to referrals, and there is no single, state-level source to help families see their child's progress across multiple programs.
- Insufficient data exists on program-specific quality across the Mixed Delivery System as well as how to make these quality measures meaningful and valuable to families.
- The extent to which individual providers are competent in administering developmental screenings and effectively using resulting data to offer referrals and connect families to needed services, cannot be measured at the aggregate level, due to no standard set of competencies and no coordinated training related to developmental screening.
- While we know that the early years of a child's development strongly influence a child's later success (using MCAS, Absenteeism and Suspensions as proxies for child success), we do not know the extent to which providers and parents are aware of these connections.

Building a Robust Mixed Delivery System for the B-5 Population and Families:

- There is no unified data system with all relevant programmatic information about children B-5 across the Commonwealth, preventing the state from identifying the unduplicated number of children being served in existing programs or awaiting services.
- We currently lack a clear view of the capacity of programs and services across the Mixed Delivery System, making it difficult to assess availability across the system.

- There is currently no systemwide way to measure many of the Success Indicators that the PDG B-5 team identified as key to understanding our progress, including:
    - Awareness of Developmental Milestones and Supports
    - Family Needs Fulfilled by Program and Service Offerings
    - Family Expectations Met by Program and Service Delivery
    - Enrollment in Quality Programs and Services
    - Competency in Conducting Developmental Screenings and Utilizing Data to Make Appropriate Referrals

We hope to begin closing these gaps as we move forward with the PDG B-5 Strategic Plan and related activities.

7.2 Strategic Areas of Focus

This Needs Assessment revealed opportunities to strengthen our PDG B-5 Mixed Delivery System, so that we can better meet the needs of families of B-5 children, and improve training and supports for providers and educators to use developmental screening as a key tool in their work. The COVID-19 pandemic added new urgency to this work, especially to the need to build integrated data systems to help guide and inform agency activities.

As the PDG B-5 effort transitions from this Needs Assessment to the development of a PDG B-5 Strategic Plan, we will frame that Plan, and the related goals and activities articulated in it, on three key strategic areas:

1. Empower families by understanding their diverse needs, providing them with easy access to critical information about their children's development, and providing timely and appropriate services through a comprehensive early childhood system.

2. Give providers access to the training and tools they need to do developmental screening, inform families about child development, and make referrals for necessary services.

3. Build a strong, equitable, data-driven, goal-oriented early childhood delivery system through meaningful and collaborative governance.

7.3 Conclusion

This Needs Assessment provides insights into our PDG B-5 Mixed Delivery System, and provided an opportunity for us to review and discuss those insights through a collaborative interagency process. Together we examined what we know about the needs of families of B-5 children, particularly those who are low-income and those that have been underserved by our programs to date. By understanding the demographics, and how the population is changing in Massachusetts, we hope to empower all families throughout the State with information and access to programs and services for their young children. We are especially focused on understanding more about those families who we may not be reaching now.

The Needs Assessment also explored the role of developmental screening across our diverse PDG B-5 Mixed Delivery System, and the need for consistency, training, and a better hand-off and referral system among providers and across programs. We are committed to building on the strengths of those who are

working directly with children and families and supporting them to be even more effective by using developmental screening as a powerful family engagement tool, and as a key first step in identifying children who may have developmental delays.

Finally, this Needs Assessment makes the case for ongoing coordination and collaboration at the State level. The COVID-19 pandemic has created additional urgency for the Commonwealth to build a sustainable interagency approach. The Strategic Plan will explore opportunities to develop more coordinated communication and family engagement, training and implementation of developmental screening, and shared data analytics. It will also provide recommendations on how to sustain and support those efforts over time through a clear commitment to continued interagency work.

Our PDG B-5 Mixed Delivery System will be best positioned to grow and improve across state agencies and programs if we can improve our ability to engage with providers and educators to understand and respond to the needs of young children and their families. Through the Strategic Plan and the other deliverables of the PDG B-5 grant, we will build on our strengths to realize our vision- to provide all families of B-5 children with equitable access to a coordinated and robust network of quality programs and supports that enable the development of their children into lifelong learners and contributing members of their communities.

Appendix 1 – PDG Committees and Workstreams

GROUP	PDG OPERATIONAL STEERING COMMITTEE	
Group Description:	Co-chaired by the Undersecretaries of EOE and EOHHS, and comprised of senior leaders from key child-serving partner agencies, the Operational Steering Committee (OSC) manages and oversees grant activities on a day-to-day level	
Function	Day to day management of PDG work and Needs Assessment development	
NAME	AGENCY	ROLE/TITLE
Ann Reale	Executive Office of Education	Undersecretary and Chief Operating Officer
Katie Mick	Executive Office of Health and Human Services	Undersecretary for Human Services
Catherine McCourt	Executive Office of Education	Senior Policy Manager
Chris Pond	Department of Early Education and Childcare	Behavioral Health and Special Education Specialist
Eve Wilder	Department of Public Health	MECCS Project Director
Jenna Borkoski	Governor's Office	Associate Chief of Staff for Cabinet Affairs
Jocelyn Bowne	Department of Early Education and Childcare	Director of Research and Preschool Expansion Grant Administration
Kate Roper	Department of Public Health	Director for Early Childhood Services
Lauren Viviani	Department of Elementary and Secondary Education	Coordinator for Special Education Planning & Policy
Sarita Rogers	Children's Trust	Deputy Director of Programs
Carol Nolan	Department of Early Education and Childcare	Associate Commissioner for Strategic Partnerships/ Director of the Head Start Collaboration Office Advisory

GROUP	PDG EXECUTIVE STEERING COMMITTEE
Group Description:	Comprised of agency leadership, the Executive Steering Committee (ESC) provided feedback on the Needs Assessment. It specifically gave guidance on the Success Indicators and key points of emphasis throughout the assessment, especially the focus on equity and the importance of breaking down the Success Indicators by different data dimensions. Moving forward, the ESC will also provide feedback on the draft Strategic Plan and will meet to discuss implementation planning. While promoting horizontal cross-agency collaboration, this group also provides vertical accountability.
Dates of Engagement:	2/26/2019 Kick-Off; 8/27/2019 Briefing; 11/6/2019 Briefing November 2020 – Final Briefing and approval of Needs Assessment & Strategic Plan
Function:	**Inform:** Provided update on PDG grant activity progress. Provided overview of Needs Assessment and gathered comments.

NAME	AGENCY	ROLE/TITLE
Jim Peyser	Executive Office of Education	Secretary of Education
Marylou Sudders	Department of Health and Human Services	Secretary of Health and Human Services
Jeff Riley	Department of Elementary and Secondary Education	Commissioner
Lindsey Tucker	Department of Public Health	Associate Commissioner
Monica Bharel	Department of Public Health	Commissioner
Russell Johnston	Department of Elementary and Secondary Education	Senior Associate Commissioner
Samantha Aigner-Treworgy	Department of Early Education and Childcare	Commissioner
Suzin Bartley	Children's Trust	Executive Director
OSC Members	Department of Early Education and Childcare, Department of Elementary and Secondary Education, Department of Public Health, Children's Trust, Executive Office of Education	

GROUP	PDG WORKING GROUP TEAM MEMBERS: PARENT KNOWLEDGE AND CHOICE	
Group Description:	Key workstream group comprised of cross-agency stakeholders, engaged in developing needs assessment and strategic plan priorities relating to parent knowledge and choice	
Function:	**Involve:** Involve a discrete set of stakeholders in providing input into and reviewing the Needs Assessment and the strategies the OSC chooses to develop.	
NAME	AGENCY	ROLE/TITLE
Eve Wilder	Department of Public Health	Coordinator, Massachusetts Early Childhood Comprehensive Systems Project
Catherine McCourt	Executive Office of Education	Senior Policy Manager
Donna Traynham	Department of Elementary and Secondary Education	Early Learning Team Lead
Emily Taylor	Department of Elementary and Secondary Education	Early Learning Specialist
Lisa Cheney	Department of Early Education and Childcare	Family & Community Quality Specialist
Phil Steigman	Department of Early Education and Childcare	Policy Analyst, Program Quality Initiatives
Steven Pascal	Children's Trust	Director of Home Visiting
Gail DeRiggi	Department of Early Education and Childcare	Associate Commissioner for Family and Community Supports

Chris White	Children's Trust	Program Coordinator

GROUP	PDG WORKING GROUP TEAM MEMBERS: PROVIDER PROFESSIONAL DEVELOPMENT	
Group Description:	Key workstream group comprised of cross-agency stakeholders, engaged in developing needs assessment and strategic plan priorities relating to provider professional development and sharing of best practices	
Function:	**Involve:** Involve a discrete set of stakeholders in providing input into and reviewing the Needs Assessment and the strategies the OSC chooses to develop.	
NAME	AGENCY	ROLE/TITLE
Lauren Viviani	Department of Elementary and Secondary Education	Coordinator, Special Education Planning & Policy
Chris Pond	Department of Early Education and Childcare	Behavioral Health and Special Education Specialist
Pam Roux	Department of Early Education and Childcare	Workforce Development Specialist
Meg Manning	Children's Trust	Home Visiting Training Specialist
Claudia Catalano	Department of Public Health	Project Director, Maternal, Infant and Early Childhood Home Visiting Program
Susan Grossman	Department of Public Health	Early Intervention Specialist

GROUP	PDG B-5 DULA – Data Managers and Board Members	
Group Description:	The PDG B-5 DULA Board and Data Managers are collectively responsible to ensure that the DULA is executed, data is transferred, deduplicated, analyzed, and shared throughout agencies of the Mixed Delivery System	
Function:	**Involve:** The Board meets bi-weekly and is tasked between meetings according to the project plan	
NAME	AGENCY	ROLE/TITLE
Ann Reale	Executive Office of Education	Undersecretary/ COO – Board Chair
Rob Curtin	Department of Elementary and Secondary Education	Assoc, Commissioner Data & Accountability Board Member - DESE
Matthew Deninger	Department of Elementary and Secondary Education	Director of Resource Allocation Strategy & Planning / DULA Manager - DESE
Jocelyn Bowne	Department of Early Education and Childcare	Director of Research & PEG Administration Board Member - EEC
Andrea Gilmore	Department of Early Education and Childcare	Director of Business Project Management DULA Manager - EEC
Sarita Rogers	Children's Trust	Assoc. Director of Programs Board Member - CT

Kate Roper	Department of Public Health	Director of Early Childhood Services Board Member - DPH
Susan Manning	Department of Public Health	Epidemiologist DULA Manager - MHVI
Noah Feldman	Department of Public Health	Training and Technical Assistance Specialist/ EI DULA Manager – EI
Sarah Stone	Department of Public Health	DULA Manager - WIC

Appendix 2 – Authorized Analytical Questions for Cross-Agency Data-Use Sharing Agreement

Number	Authorized Analytical Question
1	Of the number of children in Massachusetts who are age 5 and under, how many are participating in one or more programs for [*period of time*] including all participation and termination dates by demographics?
2	Of children who participated in programs, how many scored meets expectations or above on the third grade ELA MCAS by demographics?
3	Of children who participated in these programs how many of those children were screened using ASQ by demographics, how many of those screenings resulted in [*potential concern, strong concern or no development concerns],* and did those children score proficient or above on the third grade ELA MCAS by demographics?
4	Of children who participated in at least one program, how many received an Individualized Education Plan (IEP) or Individualized Family Support Plan (IFSP) *[pre-school, kindergarten, first grade, second grade, third grade, ever?]* by demographics, and how many accepted did not accept the IEP or IFSP by demographics?
5	Of children who participated in at least one program and were referred to another program, how many [*did not accept the referral*, *enrolled in the program*]by demographics?
6	Of children who participated in programs, how many participated in programs that have met or exceeded quality benchmarks recognized by the state and how many of those children had ASQ screenings that resulted in [*potential concern, strong concern or no development concerns*]?
7	Of children who participated in at least one program other than public education, how many were chronically absent in *[pre-kindergarten, kindergarten, first grade, second grade, third grade]?*

Appendix 3 – Summary of Sources Cited

- ACF, Early Childhood Learning & Knowledge Center. Understanding Family Engagement Outcomes: Research to Practice Series – Family Engagement in Transitions: Transition to Kindergarten, 2013.
- Advocating for Early Childhood and Adult Educators. National Education Association, 2014. http://www.nea.org/assets/docs/Organizing_Early_Childhood_and_Adult_Educators.pdf
- "Annual Report." Massachusetts Department of Early Education and Care, 18 Mar. 2019
- Bierman, K.L., Morris, P.A., Abenavoli, R.M. Parent Engagement Practices Improve Outcomes for Preschool Children. Edna Bennett Pierce Prevention Research Center, Pennsylvania State University, January 2017.

https://www.rwjf.org/en/library/research/2017/02/parent-engagement-practices-improve-outcomes-for-preschool-child.html

- Boston Foundation Early Childhood Survey. Boston Foundation and Family Independence Initiative, Dec. 2017, https://www.tbf.org/-/media/tbf/files/nonprofits/boston_foundation_early_childhood_survey.pdf?la=en&hash=8AC222D35299B36D66C3FE1DAE9985ECD9426507

- Child Care Aware of America. 2019 Facts about QRIS, Health, and Emergency Preparedness in the State of Massachusetts, https://cdn2.hubspot.net/hubfs/3957809/State%20Fact%20Sheets%202019/2019StateFactSheets-Overview.pdf

- "Child Population by Nativity in Massachusetts." Kids Count Data Center, Population Reference Bureau, U.S. Census Bureau, Oct. 2018, https://datacenter.kidscount.org/data/tables/116-child-population-by-nativity?loc=23&loct=2#detailed/2/23/false/871,870,573,869,36,868,867,133,38,35/76,77/447,448

- "Child Population by Single Age in Massachusetts." Kids Count Data Center, Population Division, U.S. Census Bureau, Aug. 2018, https://datacenter.kidscount.org/data/tables/100-child-population-by-single-age?loc=23&loct=2

- "Children below 200 Percent Poverty by Race in Massachusetts." Kids Count Data Center, Population Reference Bureau, U.S. Census Bureau, Apr. 2018, https://datacenter.kidscount.org/data/tables/47-children-below-200-percent-poverty?loc=23&loct=2

- "Children below 200 Percent Poverty in Massachusetts." Kids Count Data Center, Population Reference Bureau, U.S. Census Bureau, Sept. 2018, https://datacenter.kidscount.org/data/tables/47-children-below-200-percent-poverty?loc=23&loct=2#detailed/2/23/false/871,870,573,869,36,868,867,133,38,35/any/329,330

- "Children in Immigrant Families by Parent's Region of Origin in Massachusetts." Kids Count Data Center, American Community Survey, U.S. Census Bureau, Mar. 2019, https://datacenter.kidscount.org/data/tables/5923-children-in-immigrant-families-by-parents-region-of-origin?loc=23&loct=2#detailed/2/23/false/871,870,573,869,36,868,867,133,38,35/1767,1768,1769,1770/12549,12550

- "Children in Poverty or near Poverty (<200% Poverty Threshold) by City and Town ('County Subdivision') in Massachusetts." Kids Count Data Center, American Community Survey, U.S. Census Bureau, Dec. 2018, https://datacenter.kidscount.org/data/tables/9836-children-in-poverty-or-near-poverty-200-poverty-threshold-by-city-and-town-county-subdivision?loc=23&loct=2#detailed/2/any/false/1691,1607,1572,1485,1376,1201,1074,880,815/any/19138,19139

- "Children Living in Low-Income Families (below 200 Percent of the Poverty Threshold) by Family Nativity in Massachusetts." Kids Count Data Center, Population Reference Bureau, U.S. Census Bureau, May 2019, https://datacenter.kidscount.org/data/tables/118-children-living-in-low-income-families-below-200-percent-of-the-poverty-threshold-by-family-nativity?loc=23&loct=2#detailed/2/23/false/871,870,573,869,36,868,867,133,38,35/78,79/451,452

- "Children ages 3 and 4 enrolled in preschool by city and town ("County Subdivision") in Massachusetts." Kids Count Data Center, American Community Survey, U.S. Census Bureau, Dec. 2018, https://datacenter.kidscount.org/data/tables/7278-children-ages-3-and-4-enrolled-in-preschool-by-city-and-town-county-subdivision?loc=23&loct=2#detailed/2/any/false/1691,1607,1572,1485,1376,1201,1074,880,815/any/19840,14329

- "Children age 3 to 5 enrolled in nursery school, preschool or kindergarten, by race and ethnicity in Massachusetts." Kids Count Data Center, American Community Survey, U.S. Census Bureau, Oct. 2017, https://datacenter.kidscount.org/data/tables/8045-children-age-3-to-5-enrolled-in-nursery-school-preschool-or-kindergarten-by-race-and-ethnicity?loc=23&loct=2#detailed/2/23/false/1491,1049/4217,4218,4215,3301,4216,2664/15460,15459

- "Children under Age 6 with All Available Parents in the Labor Force in Massachusetts." Kids Count Data Center, American Community Survey, U.S. Census Bureau, Oct. 2018, https://datacenter.kidscount.org/data/tables/5057-children-under-age-6-with-all-available-parents-in-the-labor-force?loc=23&loct=2#detailed/2/23/false/871,870,573,869,36,868,867,133,38,35/any/11472,11473

- "Children under Age 6 with No Parent in the Labor Force in Massachusetts." Kids Count Data Center, American Community Survey, U.S. Census Bureau, Oct. 2018, https://datacenter.kidscount.org/data/tables/5056-children-under-age-6-with-no-parent-in-the-labor-force?loc=23&loct=2#detailed/2/23/false/871,870,573,869,36,868,867,133,38,35/any/11470,11471

- "Early Education and Out of School Time (EEOST) Capital Fund." Mass.gov, www.mass.gov/service-details/early-education-and-out-of-school-time-eeost-capital-fund

- Estimated Prevalence of Children With Diagnosed Development Disabilities in the United States, 2014-2016. Zablotsky, Benjamin, Black, Lindsey I., and Blumberg, Stephen J. (2017) NCHS Data Brief. Accessed at https://www.cdc.gov/nchs/data/databriefs/db291.pdf

- Family Engagement in Transitions: Transition to Kindergarten. The National Center on Parent, Family, and Community Engagement (NCPFCE), 2013, https://eclkc.ohs.acf.hhs.gov/sites/default/files/pdf/rtp-transition-to-kindergarten.pdf

- Forry, Nicole, et al. Child Care Decision-Making Literature Review, Issue Brief OPRE 2013-45. Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, Dec. 2013, https://www.acf.hhs.gov/sites/default/files/opre/child_care_decision_making_literature_review_pdf_version_v2.pdf

- Haynie, Kristina. Checking In on the Child Care Landscape – 2019 State Fact Sheets. ChildCare Aware of America, 2019, https://usa.childcareaware.org/advocacy-public-policy/resources/research/statefactsheets/

- Head Start 2018 Annual Report . Massachusetts Head Start Association, 2018, https://wwwmassheadstart.files.wordpress.com/2019/01/mhsa-anual-report-2018-online-version.pdf

- Healthy Families MA Service Transitions Policy, Sept 2019

- Isaacs, Julia B, et al. Review of Child Care Needs of Eligible Families in Massachusetts. Urban Institute, Mar. 2015, https://www.urban.org/sites/default/files/publication/45351/2000160-review-of-child-care-needs.pdf

- Jarosz, Beth, and Mark Mather. "Low-Income Working Families: Rising Inequality Despite Economic Recovery." The Working Poor Families Project, 2018, Spring, www.workingpoorfamilies.org/wp-content/uploads/2018/04/Spring-2018_WPFP-Policy-Brief.pdf

- "Lead Screening by City and Town ('County Subdivision') in Massachusetts." Kids Count Data Center, Massachusetts Department of Public Health, Childhood Lead Poisoning Prevention Program, Screening and Prevalence Statistics, https://datacenter.kidscount.org/data/tables/9845-lead-screening-by-city-and-town-county-subdivision?loc=23&loct=11

- "Licensed Child Care Search." Child Care Search, Department of Early Education and Care, eeclead.force.com/EEC_ChildCareSearch.
- MA Pre-School Expansion Grant, Performance Report 2018
- Magnusson, Dawn M., et al. Beliefs Regarding Development and Early Intervention Among Low-Income African American and Hispanic Mothers. American Academy of Pediatrics, 1 Nov. 2017, pediatrics.aappublications.org/content/140/5/e20172059
- "Making Childcare Work: Results from a Survey on Childcare Arrangements and Challenges in Boston." *Language, Disability, and Childcare Survey in February 2019*, Mayor's Office of Women's Advancement & Economic Mobility Lab, 2019, www.boston.gov/sites/default/files/document-file-10-2019/final_report_on_child_care_in_boston_-_2019.pdf
- MCAS Results. MA Department of Elementary and Secondary Education, www.doe.mass.edu/mcas/results.html
- Massachusetts Healthy People 2020 Autism Roadmap Report: Understanding Needs & Measuring Outcomes. Eunice Kennedy Shriver Center, University of Massachusetts Medical School, 2016
- MassHealth FactSheet. http://www.massmed.org/physicians/practice-management/practice-ownership-and-operations/masshealth-well-child-care-fact-sheets---english-(pdf)/
- Maternal and Child Health Services Title V Block Grant. The Commonwealth of Massachusetts Executive Office of Health and Human Services, Sept. 2018
- Maternal, Infant, and Early Childhood Home Visiting (MA MIECHV) Formula Grant Evaluation, Final Report to the Massachusetts Department of Public Health. Massachusetts Department of Public Health, 2016
- Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Initiative 2010 Needs Assessment. Massachusetts Department of Public Health, Apr. 2010
- Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Initiative 2016 Needs Assessment. Massachusetts Department of Public Health, Apr. 2016
- "Median Income for Families with Children by City and Town ('County Subdivision') in Massachusetts." Kids Count Data Center, American Community Survey, U.S. Census Bureau and MA Budget and Policy Center, Dec. 2018, https://datacenter.kidscount.org/data/tables/9857-median-income-for-families-with-children-by-city-and-town-county-subdivision#detailed/2/any/false/1691,1607,1572,1485,1376,1201,1074,880,815/any/19173
- Mendez, Julia L. "Policy and Practices to Improve Access to Early Care and Education (ECE) for Low-Income Hispanic Families." Child Trends, Oct. 2018, www.childtrends.org/publications/policy-and-practices-to-improve-access-to-early-care-and-education-ece-for-low-income-hispanic-families
- Murphy, C, et al. Early Childhood Data in Action. National Institute for Children's Health Quarterly and Center for the Study of Social Policy, 2018, https://www.nichq.org/sites/default/files/resource-file/Metrics%20Case%20Studies_1.pdf
- "National Survey of Children's Health (2016 - 2017)." Data Resource Center for Child and Adolescent Health Supported by the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau (MCHB), Child and Adolescent Health Measurement Initiative, www.childhealthdata.org/browse/survey?s=2&y=23&r=23
- Norton, Michael P. "Data Brief: 90,000 Children Living in 'Concentrated Poverty.'" State House News Service, 1 Oct. 2019,

www.statehousenews.com/?login=yes&trial=yes&path=cms%2Fcontent.aspx&db=briefs&select=20191347

- Palmer, Jenifer. Building a Qualified and Supported Early Care and Education Workforce. National Conference of State Legislatures, 12 Dec. 2018, http://www.ncsl.org/research/human-services/building-a-qualified-and-supported-early-care-and-education-workforce.aspx
- DosRemedios, Titus, and, Lamari, Brianna, "What do Families Want? Findings from a Statewide Family Survey and Focus Groups," Strategies for Children, July 2020, http://www.strategiesforchildren.org/MPIT/MPIT_FamilyEngagementReport.pdf
- "Recommendations for Early Education and Childcare." Report to Members of the Boston City Council , Boston City Council Committee on Healthy Women, Families & Communities, Dec. 2018, www.boston.gov/sites/default/files/document-file-01-2019/early_education_and_childcare_report_12.12.2018.pdf
- Report on the Federal Preschool Expansion Grant; The Commonwealth of Massachusetts Department of Early Education and Care, Feb. 2018, https://www.mass.gov/files/documents/2018/07/20/Preschool%Expansion%Grant%Year%2%Report%to%Legislature%FINAL.pdf
- Schochet, Leila, and Rasheed Malik. "Child Care Supply by Congressional District." Center for American Progress, 10 Apr. 2019, www.americanprogress.org/issues/early-childhood/news/2019/04/10/468471/child-care-supply-congressional-district/
- School and District Profiles. MA Department of Elementary and Secondary Education, http://profiles.doe.mass.edu/state_report/
- Strong Beginnings, Successful Lives: A Prenatal-to-Three Policy Guidebook for Legislators. National Conference of State Legislatures, 22 Jan. 2019, https://www.mass.gov/files/documents/2018/07/20/Preschool%20Expansion%20Grant%20Year%202%20Report%20to%20Legislature%20FINAL.pdf
- "Students with and without Disabilities" Enrollment Data, MA Department of Elementary and Secondary Education, www.doe.mass.edu/infoservices/reports/enroll/
- Technical Assistance Advisory SPED 2019-1: Transition from Early Intervention Programs to Early Childhood Special Education, 2018
- Tuning In: Parents of Young Children Tell Us What They Think, Know and Need. ZERO TO THREE and the Bezos Family Foundation, 2016
- Quint, Janet, Katherine M. Griffin, Jennie Kaufman, and Patrick Landers, with Annie Utterback (2018). Experiences of Parents and Children Living in Poverty: A Review of the Qualitative Literature. OPRE Report 2018-30. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, https://www.acf.hhs.gov/opre/resource/experiences-of-parents-and-children-living-in-poverty-a-review-of-the-qualitative-literature

APPENDIX 4 – ENDNOTES

[1]Ages and Stages Questionnaires, Paul H. Brookes Publishing Co., Inc.: https://agesandstages.com/asq-online/
[2] Strengthening Partnerships: A Framework for Prenatal through Young Adulthood Family Engagement in Massachusetts – A Roadmap for Practitioners and Families in Health, Human Services, and Education, June 2020: http://www.doe.mass.edu/sfs/family-engagement-framework.pdf
[3] Qualitative input gathered from key PDG partner agencies
[4] Child Population by Single Age in Massachusetts." *Kids Count Data Center*, Population Division, U.S. Census Bureau, Aug. 2018
[5] Children below 200 Percent Poverty by Race in Massachusetts." *Kids Count Data Center*, Population Reference Bureau, U.S. Census Bureau, Apr. 2018
[6]Children below 200 Percent Poverty by Race in Massachusetts." *Kids Count Data Center*, Population Reference Bureau, U.S. Census Bureau, Apr. 2018
[7] "Children below 200 Percent Poverty by Race in Massachusetts." *Kids Count Data Center*, Population Reference Bureau, U.S. Census Bureau, Apr. 2018
NOTE: American Indian category removed due to small size; Two or More Race categories removed due to inconsistent data collection
[8] *Estimated Prevalence of Children With Diagnosed Development Disabilities in the United States, 2014-2016.* Zablotsky, Benjamin, Black, Lindsey I., and Blumberg, Stephen J. (2017) NCHS Data Brief. Accessed at https://www.cdc.gov/nchs/data/databriefs/db291.pdf
9 Massachusetts Department of Elementary and Secondary Education: http://www.doe.mass.edu/infoservices/reports/enroll/
[10] Massachusetts Department of Elementary and Secondary Education: http://profiles.doe.mass.edu/statereport/enrollmentbyracegender.aspx; http://www.doe.mass.edu/infoservices/reports/enroll/
[11] Gateway" municipalities are defined by Section 3A of Chapter 23A of the General Laws of Massachusetts to include municipalities with a population greater than 35,000 and less than 250,000 and with a median household income and a rate of educational attainment of a bachelor's degree or above that is below the commonwealth's average
[12] "Children in Poverty or near Poverty (<200% Poverty Threshold) by City and Town ('County Subdivision') in Massachusetts." *Kids Count Data Center*, American Community Survey, U.S. Census Bureau, Dec. 2018
[13] Children in Poverty or near Poverty (<200% Poverty Threshold) by City and Town ('County Subdivision') in Massachusetts." *Kids Count Data Center*, American Community Survey, U.S. Census Bureau, Dec. 2018
[14] Children in Poverty or near Poverty (<200% Poverty Threshold) by City and Town ('County Subdivision') in Massachusetts." *Kids Count Data Center*, American Community Survey, U.S. Census Bureau, Dec. 2018
[15] Total number of low-income children in Table 6 was calculated by adding the number of B-5 children below the poverty line, by town. *Kids Count Data Center* used a different methodology for calculating the town-by-town population that does not completely align with their other estimates used to present child population data in this document
[16] *MCAS Results*. MA Department of Elementary and Secondary Education
[17] MPIT, What do Families Want? Findings from Family Surveys and Focus Groups
[18] MPIT, What do Families Want? Findings from Family Surveys and Focus Groups
[19] Boston *Foundation Early Childhood Survey*. Boston Foundation and Family Independence Initiative, Dec. 2017https://www.tbf.org/-/media/tbf/files/nonprofits/boston_foundation_early_childhood_survey.pdf?la=en&hash=8AC222D35299B36D66C3FE1DAE9985ECD9426507; Qualitative input from key partner agencies
[20] Magnusson, Dawn M., et al. *Beliefs Regarding Development and Early Intervention Among Low-Income African American and Hispanic Mothers*. American Academy of Pediatrics
[21] Total number of children served includes participation numbers from programs currently participating in the PDG DULA. Where available, the subset of the total participation that is economically disadvantaged or at 200% FPL was used for the calculation.
[22] Participation data provided by MA PDG program representatives.
[23] Program locations for Early Intervention: https://www.massfamilyties.org/early-intervention-programs-alphabetical/
[24] In Massachusetts, subsidized childcare includes the Income Eligible Program, Childcare for families involved with child welfare agency, Childcare for families receiving TANF and childcare for families in emergency assistance homeless shelters.
[25] Hardy, E., Institute for Child, Youth, and Family Policy, Brandeis University, *The Geography of Early Education and Care in Massachusetts: Internal Report Prepared for the Massachusetts Department of Early Education and Care*, December, 2019
[26] Hardy, E., Institute for Child, Youth, and Family Policy, Brandeis University, *The Geography of Early Education and Care in Massachusetts: Internal Report Prepared for the Massachusetts Department of Early Education and Care*, December, 2019, p.24

[27] Magnusson, Dawn M., et al. *Beliefs Regarding Development and Early Intervention Among Low-Income African American and Hispanic Mothers*. American Academy of Pediatrics, 1 Nov. 2017
[28] *Strong Beginnings, Successful Lives: A Prenatal-to-Three Policy Guidebook for Legislators*. National Conference of State Legislatures, 22 Jan. 2019

[29] Isaacs, Julia B, et al. *Review of Child Care Needs of Eligible Families in Massachusetts*. Urban Institute, Mar. 2015
[30] Maternal, Infant, and Early Childhood Home Visiting (MA MIECHV) Formula Grant Evaluation, Final Report to the Massachusetts Department of Public Health. Massachusetts Department of Public Health, 2016
[31] Participants were surveyed in three target communities; not specified whether they this was for programs they were in vs. new programs
[32] Maternal, Infant, and Early Childhood Home Visiting (MA MIECHV) Formula Grant Evaluation, Final Report to the Massachusetts Department of Public Health. Massachusetts Department of Public Health, 2016
[33] Isaacs, Julia B, et al. *Review of Child Care Needs of Eligible Families in Massachusetts*. Urban Institute, Mar. 2015
[34] Qualitative input collected from MA PDG partner agencies
[35] Mendez, Julia L. "Policy and Practices to Improve Access to Early Care and Education (ECE) for Low-Income Hispanic Families." *Child Trends*, Oct. 2018
[36] Hardy, E., Institute for Child, Youth, and Family Policy, Brandeis University, *The Geography of Early Education and Care in Massachusetts: Internal Report Prepared for the Massachusetts Department of Early Education and Care*, December, 2019
[37] Hardy, E., Institute for Child, Youth, and Family Policy, Brandeis University, *The Geography of Early Education and Care in Massachusetts: Internal Report Prepared for the Massachusetts Department of Early Education and Care*, December,2019
[38] "Licensed Child Care Search." *Child Care Search*, Department of Early Education and Care
[39] Child Care Aware of America. 2019 Facts about QRIS, Health, and Emergency Preparedness in the State of Massachusetts
[40] Information provided by Department of Public Health staff
[41] Healthy Families MA Service Transitions Policy, Sept 2019
42 Massachusetts Department of Elementary and Secondary Education, Technical Assistance Advisory SPED 2019-1, http://www.doe.mass.edu/sped/advisories/2019-1ta.html
[43] This advisory was sent from Craig Andrade, Director, Bureau of Family Health & Nutrition at DPH and Russel Johnston, Senior Associate Commissioner, State Director of Special Education at DESE to all Early Intervention Directors and Staff, Elementary School Principals, Administrators of Special Education, Early Childhood Coordinators, Preschool Personnel, and Other Interested Parties
[44] MA Pre-School Expansion Grant, Annual Performance Report 2018
[45] Quint, Janet, Katherine M. Griffin, Jennie Kaufman, and Patrick Landers, with Annie Utterback (2018). Experiences of Parents and Children Living in Poverty: A Review of the Qualitative Literature. OPRE Report 2018-30. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.
[46] MPIT, What Do Families Want: Findings from a Statewide Family Survey and Focus Groups, July 2020; http://www.strategiesforchildren.org/MPIT/MPIT_FamilyEngagementReport.pdf
[47] "Making Childcare Work: Results from a Survey on Childcare Arrangements and Challenges in Boston." Language, Disability, and Childcare Survey in February 2019, Mayor's Office of Women's Advancement & Economic Mobility Lab, 2019
[48] CFCE Program Reporting, FY19
[49] Code of Massachusetts Regulations Title 606 CMR7.0: Standards for the license or approval of family child care; small group and school age and large group and school age child care programs
[50] "Early Education and Out of School Time (EEOST) Capital Fund." Mass.gov
[51] Qualitative input gathered from providers and key Massachusetts partner agencies.
[52] Qualitative input gathered from providers and key Massachusetts partner agencies.
[53] Revised Subject Matter Knowledge (SMK) Guidelines. Massachusetts Department of Elementary and Secondary Education, Sept. 2019
[54] Information collected from MA PDG partner agencies
[55] Input gathered from providers and key MA partner agencies
[56] *"Annual Report."* Massachusetts Department of Early Education and Care, 18 Mar. 2019
[57] Child Care Aware of America. 2019 Facts about QRIS, Health, and Emergency Preparedness in the State of Massachusetts.
[58] Participation data collected from MA PDG programs
[59] Qualitative input gathered from providers and key Massachusetts partner agencies.
[60] "In membership" refers to a school the child is currently attending (students who have been expelled, suspended or have dropped out are excluded from this measure).
[61] Massachusetts Department of Elementary and Secondary Education, Every Student Succeeds Act reporting: http://www.doe.mass.edu/sfs/attendance/
[62] *School and District Profiles 2017-2018*, Massachusetts Department of Elementary and Secondary Education
[63] *School and District Profiles, 2017-2018*. MA Department of Elementary and Secondary Education
[64] Children 3-5 by race and disability, DESE Program Data, 2017-2018
[65] *School and District Profiles, 2017-2018*. Massachusetts Department of Elementary and Secondary Education
[66] Children 3-5 by race and disability, DESE Program Data, 2017-2018
[67] School and District Profiles, 2017-2018. Massachusetts Department of Elementary and Secondary Education