
APPROACH TO DEFINING AND MEASURING SCHOOL READINESS¹

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OUR DEFINITION OF “SCHOOL READINESS”

Our definition of “school readiness” is broad and developmental. We mean that children come to school healthy, well nourished and nurtured, with age-appropriate skills and a curiosity and interest in learning, so that they are prepared to participate in school.² We also believe that school readiness means that not only are children prepared for school but that the conditions are in place in their families, schools and communities for them to succeed in school — socially, emotionally and intellectually — during the crucial early years.

Promoting school readiness and early school success means providing the environments and supports in which children can grow, develop and learn — in other words, in which they can thrive. School readiness is in one sense a proxy for all that has come before in children’s lives, just as school success captures not only the results of individual children’s capabilities and efforts, but also the impact of conditions in their homes, schools and communities. Families have to be ready to support their children’s development before and after they enter school. Communities have to provide the opportunities, services and supports that surround children and families with an environment that promotes health and development. Schools have to be ready to provide a developmentally sound environment that promotes children’s learning.

Based on this understanding of school readiness, there are two important points to keep in mind with regard to measuring and tracking school readiness:

- First, school readiness is not a condition or status of children that can be measured at a single point in time. School readiness from the perspective of the child represents development from the prenatal period into the early school years along multiple dimensions. Early school success is a critical test of school readiness.
- Second, school readiness is not just an aspect of child development. Measurement and tracking of school readiness must also include characteristics of family, school and community as the contexts in which children develop.

Therefore, communities must look beyond a single child development dimension at a single point in time to a much broader set of measures in defining and tracking school readiness.

POSSIBLE FRAMEWORK FOR MEASURING AND TRACKING SCHOOL READINESS

What makes this task difficult is that there is no one well-accepted framework or design for communities to adopt. Based on recent and emergent thinking in this area and CAPD’s own work with communities on this issue, we propose a possible framework to assist communities in thinking about and measuring school

¹*Prepared to inform our partners in the Children First Initiative of CAPD’s approach to school readiness. Based on CAPD’s earlier work, including with the Philadelphia School Readiness Project (see *Fostering School Readiness: Recommendations to the Philadelphia School Readiness Project, 1995*).*

²*See *Reconsidering Children’s Early Development and Learning: Toward Shared Beliefs and Vocabulary, Goal 1 Technical Planning Group, National Education Goals Panel, December 1993*.*

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readiness. In this framework school readiness has four interrelated components:³

• **results or outcomes**

What measurable outcomes indicators demonstrate that a community's children are ready for and successful in school?

• **conditions**

What environments or experiences are conducive to the greatest likelihood that a community's children will reach kindergarten school-ready and will succeed in school?

• **opportunities, services and supports**

What opportunities, services and supports to children and their families can communities provide to help foster the conditions favoring school readiness and early school success?

• **system strategies**

How can these opportunities, services and supports be woven into a comprehensive coordinated approach that makes best use of community resources and strengths and addresses community limitations and gaps?

Information on each component of this framework for school readiness is needed, both to support community strategies to improve school readiness and to track their success:

- Information on outcomes is valuable in an assessment of where a community is now with respect to its goals in this area and to identify aspects of school readiness and/or groups of children that are farthest away from those goals. This information is useful in mobilizing community support and political will to change the current system and to invest in specific plans and strategies. It is also necessary as the first step in tracking how the community progresses over time toward its goals.

- Information on the conditions favoring these conditions addresses the experiences and circumstances of children and their families prior to school entry and during the early school years. Information on these indicators provides more direction to the development of specific strategies as it helps target efforts toward those critical aspects of children's early experiences that put them most at risk. These indicators also provide many interim outcomes against which to assess the early success of community efforts.
- Information on specific opportunities, services and supports (quantity, quality, accessibility, cultural appropriateness, etc.) and on system linkages and coordination is valuable in describing the reach of current efforts, thus identifying gaps in the network of critical resources and investments and possibilities for creating a more comprehensive and seamless system for children. Information on these components of the school readiness framework can be used to assess markers of progress in a community's efforts to put in place a comprehensive array of supports for young children and their families.

Critical questions communities want to answer include:

- Are opportunities, services and supports in the community changing in ways likely to produce the desired improvements in school readiness outcomes and conditions?
- Are the system relationships and infrastructures being developed that will sustain and expand these changes?
- Are the desired changes in the conditions fostering school readiness and in school readiness indicators themselves being observed?

Developing a set of indicators and the capacity to collect and assess data on these indicators is a long-term goal of community school readiness efforts.

³See, for example, S. L. Kagan, "By the Bucket: Achieving Results for Young Children," Washington, DC: National Governors' Association, May 19, 1995; L. B. Schorr, F. Farrow, D. Hornbeck and S. Watson, "The Case for Shifting to Results-Based Accountability," Chapter 3 in *Making a Difference: Moving to Outcome-Based Accountability for Comprehensive Service Reforms*, Falls Church VA: National Center for Service Integration, 1994.

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DESIRED CHARACTERISTICS OF A COMMUNITY SCHOOL READINESS MEASUREMENT AND TRACKING SYSTEM

In general, a community’s measurement and tracking system would collect key indicators in all four components of school readiness outlined above. There is emerging consensus around potential indicators, particularly in the first three components — that is, in the areas of results or outcomes; conditions; and opportunities, services and supports. Attached are some examples of school readiness indicators in these areas, suggested from recent research and policy literature.

A community school readiness measurement and tracking system would also have the following characteristics:

- Meet specific identified community needs for information, particularly to develop and sustain public support, plan and implement strategies, and assess, learn from and modify efforts;
- Be developmental — that is, collect information at and/or about various points throughout early childhood and capture information related to multiple dimensions of child development — physical, cognitive, social and emotional;
- Address family, community and school dimensions of school readiness;
- Include indicators that represent both positive and negative dimensions and those that are sentinel events — events, that, while rare, indicate a major community and system “failure” such as the incidence of immunization-preventable disease;
- Take maximum advantage of and enhance or expand available data collection and analysis systems already in place; and

- Be closely tied to the service and system change strategies being developed and implemented to achieve the community’s specific school readiness goals. That is, the school readiness measurement system should include indicators and benchmarks to track changes in system configurations, linkages and activities that the community expects will be needed to reach its school readiness goals.⁴

OPTIONS FOR COLLECTING INFORMATION NEEDED FOR A COMMUNITY SCHOOL READINESS TRACKING SYSTEM

There are three approaches to collecting information on school readiness indicators that a community can use singly or in combination:

- compilation of already collected, usually administrative, data on available indicators;
- These are generally counts of services provided or clients served by publicly funded service agencies. Other relevant data sources include birth certificates and vital statistics, other data from the health system sources such as an immunization tracking system or utilization records from insurers or providers, and aggregate information from school records on attendance, grade progression, and standardized test scores.
- enhanced programmatic data collection; Very often programs collect information on participants as part of their work, much of which is also useful for policy planning and analysis purposes. Sometimes this information is systematically collected and organized into formats that make it easy to store and retrieve. However, often opportunities for making sure program data can be used for planning and analysis may be overlooked. It is important for communities to assess and make best use of these opportunities.

⁴*This suggests that communities need to articulate a “model of change” for their school readiness goals and use this model to develop a set of outcome targets and reasonable markers of progress that reflect their unique needs, resources, opportunities and strategies.*

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Furthermore, community strategies to improve system coordination and linkages themselves require the generation and sharing of information. These then also present opportunities to generate and track critical indicators.

- collection of new indicators through new data collection carried out for purposes other than program operations and provision of services and supports.

This might include reviewing school records, obtaining teacher ratings and observations, interviewing parents, and administering direct assessments to a sample of young children enrolled in kindergarten.

An important activity for any community is to inventory currently available data and identify opportunities for additional data collection through administrative and programmatic systems. This requires interviews and reviews of documents from a broad range of individuals and organizations. Possible contacts within a community might include:

- data collection and information management operations of public agencies on clients and services;
- data bases on members/patients and service utilization (such as EPSDT services and developmental screening) kept by public health clinics, Medicaid managed care providers, and other major private providers and insurers;
- tracking and case management systems for early intervention services, some of which may maintain data on the results of developmental screens;
- surveillance systems for communicable diseases and for other screening and follow-up efforts (for example, for lead poisoning, asthma or sickle cell anemia);
- data on children enrolled in programs offered by

public and private agencies and schools, including early intervention programs, pre-school and kindergarten programs, and primary schools;

- data bases developed as part of special initiatives such as pre/post-natal home visiting programs or immunization tracking;
- alternative assessment approaches being developed and implemented for pre-school, kindergarten and the early elementary grades.

Each community will have a number of similar potential sources, as well as others that are unique.

After an inventory has been completed and the results reviewed to ensure completeness and accuracy, it is important for the community to assess what it can learn from indicators that are currently available or that could easily be obtained through existing data systems.⁵ Even communities with an extensive array of administrative and programmatic data sources will probably find that these data cover only some aspects of school readiness. In most communities, indicators for the period between birth/infancy and school entry are relatively scarce. This reflects the lack of a comprehensive system of supports for young children and their families and of a single entity responsible for outcomes during this developmental period. Also, in many if not most communities, the available sources for school readiness indicators are not universal in scope — that is, substantial portions of the community's children and families are not covered by the data. Sometimes this is because the data source only contains information on those who are eligible and have applied for particular services; other times it is because comparable data do not exist or are not readily available from counterpart agencies or programs (for example, non-public schools or private health care providers).

⁵*Fostering School Readiness (referred to earlier) is an example of how CAPD provided the City of Philadelphia with such an investigation and recommendations for an initial school readiness assessment strategy, building on available administrative and programmatic data sources and opportunities for enhancing existing or emerging sources.*

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OPTIONS AND CONSIDERATIONS FOR NEW DATA COLLECTION

Limitations in the kinds and coverage of information available or potentially available from administrative and programmatic data bases, which are shared by many communities, will lead communities to consider new (primary) data collection — that is, collecting data specifically designed for the purpose of measuring outcomes or conditions. These data may be collected directly from children and families or from teachers and service providers. Options for new data collection include:

- (repeated) cross-section surveys — that is, new data collection for samples of the contemporary population of children at repeated intervals;
- prospective studies following cohort(s) of children from birth into the early school years; and
- retrospective studies retracing the life histories of cohort(s) of children (both “successes” and “failures”) from their current school-age back to birth.

At the same time that many communities are considering collection of new data on school readiness indicators, the field of school readiness measurement is not well developed in terms of generally accepted techniques or tools, and there is continuing concern about possible socioeconomic and/or cultural biases of many measures.⁶ It is a given that the state of the art in assessment and measurement will continue to develop and this means that baseline data on indicators used today may be seen as inadequate or inaccurate later on. Because of this, a plethora of options exists with little consensus among experts, creating uncertainty at the community level that can paralyze efforts to track outcomes.

Further, new measurement strategies will require additional resources at some level, from modest to potentially extensive, depending on the indicators needed, technology available, and/or willingness or

ability of service providers and others to incorporate data collection into their everyday work with children and families. Obviously, the more extensive the resource requirements, the more difficult it will be to implement a school readiness measurement and tracking system.

All communities have limited resources to develop a school readiness tracking system. In using these resource, each community must consider how to develop baseline information that is as useful as possible for immediate needs, track school readiness indicators over time, and build the capacity to collect additional or supplemental information as it is needed.

We see a tradeoff between using available resources to obtain new data through surveys or other new primary data collection efforts and using those funds to support enhancement and linkage of administrative and programmatic data bases. New survey or other individual data would provide rich data for more complex analysis, have known properties for estimating population characteristics, and provide data not available from other sources, particularly about families’ and children’s experiences and development in the home environment and prior to school entry. However, in and of itself, such an approach does not directly support the kind of information sharing and collaboration among public and private service providers, with families and within communities that might result from providing more resources and support to existing and emerging linking and coordination efforts, using these efforts to collect key indicators.

Therefore, communities may well wish to consider an initial strategy that focuses attention and resources on bringing together existing data under its school readiness agenda while at the same time taking advantage of programmatic opportunities to enhance these data. An initial focus on these data will provide considerable information on many aspects of school readi-

⁶Some measurement strategies — especially those that involve individual assessment of children or linking individual data across systems — raise ethical dilemmas about labeling individual children, access to data, data confidentiality and family control over information about themselves and their children. These issues must be directly confronted in any effort that involves more than obtaining aggregate counts from public data sources, whether the data are collected in a new effort or from existing administrative or programmatic sources.

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ness, while at the same time encouraging analysis of the current system of services and supports in ways that may itself lead to significant improvements for young children.

While such an initial strategy may seem more easily implemented than one that involves design and execution of a major new data collection effort, communities should recognize that to undertake this strategy will involve:

- coordination to ensure that the various ongoing efforts remain responsive to the broad school readiness agenda (both programmatically and with regard to the data);
- political support (from within and across agencies and providers, as well as broadly within the community), meaning that issues of confidentiality and underlying concerns about “government” control over personal information will have to be addressed; and
- some incremental funding and other resources, to expand and enrich programs so that they can simultaneously improve their direct work with children and families and to support the collection and maintenance of data.

ATTACHMENT – Potential Indicators of School Readiness

Below is a list of measures (and sometimes more specific indicators) that might be included in a master template of information needs related to school readiness. Creation of a community specific set of indicators will depend on the outcome goals and implementation benchmarks the community sets for itself, based on its own strategy, available information sources and data collection opportunities that may exist in the community; and resource constraints balanced against information needs.

In many communities there are often unexpected sources of information on many indicators, as well as those that are better known. As mentioned in the accompanying text, the search for potential sources in a community should be broad. Further, it may be possible to build indicators into new or enhanced programmatic efforts. Even so, communities are likely to find that many potential indicators are not currently available and that they will want to develop over time various approaches to obtain the most critical.

RESULTS OR OUTCOMES

- Children come to school healthy (or with appropriate interventions in place to achieve maximum health and functioning) and well-nourished.
 - within age-appropriate height and weight norms and ratios
 - with age-appropriate motor skills and coordination
 - with no physical conditions or chronic illnesses affecting development that are undetected until school entry
 - with appropriate diet and nutritional status
 - with adequate sleep and exercise
 - with good personal hygiene
 - with good dental hygiene
 - with no loss of school days above the norm (or a certain standard) due to illness
- Children come to school with adequate family support (or with appropriate interventions in place)

- living in a safe situation adequate for child’s needs
- with a stable identified primary caregiver throughout the school year
- with stable living situation throughout school year
- with appropriate before and after school care and supervision
- caregivers demonstrate interest in child’s school activities and progress
- caregivers demonstrate appropriate expectations for child’s success in school
- caregivers know how to support children’s learning and practice these methods
- caregivers provide adequate support for child’s school attendance and performance
- percent of children who arrive at school on time
- percent of children who are appropriately dressed and groomed
- percent of children who arrive at school having had breakfast and enough sleep
- percent of children who arrive at school with adequate food for snack or lunch if applicable
- Children come to school with age-appropriate social and emotional skills (or with appropriate interventions in place)
 - able to interact with peers in age-appropriate ways
 - able to control frustration and aggression
 - able to engage in cooperative play
 - able to take turns
 - able to cope successfully with structured social environment
 - able to attend and respond appropriately to instructions
 - able to communicate needs and desires appropriately to adults and to peers

ATTACHMENT – Potential Indicators of School Readiness (cont.)

- feel secure in school environment, after appropriate period of adjustment
 - able to attend to age-appropriate tasks
 - exhibit curiosity and interest in learning
 - not usually fearful of trying new things
 - Children come to school with age appropriate language skills, capacity for reasoning, and general knowledge (or with appropriate interventions in place)
 - able to listen and speak (receptive and expressive language skills) at age-appropriate levels
 - understand how to use language to express needs and wants and to communicate
 - with age- and culturally appropriate vocabulary
 - aware of and familiar with stories, books and writing
 - Children exhibits success in early grades of school
 - social adjustment
 - appropriate behavior
 - orientation toward learning
 - acquisition of academic skills
- CONDITIONS FAVORING OUTCOMES**
- Health and nutrition conditions
 - maternal avoidance of use of alcohol, tobacco, drugs during pregnancy
 - maternal receipt of adequate nutrition during pregnancy
 - consistently adequate diet and nutritional status throughout childhood
 - normal weight and gestational age at birth
 - no identified physical or other anomalies at birth
 - link with regular source of health care throughout childhood
 - achievement of physical growth benchmarks with-
 - in accepted range throughout childhood
 - achievement of fine motor development and coordination within accepted range throughout childhood
 - no serious injuries or accidents during childhood requiring hospitalization and/or resulting in functional impairments
 - no disabilities resulting from inadequate or late treatment of disease or injury or lack of preventive care
 - children are not abused — physically, verbally or sexually during childhood
 - safe and healthy home environment throughout childhood — exposed to lead, secondary cigarette smoke; potential hazards reduced neighborhood environment is free from violence
 - Conditions related to family support
 - stable primary caregiving arrangements throughout childhood
 - stable safe and adequate housing throughout childhood
 - stable quality child care arrangements throughout childhood
 - caregivers know and practice appropriate parenting practices based on child development
 - children are not abused — physically, verbally or sexually during childhood
 - Conditions related to social and emotional development
 - achievement of appropriate development milestones throughout childhood
 - language rich home environment (conversations, story telling, reading aloud, signing, games, etc.)
 - access to materials and activities related to language and learning in home community
 - exposure to television (amount and content) monitored and regulated by caregivers

ATTACHMENT – Potential Indicators of School Readiness (cont.)

- Conditions related to development of language skills, reasoning and general knowledge

OPPORTUNITIES, SERVICES AND SUPPORTS

- Health and nutrition
 - receipt of early and appropriate prenatal care by pregnant women
 - identification and appropriate intervention of high-risk pregnancies
 - receipt of appropriate treatment services by substance abusing pregnant women
 - smoking cessation programs for pregnant women and women who plan to become pregnant
 - receipt of nutritional assistance by low income pregnant women, infants and young children
 - appropriate early intervention services for at-risk infants and young children
 - health insurance coverage
 - appropriate immunizations on recommended schedule
 - appropriate well-child checkups and developmental screens on schedule
 - appropriate and timely treatment of illnesses and management of chronic conditions or disabilities
 - regular dental examinations and treatment
 - timely identification and appropriate intervention for children who fall outside normal developmental range for physical growth and motor development
 - injury prevention programs
 - parenting education
 - lead screening and abatement programs
- Family Support
 - services to families with young children who are homeless
 - supply and quality of child care providers

- parenting education programs
- family support programs
- family preservation services
- employer policies that allow time off to attend school functions and take child for health care

- Social and Emotional Development

- parenting education programs
- family support programs
- family preservation services
- play groups, child socialization programs
- appropriate preschool experiences
- out-of-school socialization opportunities (through libraries, social and sports organizations, churches, youth groups, etc.)

- Development of Language Skills, Reasoning and General Knowledge

- early identification and appropriate intervention for language delays or other problems
- parenting education
- parent and family literacy programs
- appropriate preschool experiences
- learning related programs at libraries, community centers, religious organizations, etc.
- availability/utilization of variety of learning environments in community (zoos, libraries, community festivals, parks, playgrounds, etc.)

- Appropriate Learning Environment in Schools

- teacher and curriculum approach to learning — mix of child-versus teacher-directed activities
- class size, student-teacher ratio
- characteristics of physical environment, availability of appropriate equipment and supplies
- developmentally appropriate expectations and standards for behavior and achievement