Quality in Home-Based Child Care:
Summary of Existing Measures and Indicators

OPRE Report 2022-27

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Contents

Exhibits

Overview

Introduction

Millions of families with children from birth to age 12 rely on home-based child care (HBCC)—child care and early education (CCEE) offered in a provider's home or the child's home. It is the most common form of nonparental child care for infants and toddlers and for children living in poverty. Yet much of the research literature and policy discussions about improving the quality of child care focus on care provided in center-based CCEE settings. Moreover, regulated family child care providers are more likely to be the focus of research than family, friend, and neighbor providers.

Many widely used measures of HBCC quality have their roots in quality measures that were developed for centers. Those measures might not capture the features of care that researchers, families, and HBCC providers associate with quality in HBCC settings. Similarly, most existing Quality Rating and Improvement System (QRIS) standards—and the indicators they use to assess HBCC settings—originated from standards developed for centers and might not capture valuable features that could be implemented differently or are more likely to occur in HBCC than in other CCEE settings.

This report summarizes findings from a review of existing HBCC measures and indicators. The review focused on features that might be important to understand quality in HBCC.

Primary research questions

The review addressed two sets of research questions:

1. How well do existing quality measures and sets of indicators measure the features of HBCC quality? What is the validity and reliability of current measures and sets of indicators?
2. What measures, indicators, or tools are needed to assess the features of HBCC quality in ways that provide reliable and valid data and are affordable and feasible for the end users (including researchers, professional development providers, and accountability systems)?

Purpose

This review is one component of the HBCC Supply and Quality project, funded by the Office of Planning, Research, and Evaluation in the Administration for Children and Families. This project is summarizing what is known about HBCC supply and quality, developing a research agenda to fill gaps in knowledge, and conducting new research to answer important questions.

The findings from this review will: (1) lay critical groundwork to adapt or develop new tools or resources used to assess quality in HBCC settings, (2) guide how the project team approaches measurement in the research agenda, and (3) help early childhood stakeholders and others interested in HBCC quality select measures or indicators for various purposes.

Key findings and highlights

- By design, almost all measures and most indicators in this review were developed for use in HBCC, but most were based on or designed to parallel measures of center-based care. Few were developed to account for features more likely to occur or to be implemented differently in HBCC settings, especially settings that are legally exempt from regulation (license-exempt) such as family, friend, and neighbor care.
- Some constructs that are important for HBCC settings are never found or seldom found in measures or indicators, including aspects of family–provider relationships and conditions for operations and sustainability. In addition, although most HBCC measures address support for development, many are aimed toward the needs of preschool children, and few focus on infants and toddlers or school-age children. No measures assess quality of care during nontraditional hours, which includes care provided during evening, weekend, or overnight hours.
- Most measures reported at least one type of psychometric evidence that meets the review's reliability or validity standards. However, available evidence is limited, and it is often based on the full measure, rather than the items that assess a particular component or feature in the measure.
- Most of the indicators have not been validated separately from center-based indicators. In cases in which HBCC-specific evidence is available, validity and reliability generally meet the review's minimum standards, but the sample is often limited in the characteristics of the HBCC setting or sample size. Most national standards included in our review do not present associated evidence on reliability or validity.
- Although training is available for most measures, few had associated quality improvement programs, such as coaching or professional development. And although the associated costs of the measures generally were low (less than $100), the costs for training and certification generally were high (in some cases more than $1,000).

Methods

The review described in this summary report includes 31 measures and 46 sets of indicators, including measures and indicators that were designed for use in HBCC or include quality features more likely to occur or to be implemented differently in HBCC settings. The review summarizes key features across measures and indicators, gaps in quality measurement for HBCC, and the strengths and limitations of existing measures and indicators. A more detailed profile of each measure and set of indicators is in the accompanying "Compendium of Measures and Indicators of Home-Based Child Care Quality." That compendium and this report are available on the HBCC Supply and Quality project home page.

Recommendations

Users should select measures or indicators that adequately represent the features of interest for their research or practice. Current efforts to assess and improve quality in HBCC should prioritize supporting providers as they work to develop and sustain high quality practices. For example, measure development could include creating a toolkit that identifies supports tailored for HBCC providers in different contexts and communities. The gaps in measurement summarized in the report have important implications for assessing quality and deciding about needed supports in HBCC settings.

Several gaps in measurement suggest directions for future measurement research.

- Going forward, measures should capture the unique strengths and characteristics of the range of HBCC providers and reflect their varied approaches to working with children and families. Future research is also needed to learn more about how to engage and support HBCC providers from diverse socioeconomic, cultural, and linguistic backgrounds, and from different contexts and communities.
- Measurement is needed to assess the working conditions and other factors that affect providers' physical, emotional, and economic well-being, in order to address provider needs and account for these factors in analysis of quality and when identifying needed supports.
- For purposes of quality and professional development, we recommend that beyond addressing how providers keep children safe and healthy, quality measurement should focus on how HBCC providers support social, emotional, physical, language, literacy, and cognitive development and play and leisure activities. There should be measures of how providers are responsive to and interact with families about the child's care and their goals for children. Measurement should also examine how providers support family functioning, which might be especially important to consider in light of the share of families from diverse backgrounds that HBCC providers serve.
- Research is needed to inform measure development on what high quality care looks like during flexible and nontraditional hours and across wide age ranges. These are two aspects that are often unique to HBCC and can influence quality across many areas.

Glossary

HBCC: Home-based child care refers to any nonparental child care in the provider's own home or the child's home.

CCEE: Child care and early education refers to all settings that offer care and education to young children.

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I. Introduction and Purpose

Many children receive care in home-based child care (HBCC) settings, yet the research literature and policy discussions about improving the quality of child care and early education (CCEE) focus primarily on care provided in center-based settings. Moreover, many widely used measures of HBCC quality—such as the Family Child Care Environment Rating Scale (Harms et al. 2007)—are rooted in quality measures developed for centers and might not capture the features of care that researchers, families, and HBCC providers associate with quality in these settings (Goodson and Layzer 2010; Porter et al. 2010; Tonyan et al. 2017). Research also suggests that existing Quality Rating and Improvement System (QRIS) standards and the indicators used to assess HBCC settings might not capture beneficial features that are implemented differently or are more likely to occur in HBCC than in other CCEE settings (Forry et al. 2013; Lipscomb et al. 2016; Susman-Stillman and Banghart 2011; Tonyan et al. 2017). QRIS standards and indicators often focus on regulated (licensed, certified, or registered) family child care and might not be relevant or meaningful for family, friend, and neighbor (FFN) care that is legally exempt from regulation (also known as license-exempt care).

However, there is a small but growing body of research about HBCC, including research on measures and indicators of quality (Bromer et al. 2013; Tonyan et al. 2017). Building on the draft literature review and conceptual framework for the Home-Based Child Care Supply and Quality (HBCCSQ) project, we reviewed the existing measures and indicators important for understanding quality in HBCC. This review was designed to answer two key sets of research questions:

1. How well do existing quality measures and sets of indicators measure the features of HBCC quality? What is the validity and reliability of current measures and sets of indicators? What procedures are used to engage, assess, and support HBCC providers?
2. What measures, indicators, or tools are needed to assess the features of HBCC quality in ways that provide reliable and valid data, and are affordable and feasible for the end users (including researchers, professional development providers, and accountability systems)?

The findings serve three purposes:

1. To lay critical groundwork to adapt or develop new tools or resources that can measure quality in HBCC settings.
2. To inform future tasks, including the HBCC research agenda. This research could include studies using existing, adapted, or new measures and indicators to assess quality in HBCC settings and test hypotheses about how well measures reflect HBCC quality.
3. To help early childhood stakeholders and others interested in HBCC quality select measures for different purposes, such as process and implementation evaluations, informing professional development, and other quality improvement efforts in HBCC settings.

The goals of this review are to describe existing measures and indicators of child care quality, including the following:

- Alignment with features of HBCC quality in this project's conceptual framework[1]
- Use in HBCC settings
- Reliability and validity evidence in HBCC settings
- Strengths and limitations of its use in supporting the quality of HBCC
- Any gaps that need to be filled in measurement of HBCC quality that would inform quality improvement

This report describes the process we used to identify measures and indicators and conduct the review. It also summarizes our findings. We report the criteria we used to select measures and indicators to review, the data elements we collected about each measure or set of indicators, and the process for conducting the review (Chapter II). In Chapter III, we discuss the results of the review, including key features across measures and indicators, gaps in quality measurement for HBCC, and the strengths and limitations of existing measures and indicators. Finally, in Chapter IV, we provide recommendations on filling gaps in the measures and indicators of quality in HBCC settings. A more detailed profile of each measure and set of indicators is in the accompanying "Compendium of Measures and Indicators of Home-Based Child Care Quality" (Doran et al. 2022). That compendium and this report are available on the HBCCSQ project home page.

[1] We will continue to update the project's conceptual framework to align with findings from later project tasks and feedback from experts, stakeholders, and the Office of Planning, Research, and Evaluation. This review aligns with an early draft of the conceptual framework.

II. Process for Identifying and Reviewing Quality Measures and Indicators

A. Scope of measures and indicators we considered

We examined measures and indicators that reflect features of quality included within the four quality components of the project's draft conceptual framework (Exhibit II.1):

- Home setting and learning environments, including the physical environment, learning opportunities, and routines
- Provider–child relationships, including how the provider supports children's development and develops positive family-like relationships with them
- Provider–family relationships, including relational and logistical supports for families
- Conditions for operations and sustainability, including working conditions, business practices, and professional resources

We also included measures and indicators that address characteristics listed in the draft conceptual framework as potentially associated with the quality components and that quality improvement efforts could address (Exhibit II.1):

- Provider characteristics, including education, training, and experience; motivation, professional identity, and caregiving beliefs; and health and well-being.
- Neighborhood characteristics, including community spaces and activities, health and safety, and neighborhood social processes. In many settings, the neighborhood is an extension of the HBCC setting. How the provider uses neighborhood resources or adapts care when the neighborhood lacks available resources could affect children's outcomes.

Exhibit II.1. Features of quality and context and inputs to quality from HBCCSQ draft conceptual framework

Features of quality	
Home setting and learning environments	**Provider–child relationships**
Physical environment and setting	**Provider support for children's development**
• Group size and ratios	• Support for emotional development
• Indoor spaces	• Support for cognitive development
• Outdoor spaces	• Support for social development and peer interactions
• Health and nutrition	• Support for mixed-age peer interactions*
• Safety	• Support for physical health and development
• Organized environment	• Support for language and literacy
• Supportive program policies	
• Hours of operation*	
• Family-like setting*	
Learning opportunities and routines	**Development of family-like relationships with children**
• Routines	• Close provider–child relationships*
• Structured activities	• Close child–child relationships*
• Unstructured activities*	• Continuity of care*
• Curriculum	
• Support for diversity and individualizing*	
• Cultural and linguistic congruence*	
Provider–family relationships	**Conditions for operations and sustainability**
Relational supports for families	**Working conditions**
• Trust	• Working alone, isolation*
• Close relationships, co-parenting, and boundary setting*	• Work-family balance*
• Reciprocal communication	• Family support for caregiver*
• Providing parent education	• Managing multiple roles in the home*
• Promoting a sense of community and connection*	
• Cultural and linguistic match with families*	
Logistical supports for families	**Business practices and resources**
• Flexibility*	• Business practices*
• Facilitating and connecting child care patchwork for families	• Access to professional resources (associations, other providers)
• Helping parents with non-child care tasks*	

Context and inputs to quality	
Provider characteristics	**Neighborhood characteristics**
Education, training, and experience	**Community resources**
• Education level	• Parks and playgrounds
• Prior training	• Schools
• Years of experience	• Libraries
	• Other community centers
Motivation, identity, and beliefs	**Neighborhood health and safety**
• Motivation for providing care*	• Crime/abandoned housing
• Professional identity*	• Roads and traffic
• Caregiving beliefs	• Litter and pollution
Health and well-being	**Neighborhood social processes**
• Psychological health	• Collective efficacy around care of children
• Physical health	• Social cohesion among neighbors
• Economic well-being*	

Note: The features of quality included in the table reflect a preliminary list of features identified in an early draft of the HBCCSQ project's conceptual framework. During the course of time that this review was being conducted, the project team updated the quality components and features based on findings from the literature review and feedback from experts, HBCC providers, representatives from organizations that support HBCC providers, and the Office of Planning, Research, and Evaluation.

* Indicates features of quality and provider inputs that might be implemented differently or are more likely to occur in home-based child care than in other child care and early education settings.

B. Identifying measures and indicators for review

To identify potential measures and indictors for review, we first conducted a scan of measures and sets of indicators that seemed promising for HBCC. We searched multiple sources for measures and indicators as part of this scan. To locate a list of measures for review, we used the project team's combined knowledge of early childhood measures, identified new measures in the project's literature review on quality, scanned for measures used in QRISs, and scanned recent compendia of measures. In addition, we searched the Internet and databases for measures of specific features of care or types of care when we found gaps in alignment to the project's draft conceptual framework.

For measures, we searched the following:

- **Prior reviews of child care measures.** We examined recent reviews and compendia (Goodson and Layzer 2010; Halle et al. 2010; Caronongan et al. 2011; Zaslow et al. 2011; Porter at al. 2012; Shah et al. 2020).
- **Literature review.** We added measures identified in the project's literature review (Bromer et al. 2021). When we reviewed the set of 29 existing reviews and the subsequent set of 59 primary articles, we recorded any quality measures used. In addition, we scanned the titles and abstracts from the full list of search results (about 1,600 studies) for any studies that were not selected for the literature review but focus on a quality-related measure.
- **Data scan.** We included measures identified in the project's scan of existing data sets relevant to HBCC, such as measures used in national surveys that include HBCC.

- **QRIS Compendium.** We used the QRIS Compendium website and state links to agencies' websites to identify measures included in state, local, and territorial QRISs (BUILD Initiative and Child Trends 2019).
- **Supplemental search.** When we did not find measures for certain quality features included in our draft conceptual framework, we conducted additional literature searches in journals and grey literature for measures specific to those features. For example, we searched for relevant literature that measured neighborhood characteristics, quality features for school-age children, cultural congruence in child care, and quality features of child care used internationally that might address more cross-age peer interactions or home-based care in more rural areas.

For indicators, we searched the following:

- **QRIS.** We searched state, local, tribal, and territorial QRISs that include HBCC to identify indicators. This work was guided by the QRIS Compendium (BUILD Initiative and Child Trends 2019) and QRIS Resource Guide (National Center on Early Childhood Quality Assurance 2019) and website.
- **Other standards.** We also searched for indicators used in accreditation, quality improvement, monitoring, certification, and credentialing (for example, Head Start Program Performance Standards, and the National Association for Family Child Care (NAFCC) Accreditation Quality Standards).

C. Criteria for prioritizing the review of measures and indicators

After identifying measures and indicators through the scan, we screened these to determine whether to prioritize them for more in-depth review. Because there were many more measures and indicators than the scope of this project permitted us to review, we needed to develop prioritization criteria. We prioritized measures and indicators using the following criteria:

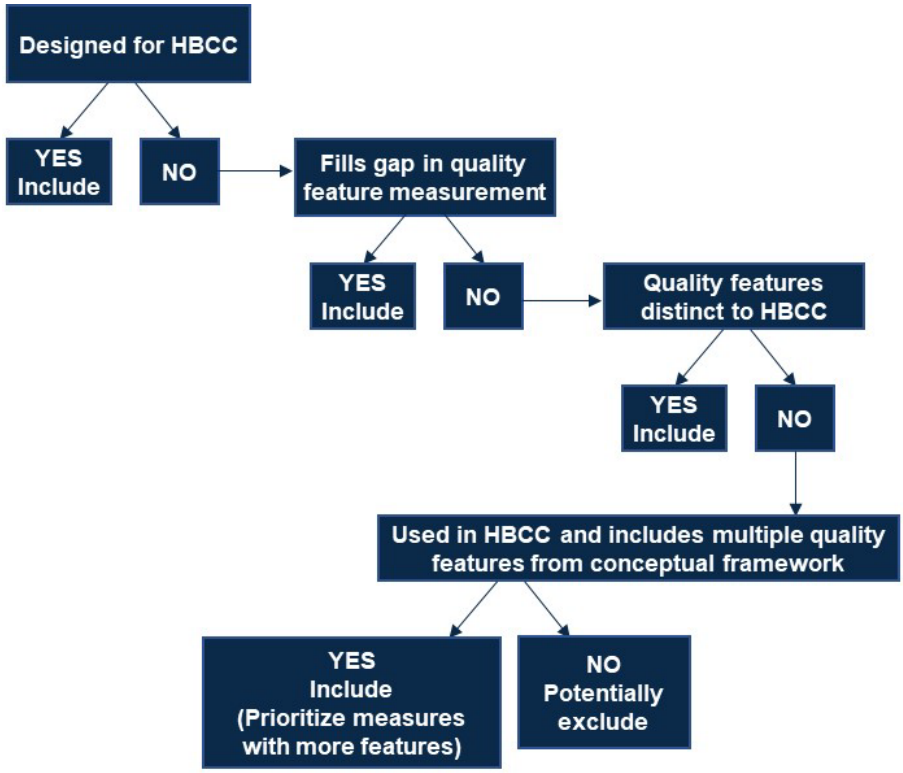
- Designed for HBCC
- Used or plausibly could be used in or adapted for HBCC settings to address gaps in measuring constructs of interest (that is, features identified in the draft conceptual framework and literature)
- Captured constructs that are poorly measured or not measured at all in the widely used quality measures

There are two exceptions. First, when a measure had multiple versions for use in various settings, we included only the measure designed for HBCC. Second, when considering indicators, we focused on those designed for or used in HBCC and excluded all indicators not explicitly designed to be used in HBCC.

We used a basic set of criteria to screen the measures we identified as fitting our prioritization criteria. The four-step screening process (Exhibit II.2) confirmed that the measures we selected aligned with the conceptual focus and scope of the task.

1. If a measure or indicator was developed specifically for HBCC, we included it.
2. If not designed specifically for HBCC, we screened to determine whether the measure or indicator filled a gap by measuring a feature of quality in the draft conceptual framework that is not well measured in other sources.
3. If a measure included quality features that are implemented differently or are more likely to occur in HBCC than in other CCEE settings, we included it. We included measures that have features that are more frequent in HBCC than in centers (for example, creating a family-like setting), implemented in a different way (for example, cross-age care from infants to school-age children), or had a different association with quality in HBCC (for example, neighborhood characteristics).
4. We included a measure if it was not developed for HBCC (already included under the first criteria) but has been used in HBCC and includes features from multiple components in the draft conceptual framework (for example, beyond provider–child interaction) or has been used frequently in HBCC.

Exhibit II.2. Screening process for measures and indicators



HBCC = home-based child care.

The screening process also involved potential exclusion criteria. We excluded most but not all measures that (1) were not widely used, (2) did not have evidence of reliability or validity, or (3) were developed before 1990 and not updated subsequently.

We noted and reviewed all measures used in QRISs. For indicators, we reviewed all state QRISs that include HBCC settings. The QRISs include many indicators. To keep the scope of the review within the project resources available, we prioritized other sources of indicators from a few key sources—such as national accreditation assessments or self-report measures from national surveys—with a focus on addressing missing constructs.

D. Final list of measures and indicators included for review

The final list of measures (n = 31) and set of indicators (n = 46) we reviewed are available in Exhibits II.3a and II.3b, respectively. For measures, we indicate whether a measure was designed for use in HBCC, the field of study for which it was developed, the version used in our review, and its availability for users. For indicators, we indicate whether the set of indicators is differentiated by provider type and the setting for which it was originally designed.

Exhibit II.3a. Measures included in review

Measure	Designed for HBCC	Field of development	Version (year)[a]	Availability[b]
Assessment Profile for Early Childhood Programs - Assessment Profile for Family Child Care Homes (APFCCH)[c]	Yes	CCEE	1998	Permission required ($)
Business Administration Scale for Family Child Care, 2nd Edition (BAS)	Yes	CCEE	2018	Permission required ($)
Caregiver Experience of Ethnic-Racial Socialization (CERS)	Yes	CCEE	2016	Unpublished (used with author permission)[d]
Child Care Assessment Tool for Relatives (CCAT-R)	Yes	CCEE	2006	Permission required ($)
Child Care Ecology Inventory (CCEI)	Yes	CCEE	2013	Published (contact authors)
Child Care HOME Inventories (CC-HOME)	Yes	CCEE	2003	Permission required ($)
Child Development Program Evaluation Scale (CDPES)	No	CCEE	1984	Public domain
Child/Home Early Language & Literacy Observation (CHELLO)	Yes	CCEE	2007	Permission required ($)
Child-Caregiver Interaction Scale, Revised Edition (CCIS)	Yes[e]	CCEE/K–12	2016	Permission required (no $)
Collective Efficacy Scale	No	Sociology	1997	Published (contact authors)
Early Childhood Care and Development Center Quality Learning Environment (ECCD QLE)[f]	No	CCEE	2017	Public domain

Measure	Designed for HBCC	Field of development	Version (year)[a]	Availability[b]
Early Childhood Quality Improvement Pathway System (EQuiPS)	Yes[e]	CCEE	2017	Published (contact authors)
Environment and Policy Assessment and Observation for Family Child Care Homes (EPAO-FCCH)	Yes[e]	CCEE	2017	Permission required (no $)
Family and Provider/Teacher Relationship Quality Measures (FPTRQ)	Yes[e]	CCEE	2015	Public domain
Family Child Care Environment Rating Scale®, Third Edition (FCCERS-3)	Yes	CCEE	2019	Permission required ($)
Family Child Care Observations (FCCO)	Yes	CCEE	2013	Published (contact authors)
Family Child Care Program Quality Assessment (FCC PQA)	Yes	CCEE	2009	Permission required ($)
Global Guidelines Assessment for Early Childhood Education and Care, Third Edition (ACEI GGA)	No	CCEE	2011	Public domain
Measure of Early Learning Environments (MELE)	No	CCEE/K–12	2017	Public domain
Midwest Child Care Assets Index (MCCAI)	Yes	CCEE	2013	Published (contact authors)
National Survey of Early Care and Education Home-Based Provider (NSECE HBCC) Questionnaire	Yes	CCEE	2019	Public domain
Parent–Caregiver Relationship Scale (PCRS)	Yes[e]	CCEE	1997	Published (contact authors)
Perceived Neighborhood Disorder Scale	No	Sociology	1999	Published (contact authors)
Program for Infant/Toddler Care Program Assessment Rating Scale (PITC PARS)	No	CCEE	2019	Permission required ($)
Quality of Care for Infants and Toddlers (QCIT; formerly Quality of Caregiver–Child Interactions for Infants and Toddlers (Q-CCIIT))	Yes[e]	CCEE	2020	Permission required ($)
Quality of Early Childhood Care Settings (QUEST)	Yes[e]	CCEE	2005	Permission required ($)
Quality Seal	Yes[e]	CCEE/K–12	2017	Published (contact authors)
School-Age and Youth Program Quality Assessments® (School-Age PQA and Youth PQA)	No	K–12	2012	Permission required ($)
Self-Efficacy on Business Management Knowledge and Skills	Yes[e]	CCEE	2020	Published (contact authors)
Self-Efficacy on Professional Entrepreneurship	Yes[e]	CCEE	2020	Published (contact authors)

Measure	Designed for HBCC	Field of development	Version (year)[a]	Availability[b]
Strengths-Based Practices Inventory (SBPI)	No	CCEE/family support	2004	Published (contact authors)
Strengthening Families Self-Assessment for Family Child Care Providers	Yes	CCEE	2014	Published (contact authors)
Work-Child Care Fit—Provider Telephone Questionnaire	No	CCEE	2005	Unpublished (used with author permission)[d]

[a] Version year indicates the version used in our review, which is the most recent version. There might be other, older versions available.

[b] Availability indicates the route that users must take to use the method. We categorize methods as follows:

Public domain: measure is freely available for public use without author permission.

Published (contact authors): measure is available in a published document; users should contact authors before use to determine whether they may use the measure.

Permission required (no $): measure is free but not publicly available; users must obtain permission.

Permission required ($): measure is not publicly available; users must obtain permission and pay associated costs.

[c] The APFCCH is not publicly available; we were unable to obtain it after multiple requests. It is not included in this review or in the sample size of 31.

[d] Measure is not available in a published document; users should contact authors to determine whether they may have access to and use the measure.

[e] Measure was designed for use in HBCC and in at least one other setting.

[f] Upon reviewing the ECCD QLE, reviewers decided it is not fully developed for inclusion in this review. It is not included in this review or in the sample size of 31.

CCEE = child care and early education; HBCC = home-based child care; K–12 = schooling in kindergarten to 12th grade.

Exhibit II.3b. Sets of indicators included in review

Set of indicators	Provider type differentiation[a]	Setting designed for use[b]
State or local QRIS		
Alabama (Quality STARS)	Same	Multiple care settings
Alaska (Learn & Grow)	Same	Multiple care settings
Arizona (Quality First)	Some overlap	HBCC only
Arkansas (Better Beginnings)	Some overlap	HBCC only
California (Quality Counts California)	Some overlap	HBCC only
Colorado (Colorado Shines)	Some overlap	HBCC only
Delaware (Stars for Early Success)	Some overlap	HBCC only
District of Columbia (Capital Quality)	Different	HBCC only
Florida–Duval County (Guiding Stars of Duval)	Same	Multiple care settings
Florida–Palm Beach County (Strong Minds)	Same	Multiple care settings
Georgia (Quality Rated)	Same	Multiple care settings
Idaho (Steps to Quality)	Same	Multiple care settings

Set of indicators	Provider type differentiation[a]	Setting designed for use[b]
Illinois (ExceleRate Illinois)	Some overlap	HBCC only
Indiana (Paths to QUALITY)	Some overlap	HBCC only
Iowa (Iowa's Quality Rating System)	Some overlap	HBCC only
Kentucky (Kentucky All STARS)	Same	Multiple care settings
Maine (Quality for ME)	Some overlap	HBCC only
Maryland (Maryland EXCELS)	Same	Multiple care settings
Massachusetts (MA QRIS)	Some overlap	Multiple care settings
Michigan (Great Start to Quality)	Some overlap	HBCC only
Minnesota (Parent Aware)	Same	Multiple care settings
Montana (Best Beginnings STARS to Quality)	Same	Multiple care settings
Nebraska (Step Up to Quality)	Some overlap	HBCC only
Nevada (Nevada Silver State Stars QRIS)	Different	HBCC only
New Hampshire (Licensed Plus)	Some overlap	HBCC only
New Jersey (Grow NJ Kids)	Different	HBCC only
New Mexico (FOCUS on Young Children's Learning)	Different	HBCC only
New York (QUALITYstarsNY)	Different	HBCC only
North Carolina (Star Rated License System)	Different	HBCC only
North Dakota (Bright & Early ND)	Same	Multiple care settings
Ohio (Step Up To Quality)	Some overlap	Multiple care settings
Oklahoma (Reaching for the Stars)	Different	HBCC only
Oregon (Spark)	Different	HBCC only
Pennsylvania (Keystone STARS)	Some overlap	Multiple care settings
Rhode Island (BrightStars)	Different	HBCC only
Tennessee (Tennessee Report Card and Rated Licensing System)[c]	Different	HBCC only
Texas (Texas Rising Star)	Some overlap	Multiple care settings
Vermont (STARS)	Same	Multiple care settings
Virginia (Virginia Quality)	Some overlap	HBCC only
Washington (Early Achievers)	Same	Multiple care settings
Wisconsin (YoungStar)	Different	HBCC only
National standards		
Head Start Program Performance Standards	n.a.	Multiple care settings
National Accreditation Commission (NAC) for Early Care and Education Programs Accreditation Standards	n.a.	Multiple care settings
National AfterSchool Association (NAA) Standards	n.a.	Multiple care settings
National Association for the Education of Young Children (NAEYC) Early Learning Standards and Accreditation Criteria	n.a.	Multiple care settings
National Association for Family Child Care (NAFCC) Accreditation Quality Standards	n.a.	HBCC only
National Early Childhood Program Accreditation (NECPA) Standards	n.a.	Multiple care settings

[a] "Provider type differentiation" indicates whether the indicators differ for HBCC providers compared with center-based providers. Indicators might be the same, be different, or have some overlap.

[b] "Setting designed for use" indicates the setting in which the indicators were originally designed to be used. Indicators might have been designed for use in HBCC only or in multiple care settings (including HBCC and center based).

[c] Tennessee's indicators are not publicly available; we were unable to obtain them after multiple requests. They are not included in this review or in the sample size of 46.

HBCC = home-based child care; n.a. = not applicable; QRIS = Quality Rating and Improvement System.

E. Approach to conducting the measures and indicators reviews

For the final list of measures and indicators we fully reviewed, a team of trained reviewers populated a spreadsheet with the data elements defined in Exhibits II.4a and II.4b. For measures, we relied primarily on the instruments and associated technical documentation, as well as published journal articles. For indicators, we first noted the information found in the BUILD Quality Compendium. We then reviewed the documentation directly from states and associations on standards and associated indicators. While completing the spreadsheet, we also completed a more detailed profile of each measure and set of indicators in the compendium (Doran et al. 2022).

To fully understand the measures and indicators reviewed, we set a low threshold for stating whether a measure or indicator assesses a feature of the draft conceptual framework. Therefore, stating that a measure or indicator assesses a given feature does not necessarily indicate it measures the feature well or thoroughly.

After reviewing each measure or set of indicators, we summarized the strengths and limitations using the following criteria. For measures or sets of indicators, key strengths or limitations we considered and described in the profiles include whether the measure or set of indicators (1) has more than five quality features from the draft HBCCSQ conceptual framework; (2) assesses quality features identified by the literature review as implemented differently or more likely to occur in HBCC than in other CCEE settings; (3) assesses quality features that are weakly assessed or not included in other measures or sets of indicators; (4) was designed for HBCC settings; (5) has been used in HBCC settings; (6) has adequate reliability in HBCC settings; (7) has evidence of validity in HBCC settings; (8) is linked to a quality improvement program, such as coaching, or has inadequate documentation for training and administration; and (9) is inexpensive or expensive to implement. We also looked for other strengths and limitations, including ones that were more specific to each measure or set of indicators.

The project's research and practice experts provided input on the draft conceptual framework and literature review. Based on their input, we identified several constructs that are seldom measured or poorly measured (for example, support for positive racial and self-identity) but had not been included in the draft conceptual framework. We reviewed one additional measure from a study in the project's literature review (Caregiver Experience of Ethnic-Racial Socialization). This measure addresses an area experts identified as a gap and has been used in HBCC. However, we did not search more broadly for measures of ethnic-racial socialization. We also reviewed the measures and indicator profiles to identify whether aspects of those constructs are reflected in the features and inputs in this review. We discuss the related gaps in measurement in Chapter IV.

Exhibit II.4a. Key dimensions summarized for each quality measure

Key dimensions	Response categories and information required
Purpose and context	
Purpose of measure	• Research • Monitoring (including accountability and reporting) • Quality improvement (including formative evaluation, goal setting, and professional development)
Supports associated with measure (to support quality improvement)	• Training • Coaching • Manual • Written guides • Other
Field of development	• Types of settings for which the measure was developed: – Child care and early education – HBCC (family child care [FCC] providers; family, friend, and neighbor [FFN] providers; relative providers, including grandparents) – Center-based CCEE – Other care and education (specify parenting, after-school care, out-of-school care, K–12 education) – Other disciplines (specify sociology, psychology, management/business, other caregiving/social service professions, such as nursing, foster care)
Field of use	• Types of settings in which the measure has been used, when available (see list above)
HBCC settings	• Prior use in HBCC: – FCC providers – FFN providers – Relative providers (including grandparents)
Key considerations for HBCC	• If a non-HBCC measure: – Level of adaptation needed for use in HBCC setting – Specific concerns or issues with use for HBCC
Measure version	• Whether measure has any previous versions
Content: Elements and related constructs that align with the HBCCSQ draft conceptual framework	
Measure subscales and content	• Brief narrative description of measure subscales or other elements related to structure
Alignment of indicator with quality components from HBCCSQ draft conceptual framework: Home setting and learning environments Provider–child relationships Provider–family relationships Conditions for operations and sustainability	• For each of the quality features under these HBCCSQ quality components (Exhibit II.1), note if and how the measure assesses this quality feature (if yes, the first column will indicate whether it is part of the overall scale, a distinct subscale, or the number of individual items). • When it is a distinct scale or individual items, the scale name or item numbers is listed in the next column.

Key dimensions	Response categories and information required
Provider characteristics Neighborhood characteristics	• For each characteristic under the HBCCSQ contextual component, note if and how the measure assesses these characteristics (if yes, whether part of overall scale, distinct subscale, or number of individual items). • When it is a distinct scale or individual items, the scale name or item numbers is listed in the next column.
Administration characteristics	
Respondent(s)	• Provider (director) • Provider (teacher) • Parent • Trained observer • Other (specify type of role)
Level of measure	• Site (home for HBCC, center for other CCEE, school for K–12) • Classroom (if CCEE or K–12) • Individual (HBCC provider, center-based teacher)
Data collection methods	• Self-report (self-administered survey, interview, computer-assisted survey) • Report from others (parents, network professional development provider) • Direct observation • Document review • Checklist • Rating or rubric • Other (specify)
Usability	• Technology or app • Software needed to score • Training • Administrator qualifications • Other support or limitations (specify)
Time/length	• Number of minutes to administer • Number of items or rubrics
Languages available	• English, Spanish, and list of any other languages
Scoring and interpretability	• Describe how measure is scored and interpreted

Key dimensions	Response categories and information required
Technical information	
Development sample	
Setting(s)	• HBCC provider • CCEE center • School • Other • If HBCC provider, describe setting characteristics: FCC, group size, FFN, grandparent, relative, location of care
Participants	• Sample size • Characteristics: – Age range of children in setting – Education of provider or teacher – Languages spoken – Race/ethnicity – Care for children with disabilities – Income or other indicators of socioeconomic status
Locale	• Nation • Region and/or state • Urbanicity
Year of development	• Year of data collection used to establish properties and assess performance of current version of measure
Measure performance	
Reliability	• Overview rating for internal consistency: 1 (none described), 2 (all or mostly under minimum acceptability ratings—0.70), or 3 (meets minimum acceptability ratings—0.70) • Types of evidence: – Internal consistency reliability – Alternate form reliability – Test-retest reliability (stability with length of time between administrations indicated) – Generalizability (G-coefficient) – Inter-rater reliability (as applicable)
Validity	• Overview rating for content validity: 1 (none described), 2 (expert reviewed or research based), or 3 (expert reviewed and research evidence-based) • Types of evidence: – Construct validity – Convergent/discriminant validity ○ Concurrent validity ○ Predictive validity

Key dimensions	Response categories and information required
Availability	
Level of permission required	• Public domain • Published source, contact author(s) about permission requirements • Permission required from developer, no known costs • Permission required, with costs • Unpublished (used with author permission)
Whether measure has costs	• Costs associated with materials, training, or scoring
Publisher or training source	• Name • Phone • Web address
Appropriateness for HBCC	
Strengths[a]	• Rate few (<2), some (2–3), or many (>3) • Add description of strengths in profile
Limitations[b]	• Rate few (<2), some (2–3), or many (>3) • Add description of limitations in profile

[a] We categorize a measure's number of strengths after assigning one point for each of the following characteristics: (1) has more than five quality features from the draft HBCCSQ conceptual framework; (2) assesses quality features identified by the literature review as implemented differently or more likely to occur in HBCC than in other CCEE settings; (3) assesses quality features that are weakly assessed or not included in other measures; (4) was designed for HBCC settings; (5) has been used in HBCC settings; (6) has adequate reliability in HBCC settings; (7) has evidence of validity in HBCC settings; (8) is linked to a quality improvement program, such as coaching; (9) is inexpensive to implement; (10) has another strength.

[b] We categorize a measure's number of limitations after assigning one point for each of the following characteristics: (1) assesses only a few features in a burdensome way; (2) excludes quality features that might be implemented differently or are more likely to occur in HBCC than in other CCEE settings; (3) has not been used in HBCC settings; (4) does not have any evidence of reliability; (5) does not have any evidence of validity; (6) has inadequate documentation for training and administration; (7) is expensive to implement; (8) has another limitation.

CCEE = child care and early education; FCC = family child care; FFN = family, friend, and neighbor care; HBCC = home-based child care; HBCCSQ = Home-Based Child Care Supply and Quality.

Exhibit II.4b. Key dimensions summarized for each set of indicators

Key dimensions	Response categories and information required
Characteristics of QRIS or other source in which indicators are used	
HBCC status	• HBCC pilot status (completed, in progress, no pilot) • If completed or in progress: pilot dates • Year HBCC introduced • Revision date(s)
Differentiated by provider type	• Center and HBCC indicators are: same, most overlap, some overlap, different, n.a.
HBCC provider types included	• Family child care (FCC) providers • Family, friend, and neighbor (FFN) providers • If FFN: describe if all, only those receiving subsidies, only relatives, and so on, are included • Providers with nontraditional hours

Key dimensions	Response categories and information required
Participation requirements	• Voluntary • Mandatory • Mandatory for certain types of providers (such as those receiving subsidies) • Automatic enrollment in first level • If mandatory for some: – Programs with children receiving Child Care and Development Fund (CCDF) subsidies – Programs receiving state pre-K funding – Programs receiving Head Start or Early Head Start funding – Programs with children receiving other funding (Individuals with Disabilities Education Act (IDEA), other state programs, and so on)
Setting	• Designed for use in HBCC • Designed for use in multiple CCEE settings
QRIS ratings for HBCC providers	• Structure: – Block – Points – Hybrid • Number of levels
Alternative pathways	• Describe whether there are alternative pathways for HBCC providers to meet the requirements (for example, accreditation)
Processes for assessing and supporting providers	
Supports to prepare for rating process	• Fees paid • Materials provided • Training (including self-assessment training) • Consultation • Coaching • Financial supports • Other
Assessors	• Description of qualifications and training of assessors
Validity	• Types of validity evidence (include coefficients, if available); enter additional information in profile
Reliability	• Types of reliability evidence (include coefficients, if available); enter additional information in profile
Source for psychometric information	• Web address and/or brief citation; full reference in profile
QRIS appropriateness for HBCC	
Strengths[a]	• Rate few (<2), some (2–3), or many (>3) • Add description of strengths in profile
Limitations[b]	• Rate few (<3), some (3–5), or many (>5) • Add description of limitations in profile

Key dimensions	Response categories and information required
Indicator characteristics	
Indicator information	• Name of indicator, description, and source/reference
Alignment of indicator with quality components from HBCCSQ draft conceptual framework: Home setting and learning environments Provider–child relationships Provider–family relationships Conditions for operations and sustainability	• Note whether any measures are used (FCCERS, CLASS, FPTRQ, and so on); if so, we used the information from that measure's entry in the measures spreadsheet for this section • For each quality feature under the HBCCSQ quality component: how indicator(s) measures this construct (if yes: part of overall scale [across levels], distinct subscale or block, or number of individual items)
Alignment of indicator with contextual components from HBCCSQ draft conceptual framework: Provider characteristics[c] Neighborhood characteristics	• For each characteristic under the HBCCSQ contextual component: how indicator(s) measures this characteristic (if yes: part of overall scale [across levels], distinct subscale or block, or number of individual items)
Methods for assessing ratings on indicators	• Self-report • Report from others • Direct observation • Document review • Checklist • Rating or rubric • Training • Other (specify)

[a] We categorize the number of strengths for a set of indicators after assigning one point for each of the following characteristics: (1) has more than five quality features from the draft HBCCSQ conceptual framework; (2) assesses quality features identified by the literature review as implemented differently or more likely to occur in HBCC than in other CCEE settings; (3) assesses quality features that are weakly assessed or not included in other sets of indicators; (4) was designed for HBCC settings; (5) has been used in HBCC settings; (6) has adequate reliability in HBCC settings; (7) has evidence of validity in HBCC settings; (8) is linked to a quality improvement program, such as coaching; (9) is inexpensive to implement; (10) has another strength.

[b] We categorize the number of limitations for a set of indicators after assigning one point for each of the following characteristics: (1) assesses only a few features in a burdensome way; (2) excludes HBCC quality features that might be implemented differently or are more likely to occur in HBCC than in other CCEE settings; (3) has not been used in HBCC settings; (4) does not have any evidence of reliability; (5) does not have any evidence of validity; (6) has inadequate documentation for training and administration; (7) is expensive to implement; (8) has another limitation.

[c] We did not review the motivation, identity, and beliefs features or the health and well-being features for alignment of indicators with contextual components from the HBCCSQ draft conceptual framework.

CLASS = Classroom Assessment Scoring System; CCEE = child care and early education; FCCERS = Family Child Care Environment Rating Scale®; FPTRQ = Family and Provider/Teacher Relationship Quality Measures; HBCC = home-based child care; HBCCSQ = Home-Based Child Care Supply and Quality; n.a. = not applicable; QRIS = Quality Rating and Improvement System.

Assessing reliability and validity. This review focused on alignment with the draft conceptual framework and reviewing available documentation of reliability and validity. This information is important to ensure that measures (1) produce a similar result with the same level of consistency each time they are administered (reliable/stable); (2) include items that are related to indicators of the construct (internal consistency); and (3) accurately represent the constructs of interest the measure purports to assess (for example, support for children's language use)—that is, the results from the measure are valid representations of that construct for the sample that is being assessed. In the context of HBCC, the measures should be valid for the

characteristics of HBCC being assessed (for example, rural as well as varied levels of urbanicity in HBCC settings, or providers serving various cultural, racial, ethnic, or linguistic groups or different ages). The measures should also be valid for the home-based setting in which care is provided (compared with, for example, CCEE provided in center-based settings). Most HBCC measures and some sets of QRIS indicators include acceptable reliability evidence. However, the HBCC measures reviewed had limited evidence of validity, typically including studies only with licensed providers, and most were focused on HBCC serving preschool children. Among the QRIS indicators, few had evidence of validity for HBCC settings. We describe findings on validity across measures and sets of indicators in Chapter III.

Measures with low reliability estimates might have greater error and not be sensitive to change (for example, something other than the construct of interest might influence change or lack of change in ratings) or might result in biased results (for example, a measure might include characteristics important only for urban areas and systematically rate providers in rural settings less positively). Measures that lack evidence of validity might lead to incorrect interpretations of the findings. We therefore treated reliability and validity as key strengths or limitations when reviewing measures and indicators (Boller et al. 2010).

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III. Summary of Findings

In this section, we highlight key features and gaps, as well as strengths and limitations of existing quality measures and indicators.

A. Measures

Key features[2] and gaps across quality measures. Exhibit III.1 shows key features and gaps across measures of quality. For each component of the draft conceptual framework, we indicate whether the measures include at least one feature of the component. None of the measures address all the components. Taken together, these 31 measures address all content areas of the draft conceptual framework, but not necessarily all age groups (for example, most focus on care for children before school age); the 31 measures also do not address all characteristics of HBCC (for example, the measures do not examine characteristics of care by FFN providers or care during nontraditional hours as frequently or thoroughly). The majority of measures include some assessment of home setting and learning environment, as well as provider–child relationships. Fewer measures include assessment of family–provider relationships or conditions for operations and sustainability. Regarding the context and inputs to quality, about half of measures examined provider characteristics, and only two separate measures assessed neighborhood characteristics.

[2] Key features are those identified in the draft conceptual framework and preliminary findings from the literature review.

Exhibit III.1. Conceptual framework elements and gaps for measures included in review

Measures (n = 31)	HBCCSQ conceptual framework element					
	Home setting and learning environments	Provider–child relationships	Provider–family relationships	Conditions for operations and sustainability	Provider characteristics	Neighborhood characteristics
Business Administration Scale for Family Child Care, 2nd Edition (BAS)			✓	✓	✓	
Caregiver Experience of Ethnic-Racial Socialization (CERS)		✓			✓	
Child Care Assessment Tool for Relatives (CCAT-R)	✓	✓	✓	✓	✓	
Child Care Ecology Inventory (CCEI)	✓	✓				
Child Care HOME Inventories (CC-HOME)	✓	✓				
Child Development Program Evaluation Scale (CDPES)	✓	✓	✓		✓	
Child/Home Early Language & Literacy Observation (CHELLO)	✓	✓	✓			
Child-Caregiver Interaction Scale, Revised Edition (CCIS)	✓	✓	✓			
Collective Efficacy Scale						✓
Early Childhood Quality Improvement Pathway System (EQuiPS)	✓	✓	✓	✓		
Environment and Policy Assessment and Observation for Family Child Care Homes (EPAO-FCCH)	✓	✓	✓		✓	
Family and Provider/Teacher Relationship Quality Measures (FPTRQ)	✓		✓		✓	
Family Child Care Environment Rating Scale®, Third Edition (FCCERS-3)	✓	✓				
Family Child Care Observations (FCCO)	✓	✓				
Family Child Care Program Quality Assessment (FCC PQA)	✓	✓				
Global Guidelines Assessment for Early Childhood Education and Care, Third Edition (ACEI GGA)	✓	✓	✓		✓	
Measure of Early Learning Environments (MELE)	✓	✓		✓	✓	
Midwest Child Care Assets Index (MCCAI)	✓			✓	✓	

Measures (n = 31)	HBCCSQ conceptual framework element					
	Home setting and learning environments	Provider–child relationships	Provider–family relationships	Conditions for operations and sustainability	Provider characteristics	Neighborhood characteristics
National Survey of Early Care and Education Home-Based Provider (NSECE HBCC) Questionnaire	✓	✓	✓	✓	✓	
Parent–Caregiver Relationship Scale (PCRS)		✓	✓			
Perceived Neighborhood Disorder Scale						✓
Program for Infant/Toddler Care Program Assessment Rating Scale (PITC PARS)	✓	✓	✓	✓	✓	
Quality of Care for Infants and Toddlers (QCIT; formerly Quality of Caregiver–Child Interactions for Infants and Toddlers (Q-CCIIT))	✓	✓				
Quality of Early Childhood Care Settings (QUEST)	✓	✓				
Quality Seal	✓	✓	✓	✓		
School-Age and Youth Program Quality Assessments® (School-Age PQA and Youth PQA)	✓	✓	✓	✓	✓	
Self-Efficacy on Business Management Knowledge and Skills					✓	
Self-Efficacy on Professional Entrepreneurship					✓	
Strengths-Based Practices Inventory (SBPI)	✓		✓			
Strengthening Families Self-Assessment for Family Child Care Providers	✓	✓	✓	✓	✓	
Work-Child Care Fit—Provider Telephone Questionnaire	✓	✓	✓	✓	✓	
Total	**24**	**23**	**17**	**11**	**16**	**2**

HBCCSQ = Home-Based Child Care Supply and Quality.

Exhibit III.1 presents a broad picture of gaps in measurement of the features and contextual factors in the draft conceptual framework. These gaps are even more notable when viewed by the features within each component (Exhibits III.2a–III.2e). We define a gap as features with five or fewer measures.[3] In examining provider characteristics, measures of quality do not typically include measurement of well-being, although measures of stress and other mental health areas are abundant and could inform inclusion of some items. Our review has identified the following gaps within each component and within provider characteristics:

Home setting and learning environments

- Hours of operation
- Family-like setting
- Routines
- Support for diversity and individualizing

Provider–child relationships[4]

- Support for mixed-age peer interactions
- Close child–child relationships
- Continuity of care

Provider–family relationships

- Trust
- Flexibility
- Facilitating and connecting child care patchwork for families
- Helping parents with non-child-care tasks

Conditions for operations and sustainability

- Working alone, isolation
- Work-family balance
- Family support for caregiver
- Managing multiple roles in the home

[3] We used five or fewer measures to identify gaps. Often, the characteristics with fewer measures were limited in how they assessed that characteristic. For example, the number of items that assessed a particular characteristic was sometimes only one item or a part of one item. In such cases, even though there are multiple measures with at least one item assessing a particular feature, the feature might not be strongly measured.

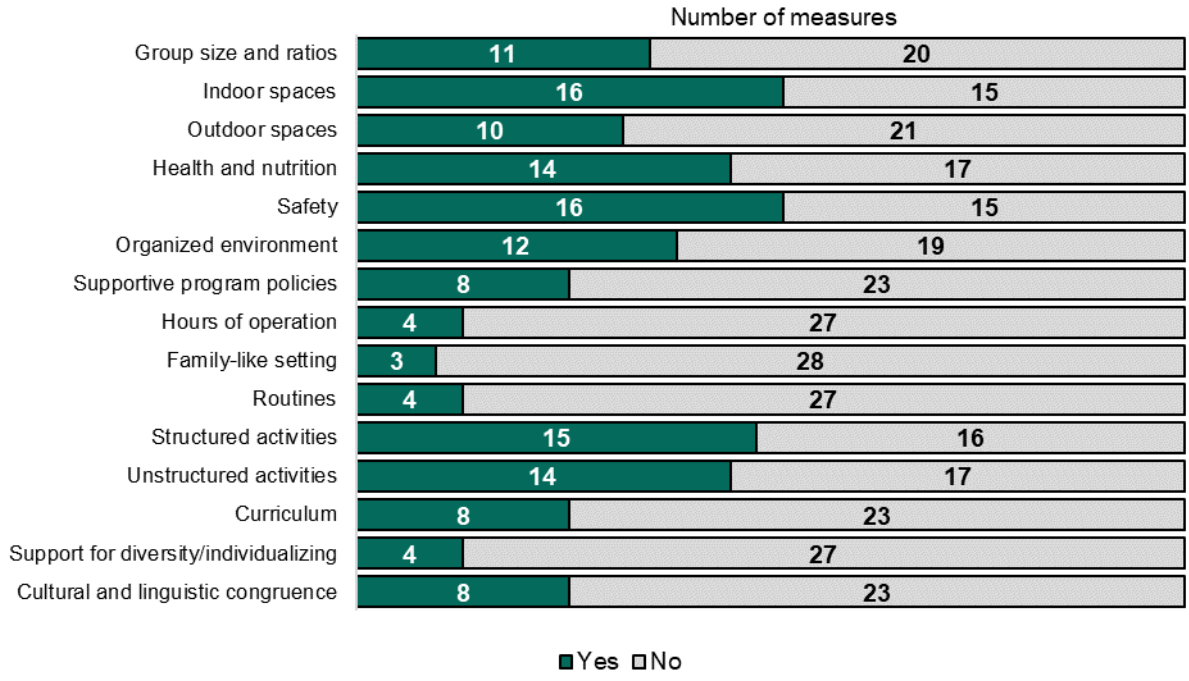
[4] Only one measure (Caregiver Experience of Ethnic-Racial Socialization) assesses support for positive racial and self-identity, which was not included in the draft conceptual framework at the time of this review.

Provider characteristics[5]

- Motivation for providing care
- Professional identity
- Caregiving beliefs
- Psychological health
- Physical health
- Economic well-being

We do not include the neighborhood characteristics component in these exhibits because only two measures—the Collective Efficacy Scale and the Perceived Neighborhood Disorder Scale—address aspects of this concept. Both measures examine the "social cohesion among neighbors" aspect. The Perceived Neighborhood Disorder Scale also measures safety characteristics: the "litter and pollution" and "crime/abandoned housing" aspects.

Exhibit III.2a. Gaps in measures for features of home setting and learning environments

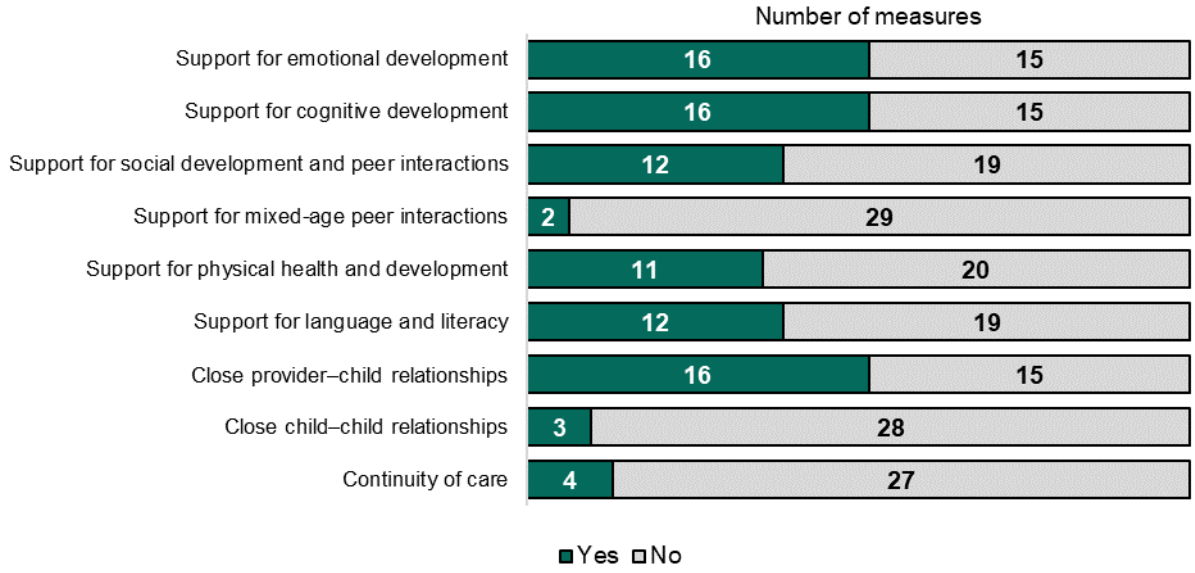


Notes: The total number of measures (n = 31) represents the measures we fully reviewed (Exhibit III.1). Green shading represents the number of measures with at least one item assessing each feature of quality, whereas grey shading represents the number of measures that do not assess each feature of quality.

We added the "support for diversity and individualizing" feature to differentiate from the "cultural and linguistic congruence" feature. Although measures with this feature are responsive to cultural and linguistic differences, they do not address congruence.

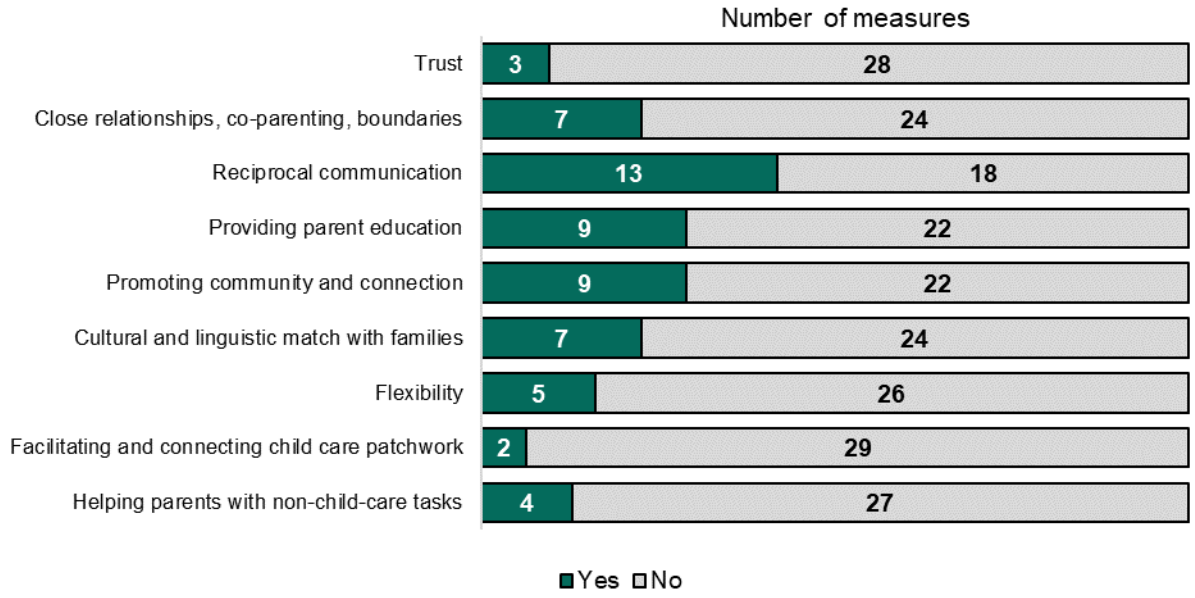
[5] Only one measure (Caregiver Experience of Ethnic-Racial Socialization) assesses racial, ethnic, and linguistic identity, which was not included in the draft conceptual framework at the time of this review.

Exhibit III.2b. Gaps in measures for features of provider–child relationships



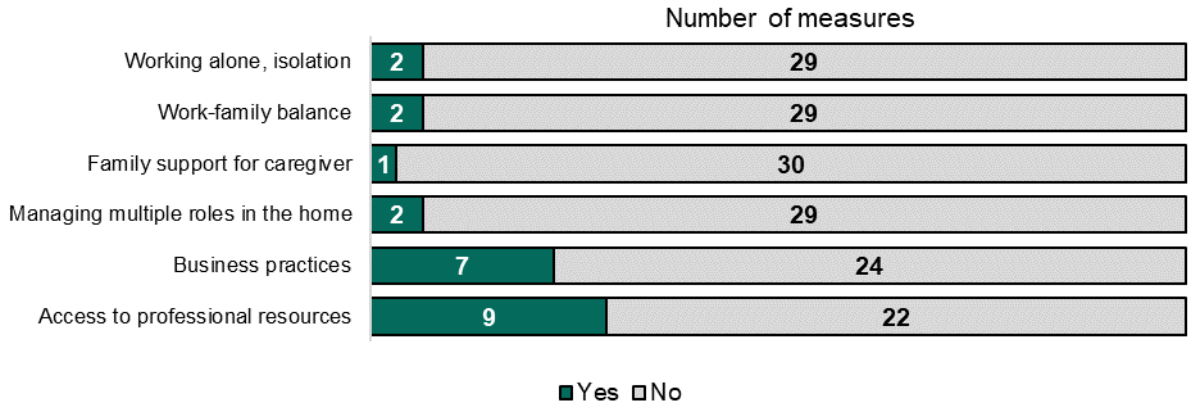
Note: The total number of measures (n = 31) represents the measures we fully reviewed (Exhibit III.1). Green shading represents the number of measures with at least one item assessing each feature of quality, whereas grey shading represents the number of measures that do not assess each feature of quality.

Exhibit III.2c. Gaps in measures for features of provider–family relationships



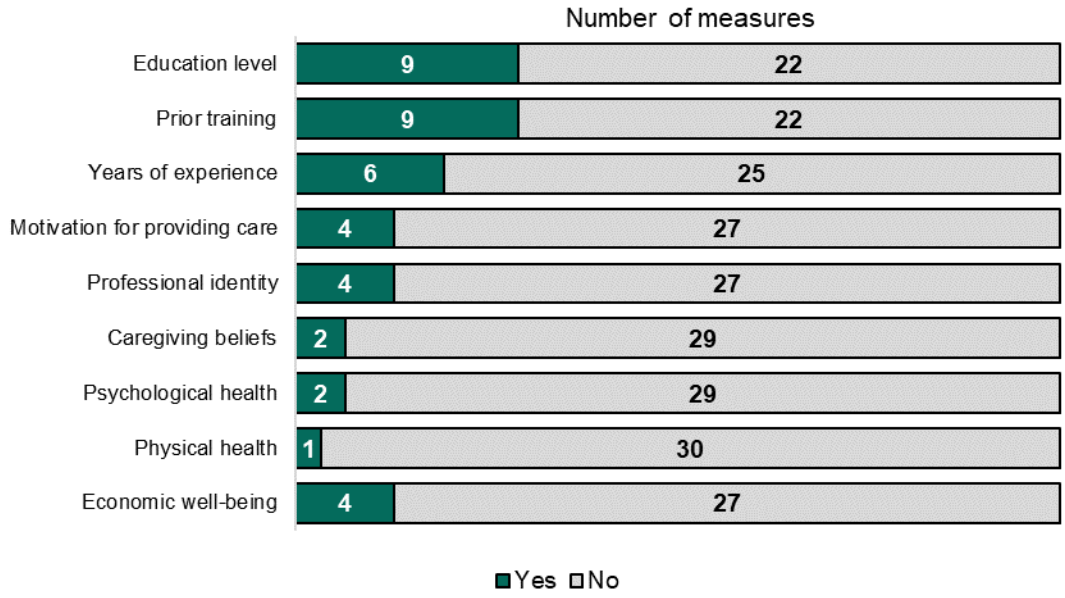
Note: The total number of measures (n = 31) represents the measures we fully reviewed (Exhibit III.1). Green shading represents the number of measures with at least one item assessing each feature of quality, whereas grey shading represents the number of measures that do not assess each feature of quality.

Exhibit III.2d. Gaps in measures for features of conditions for operations and sustainability



Note: The total number of measures (n = 31) represents the measures we fully reviewed (Exhibit III.1). Green shading represents the number of measures with at least one item assessing each feature of quality, whereas grey shading represents the number of measures that do not assess each feature of quality.

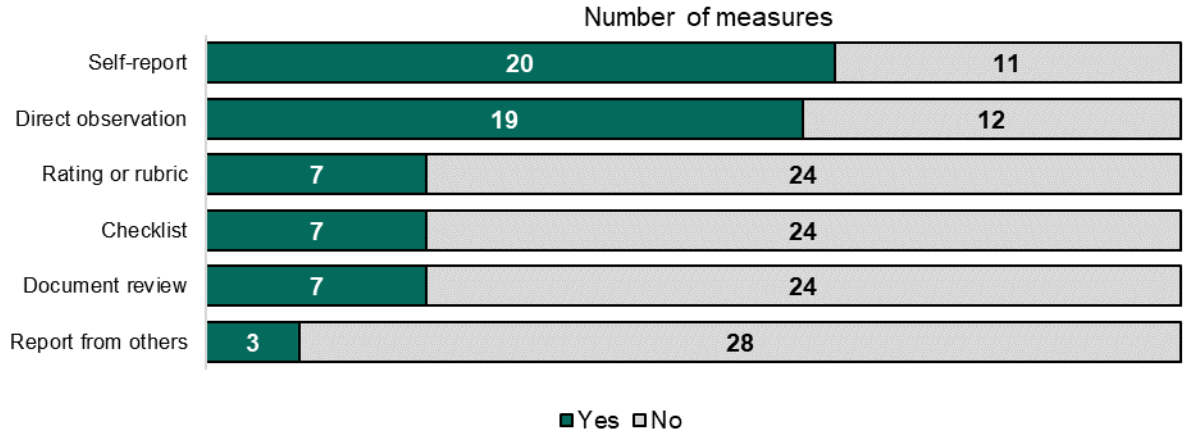
Exhibit III.2e. Gaps in measures for provider characteristics



Note: The total number of measures (n = 31) represents the measures we fully reviewed (Exhibit III.1). Green shading represents the number of measures with at least one item assessing each input to quality, whereas grey shading represents the number of measures that do not assess each input to quality.

Supports and data collection methods. Nearly all measures were designed for use in research (30), whereas almost half were designed for use in monitoring (14) and two-thirds for use in quality improvement (18). Measures primarily collect data using self-report and direct observation methods (Exhibit III.3). Most measures feature at least some type of support for data collection: about half (17) include a training, and almost half (14) include a manual or written guide.

Exhibit III.3. Data collection methods for measures



Note: The total number of measures (n = 31) represents the measures we fully reviewed (Exhibit III.1). Green shading represents the number of measures using each type of data collection method, whereas grey shading represents the number of measures not using each type of method.

Reliability and validity. Most measures (21 of 31) met the criterion for minimum acceptability of reliability (internal consistency, measured by Cronbach's alpha of at least 0.70). Seven measures did not have any reliability documentation, and three had information but did not meet the criterion for minimum acceptability of reliability. Few measures documented test-retest reliability, generalizability, or inter-rater reliability;[6] those that did so met standards for minimum acceptability (at least 0.70).

We assessed content validity using three categories: none described, either expert review or evidence-based research, and both expert review and evidence-based research. Ten measures did not describe content validity, 12 measures described either expert review or evidence-based research, and 9 described both. We also searched for evidence of other types of validity (for example, concurrent and predictive validity evidence). Twenty measures described some evidence supporting the measure's concurrent validity, including significant correlations to other, related, measures designed for use in HBCC. Five measures have demonstrated sensitivity to change in relation to an intervention, but only one measure described evidence of predictive validity.

[6] Test-retest reliability provides information about how stable the measure results are across a brief time period (usually within a week or two for classroom observations). Inter-rater reliability indicates whether two or more raters would rate quality at the same level on the measure. Generalizability examines potential sources of error in measurement (for example, time samples, raters, and items) to inform whether and how the reliability of a measure could be improved.

Overall strengths. The average measure includes 12 features from the draft conceptual framework. Most (22) of the measures were designed specifically for use in HBCC, which signals appropriateness for use in the setting. Twelve of these 22 measures were designed only for HBCC and the other 10 measures were designed for HBCC and at least one other setting. All 31 of the measures we reviewed assessed at least one quality feature or context or input to quality that is missing or weak in other measures (defined as being assessed by five or fewer measures, as listed earlier in this section) or captured at least one feature or provider input more likely to occur or to be implemented differently in HBCC settings (as listed in Exhibit II.1). The reported psychometric evidence is acceptable for most measures—at least one type of evidence available that meets reliability or validity standards. However, the evidence often depends on the full measure, rather than the items or scale that assess a particular component or feature in the measure.

Overall limitations. Training for administering the measures was available for most of them; however, 11 measures did not provide adequate training or administrative information. Twelve of the measures we reviewed had associated quality improvement programs, such as coaching or professional development programs to guide supports for improving quality. Given the use of some of these measures in QRISs, it is a distinctive limitation of available HBCC measures. Finally, 12 of these measures included costs. Although associated costs of the measures generally were low (less than $100), the costs for training and certification generally were high (in some cases more than $1,000).

B. Indicators

Key features and gaps across sets of indicators of quality. Exhibit III.4 shows key features and gaps across sets of indicators. For each component of the draft conceptual framework, we indicate whether the set of indicators includes at least one feature of the component. Four of the states and two of the national standards include indicators for each of the six components. Many include indicators for all components except neighborhood characteristics. The majority of these sets include home setting and learning environments, provider–child and provider–family relationships, conditions for operations and sustainability, and provider characteristics. Seven sets include at least one aspect of neighborhood characteristics.

Exhibit III.4. Conceptual framework elements and gaps for sets of indicators included in review

Set of indicators (n = 46)	HBCCSQ conceptual framework element					
	Home setting and learning environments	Provider–child relationships	Provider–family relationships	Conditions for operations and sustainability	Provider characteristics	Neighborhood characteristics
State or local QRIS						
Alabama (Quality STARS)	✓	✓	✓	✓	✓	
Alaska (Learn & Grow)	✓	✓			✓	
Arizona (Quality First)	✓	✓	✓	✓	✓	
Arkansas (Better Beginnings)	✓	✓	✓	✓	✓	
California (Quality Counts California)	✓	✓			✓	
Colorado (Colorado Shines)	✓	✓	✓	✓	✓	
Delaware (Stars for Early Success)	✓	✓	✓	✓	✓	✓
District of Columbia (Capital Quality)	✓	✓				
Florida–Duval County (Guiding Stars of Duval)	✓	✓		✓	✓	
Florida–Palm Beach County (Strong Minds)		✓				
Georgia (Quality Rated)	✓	✓	✓	✓	✓	
Idaho (Steps to Quality)	✓	✓	✓	✓	✓	
Illinois (ExceleRate Illinois)	✓	✓	✓	✓	✓	
Indiana (Paths to QUALITY)	✓	✓	✓	✓	✓	
Iowa (Iowa's Quality Rating System)	✓	✓	✓	✓	✓	
Kentucky (Kentucky All STARS)	✓	✓	✓	✓	✓	✓
Maine (Quality for ME)	✓	✓	✓	✓	✓	
Maryland (Maryland EXCELS)	✓	✓	✓	✓	✓	✓
Massachusetts (MA QRIS)	✓	✓	✓	✓	✓	
Michigan (Great Start to Quality)	✓	✓	✓	✓	✓	
Minnesota (Parent Aware)	✓		✓		✓	

Set of indicators (n = 46)	HBCCSQ conceptual framework element					
	Home setting and learning environments	Provider–child relationships	Provider–family relationships	Conditions for operations and sustainability	Provider characteristics	Neighborhood characteristics
Montana (Best Beginnings STARS to Quality)	✓	✓	✓	✓	✓	✓
Nebraska (Step Up to Quality)	✓	✓	✓	✓	✓	
Nevada (Nevada Silver State Stars QRIS)	✓	✓	✓	✓		
New Hampshire (Licensed Plus)	✓		✓	✓	✓	
New Jersey (Grow NJ Kids)	✓	✓	✓		✓	
New Mexico (FOCUS on Young Children's Learning)	✓	✓	✓		✓	
New York (QUALITYstarsNY)	✓	✓	✓	✓	✓	
North Carolina (Star Rated License System)	✓	✓			✓	
North Dakota (Bright & Early ND)	✓	✓				
Ohio (Step Up To Quality)	✓	✓	✓	✓	✓	
Oklahoma (Reaching for the Stars)	✓	✓	✓	✓	✓	
Oregon (Spark)	✓	✓	✓	✓	✓	
Pennsylvania (Keystone STARS)	✓	✓	✓	✓	✓	
Rhode Island (BrightStars)	✓	✓	✓		✓	
Texas (Texas Rising Star)	✓		✓	✓	✓	
Vermont (STARS)	✓		✓	✓	✓	
Virginia (Virginia Quality)	✓	✓			✓	
Washington (Early Achievers)	✓	✓	✓	✓	✓	
Wisconsin (YoungStar)	✓	✓	✓	✓	✓	
National standards						
Head Start Program Performance Standards	✓	✓	✓	✓	✓	✓
National Accreditation Commission (NAC) for Early Care and Education Programs Accreditation Standards	✓	✓	✓	✓	✓	
National AfterSchool Association (NAA) Standards	✓	✓	✓	✓	✓	

Set of indicators (n = 46)	HBCCSQ conceptual framework element					
	Home setting and learning environments	Provider–child relationships	Provider–family relationships	Conditions for operations and sustainability	Provider characteristics	Neighborhood characteristics
National Association for the Education of Young Children (NAEYC) Early Learning Standards and Accreditation Criteria	✓	✓	✓	✓	✓	✓
National Association for Family Child Care (NAFCC) Accreditation Quality Standards	✓	✓	✓	✓		✓
National Early Childhood Program Accreditation (NECPA) Standards	✓	✓	✓	✓	✓	
Total	**45**	**42**	**38**	**35**	**41**	**7**

HBCCSQ = Home-Based Child Care Supply and Quality; QRIS = Quality Rating and Improvement System.

Exhibit III.4 presents a broad picture of gaps in measurement of the features and contextual factors in the draft conceptual framework. These gaps are even more notable when viewed by the features within each component (Exhibits III.5a–III.5e). We define a gap as features with five or fewer sets of indicators. In the four components of quality, we found more gaps in indicators for provider–family relationships (four) than any other component. We found three gaps in provider–child relationships and conditions for operations and sustainability, and one gap in home setting and learning environments. Most of the sets included indicators for provider educational levels, prior training, and years of experience. Our review has identified the following gaps within each component:

Home setting and learning environments

- Family-like setting

Provider–child relationships

- Support for mixed-age peer interactions
- Close child–child relationships
- Continuity of care

Provider–family relationships

- Trust
- Close relationships, co-parenting, and boundary setting
- Flexibility
- Helping parents with non-child-care tasks

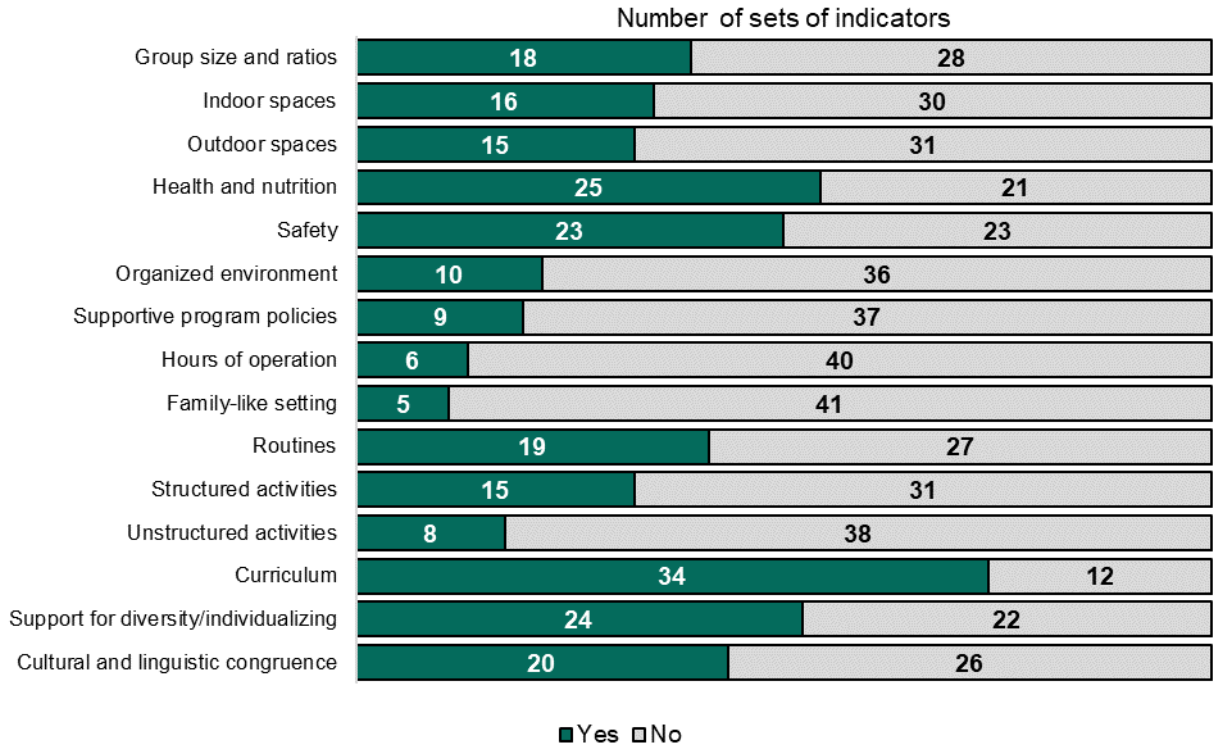
Conditions for operations and sustainability

- Working alone, isolation
- Work-family balance
- Managing multiple roles in the home

There are no identified gaps among the provider characteristics we reviewed (more than five sets of indicators include education level, prior training, and years of experience).

We do not include the neighborhood characteristics component in these exhibits because all of the aspects of this component were in fewer than five sets of indicators. Only seven sets of indicators— QRISs from Delaware, Kentucky, Maryland, and Montana; Head Start Program Performance Standards; NAEYC Early Learning Standards and Accreditation Criteria; and NAFCC Accreditation Quality Standards—include any aspects of this concept. Whereas two aspects—libraries and other community centers—were included at least three sets of indicators, the remaining neighborhood characteristics aspects were addressed by two or fewer sets of indicators.

Exhibit III.5a. Gaps in sets of indicators for features of home setting and learning environments

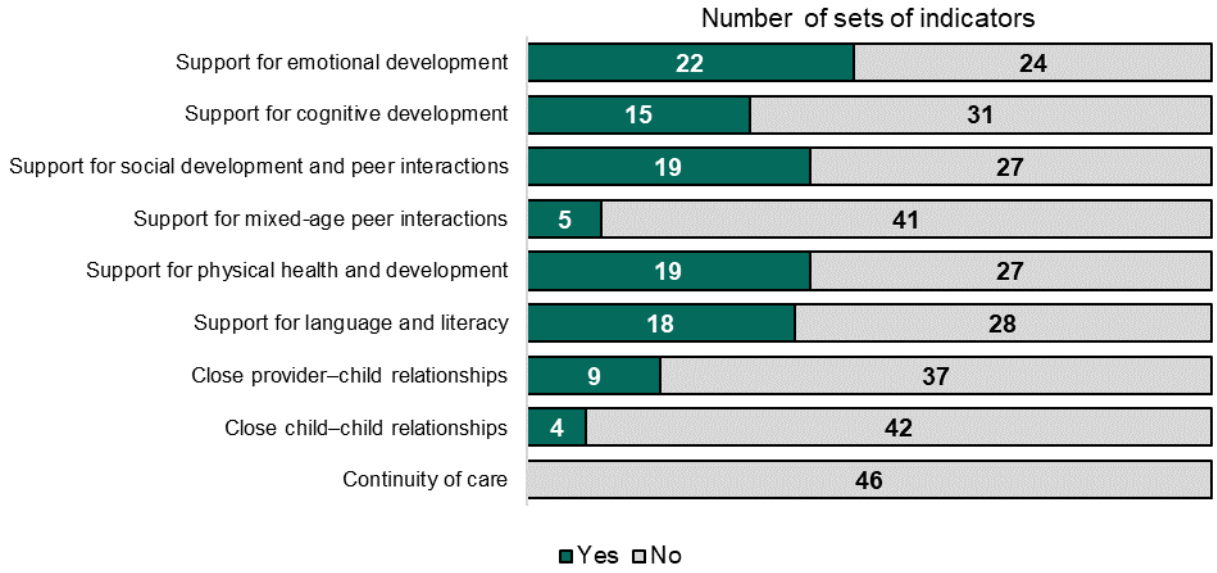


Notes: The total number of sets of indicators (n = 46) represents the sets of indicators we fully reviewed (Exhibit III.4). Green shading represents the number of sets of indicators with at least one item assessing each feature of quality, whereas grey shading represents the number of sets of indicators that do not assess each feature of quality.

States might address some of these home setting features (for example, group size and ratios) separately in licensing standards.

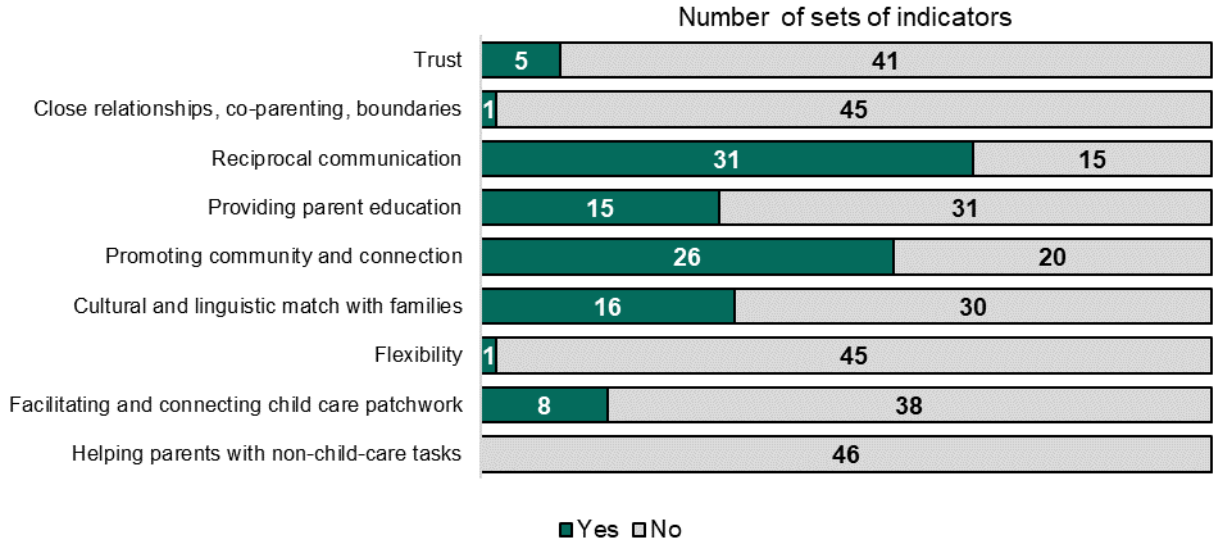
We added the "support for diversity and individualizing" feature to differentiate from the "cultural and linguistic congruence" feature. Although sets of indicators with this feature are responsive to cultural and linguistic differences, they do not address congruence.

Exhibit III.5b. Gaps in sets of indicators for features of provider–child relationships



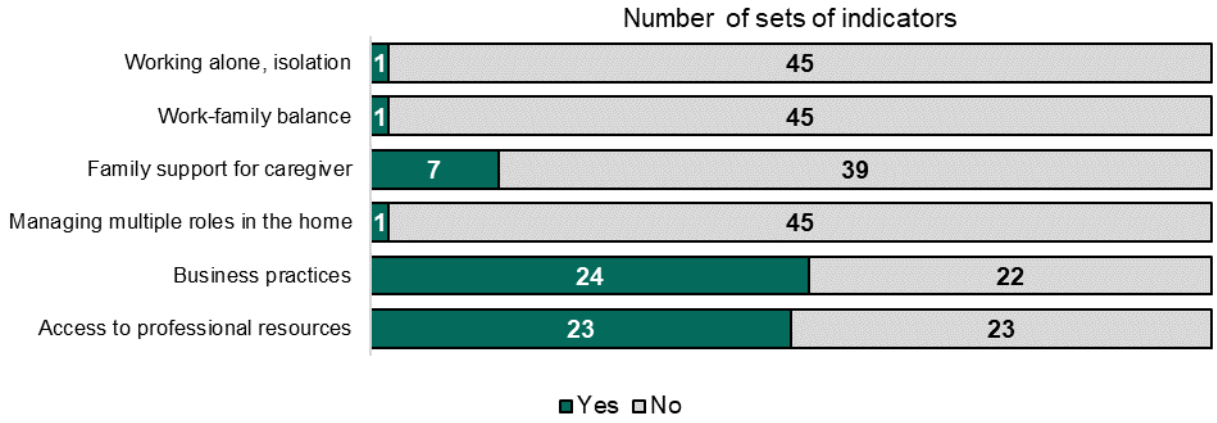
Note: The total number of sets of indicators (n = 46) represents the sets of indicators we fully reviewed (Exhibit III.4). Green shading represents the number of sets of indicators with at least one item assessing each feature of quality, whereas grey shading represents the number of sets of indicators that do not assess each feature of quality.

Exhibit III.5c. Gaps in sets of indicators for features of provider–family relationships



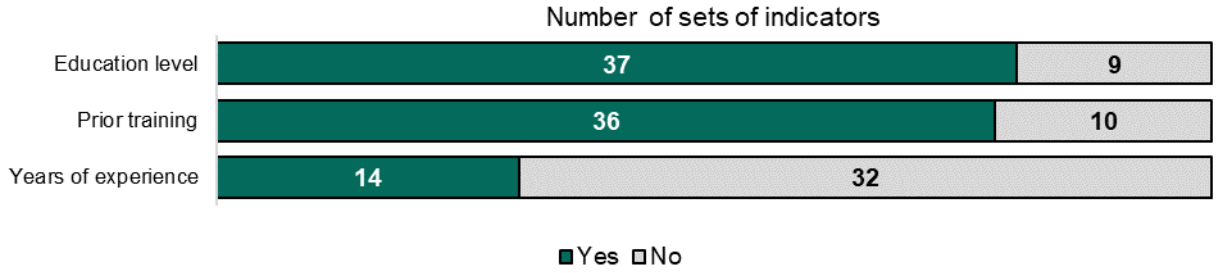
Note: The total number of sets of indicators (n = 46) represents the sets of indicators we fully reviewed (Exhibit III.4). Green shading represents the number of sets of indicators with at least one item assessing each feature of quality, whereas grey shading represents the number of sets of indicators that do not assess each feature of quality.

Exhibit III.5d. Gaps in sets of indicators for features of conditions for operations and sustainability



Note: The total number of sets of indicators (n = 46) represents the sets of indicators we fully reviewed (Exhibit III.4). Green shading represents the number of sets of indicators with at least one item assessing each feature of quality, whereas grey shading represents the number of sets of indicators that do not assess each feature of quality.

Exhibit III.5e. Gaps in sets of indicators for provider characteristics



Note: The total number of sets of indicators (n = 46) represents the sets of indicators we fully reviewed (Exhibit III.4). Green shading represents the number of sets of indicators with at least one item assessing each input to quality, whereas grey shading represents the number of sets of indicators that do not assess each input to quality.

Reliability and validity. Most sets of QRIS indicators do not include evidence on validity. Of those that do, many do not provide detailed information on the studies conducted. Therefore, there is little evidence that current sets of QRIS indicators can effectively differentiate programs at lower and higher levels of quality in HBCC settings. Half of the sets of QRIS indicators (20 of 40) provide documentation on reliability, but in the majority of cases (14), no form of QRIS rating reliability was assessed directly. Rather, 5 systems describe their protocols to ensure inter-rater reliability without assessing or reporting evidence of their efficacy, while 9 systems describe reliability for observation-based measures (such as the FCCERS) but not for assigning ratings.

In many cases (10), psychometric evidence of QRIS indicators includes only center-based providers; HBCC providers are excluded. We do not count these systems as having evidence of reliability or validity for the purposes of our review. In cases in which HBCC-specific evidence is

provided (8), validity and reliability generally meet the minimum standards outlined above for measures, but the sample is often limited in the characteristics of HBCC setting (for example, urbanicity/rurality and group size) or sample size.

Most national standards included in our review do not present associated evidence on reliability or validity. Although experts created and reviewed most of these standards, and although these experts presumably use the research base and apply their expertise when reviewing, we did not credit these standards with evidence of validity because they lacked a clear description of content validity in the standards documents.

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IV. Recommendations for Using the Measures and Indicators Included in this Review for Research and Practice in HBCC Settings

The following recommendations draw on our review of the measures and indicators and the input of our research and practice experts on the project activities and products. After reviewing all the measures and indicators, we identified several constructs that are seldom measured or poorly measured. Most measures and half of sets of indicators in this review were developed for use in HBCC, but they were based on or designed to parallel measures of center-based care. Few were developed to account for features more likely to occur or be implemented differently in HBCC settings, especially settings that are legally exempt from regulation (license-exempt) such as FFN care. Further, most of the sets of indicators we reviewed (38 of 46) have not been validated separately from center-based indicators. This project's conceptual framework, used to identify and assess measures and indicators in this review, distinguishes components of quality and provider characteristics for HBCC settings.

After initial review of the measures and indicators in this report, the project's conceptual framework evolved. The components of quality remained the same, but we moved some features to different components or considered them potential inputs to quality rather than features. Experts also recommended some additional features of quality to explore through research with measures that validly assess the key indicators across diverse subgroups of providers.

In the following sections, we discuss issues users should consider before selecting and using measures or indicators, and we present recommendations for addressing the current gaps in the measures and indicators of quality in HBCC settings. First, we discuss constructs in HBCC and dimensions of children's development that need additional measurement options. Then we discuss recommendations based on gaps in the inputs, such as work-family balance, that should be considered when measuring and researching HBCC quality.

A. Considerations for selecting and using measures and indicators.

Users should consider whether measures or indicators are missing features more likely to occur or to be implemented differently in HBCC settings and, if so, why those features are important to capture for the intended research or practice. When selecting a measure or indicator, users should consider first selecting the features of quality that they need to assess to address their question. Keep in mind that some features might be measured in ways that do not fully represent HBCC quality because those measures were not designed specifically to measure HBCC settings. Most (22) of the 31 measures reviewed were designed specifically for use in HBCC, although only about half of these (12 of 22) were designed only for HBCC; the other 10 measures were designed for HBCC and at least one other setting. Similarly, just over half (24) of the 46 sets of indicators reviewed were originally designed for use in HBCC only (as opposed to multiple care settings); however, only one-quarter (10) of the 40 sets of QRIS indicators include standards that are specific to HBCC, instead of overlapping partly or fully with standards for center-based care. Furthermore, most of these measures and indicators were adapted from existing center-based measures or indicators and apply exclusively to regulated HBCC settings. Center-based measures adapted for HBCC might under-represent or misrepresent how quality is attained in home-based settings. Center-based settings and HBCC

settings differ in important ways. For example, children in centers are typically in separate classrooms divided according to age groups. In HBCC settings, children of all ages—from infants to school age—interact with caregivers and other children throughout the day. HBCC providers often support children's interactions differently than providers do in a center-based setting. For example, arrangement of space and how providers supervise children's safety might differ. In addition, whereas centers might use a single curriculum, HBCC providers might use several resources for planning intentional learning activities that accommodate the developmental needs of children across a wide age span.

The features missing in the existing measures and indicators we reviewed that are more likely to occur or to be implemented differently in HBCC settings might be features that better meet the CCEE needs of families who use HBCC. HBCC providers serve a wide range of children and families, and HBCC has been the most common form of nonparental child care for infants and toddlers in families with low and high incomes (National Survey of Early Care and Education [NSECE] Project Team 2016). In particular, research shows families of color, those from immigrant backgrounds, those with low incomes and members working nontraditional-hour jobs, and families living in rural areas are more likely to use HBCC than they are to use center-based care (Laughlin 2013; Liu 2015; Liu and Anderson 2012; NSECE Project Team 2015; Porter et al. 2010). Given these gaps, current measures and indicators might not align with features of quality that are especially important to these families. Examples of features that might benefit all children and families include how the provider forms and maintains positive, trusting relationships with families of the children in care; the involvement and role of the provider's family members; the role of ethnic-racial socialization in children's positive identity building; and the flexibility and reciprocity that contribute to sustainability of FFN care. When selecting measures or indicators, users should pay special attention to how quality of care might be implemented for the children and families cared for by HBCC providers. More information about gaps in research on family use or preferences for HBCC are in the project's research agenda (Del Grosso et al. 2021).

Users should select measures or indicators from this review that adequately represent the features of interest for their research or practice. Under-representation of features of quality and gaps in measurement could have important implications for assessing quality and decision making about needed supports in HBCC settings. CCEE systems (such as QRIS) that use quality measures or indicators without addressing the gaps in measurement might create advantages or disadvantages for groups of HBCC providers. For example, CCEE systems that use results from existing quality measures to identify resources might disadvantage providers in rural areas without transportation access to nearby opportunities or providers who live in rental apartments and cannot make changes to their home indoor and outdoor environments. Users who are choosing measures or indicators for the purposes of CCEE policies, regulations, and strategies should consider whether under-represented features could mitigate or perpetuate income, racial, linguistic, and educational inequities that HBCC providers experience.

Efforts to assess and improve quality in HBCC should prioritize supporting providers as they work to develop and sustain high quality practices, instead of spending resources on assessment alone. We recommend basing measurement on a toolkit approach that identifies the supports needed in various HBCC settings and in various contexts and communities, including those with children from diverse backgrounds (for example, different linguistic, cultural,

and socioeconomic backgrounds and with differing family configurations). This approach would focus on HBCC-tailored supports and services instead of relying on center-based supports and services as a model.

Going forward, measure development should capture the unique strengths and characteristics of the range of HBCC providers and reflect their varied approaches to working with children and families. Researchers working on measure development should validate measures with HBCC providers in the communities where the measures will be used. For example, researchers might validate several versions of measures in Spanish and other languages in both monolingual and bilingual HBCC settings. Researchers should also consider involving providers at early stages of the measure development process. For example, researchers might solicit provider input on prioritization of constructs to measure, culturally responsive methods of implementing quality practices, terms commonly used for discussing relevant issues, how well measures reflect providers' experiences, and any areas that are important but not currently measured.

B. Recommendations for filling gaps in measuring quality

Some constructs that are important for HBCC settings are never or seldom found in measures of quality. In addition, although most HBCC measures address support for development, many are aimed toward the needs of preschool children, with few focused on infants and toddlers or children in school. These measures typically draw on aspects of development in center-based care, which do not adequately capture the unique elements or strengths of HBCC for children's development—for example, supporting family well-being by serving multiple children from the same family in the same setting. Constructs in HBCC and dimensions of children's development that need more options for measurement include:

1. Home setting and learning environments

a. Hours of operation

Many families need flexible and nontraditional hour care. To support children and families, the field needs to address how to support families who have varying needs, such as those who work shifts, on call, or extended hours. The field needs more information on how to best support families and children when routines are not predictable for families because of, for example, employer demands. The lack of predictable routines can affect the entire family. Measures are necessary to evaluate the approaches that best support children and families and are feasible for sustaining HBCC settings.

More research is needed to understand what high quality care looks like during routines and activities in nontraditional hours. Nontraditional hour care includes care provided during evening, weekend, or overnight hours. Many parents and guardians, particularly from low-income backgrounds, who work during these hours rely heavily on HBCC for child care. Although offering nontraditional hour care is not itself a feature of quality, current measures do not describe how quality looks different during these hours. It might not be appropriate to assess providers based on existing measures of quality; however, researchers could adapt existing measures to assess constructs that apply to care during these hours. An important routine during nontraditional hour care is support for healthy nighttime routines, including culturally

responsive practices to support healthy sleep hygiene. For example, high quality strategies during nighttime routines (including bath time, book sharing, or other calming activities) should be assessed separately from routines during other times of day (such as engaging children in books during a group time).

When families have alternating shifts or schedules that change from day to day, the needs of the children in care will differ in important ways from the needs of children in care during traditional times. Weekend and summer care also can add challenges for HBCC providers. We did not find any measures of care during these nontraditional times. Measure development in this area is necessary and can draw on measures of positive family life and of quality in out-of-school opportunities, such as summer camps.

b. Cultural congruence

Relatively few measures address cultural congruence or the implementation of strategies for supporting children when providers and families are culturally congruent. Cultural congruence might be particularly important for children and families who experience systemic racism or bias. Cultural congruence refers to the match in race, culture, and language between provider and children in CCEE (Bromer et al. 2021). When the HBCC provider and the children share the same culture, interactions tend to be more predictable for the children, and familiarity might decrease their stress. HBCC providers are more likely than center-based providers to come from similar cultural, racial, ethnic, and linguistic backgrounds as the children in their care (Porter et al. 2010; Shivers et al. 2016). Although cultural congruence is not feasible for all children, measures can assess any provider's ability to understand and honor cultural diversity. Measures should include strategies providers use to reflect the families' culture(s) in mutually agreeable ways. To do so, measures used in HBCC that is not culturally congruent can assess the extent to which providers try to understand families' cultural values and expectations and apply that understanding to support children's development and family functioning in ways that are culturally responsive and strengths-based. Further research is needed to understand how cultural congruence could lead to positive child outcomes and how it is related to cultural responsiveness and reciprocity.

c. Organized environment and materials

Most measures and indicators assess the way providers set up the home-based care environment for children. But they do not typically include providers' access to local community resources, including parks, libraries, walks in the neighborhood, and local visits to community gatherings, to supplement children's experiences in the home. Measures could include a tool to document a provider's knowledge and use of varied spaces that support children's development. For example, this type of tool should ensure that visits to local libraries or community storytelling activities are counted in evaluating a child's access to books.

HBCC providers' use of resources that connect children to local, rich, and culturally relevant community experiences might be associated with positive child outcomes such as stronger ethnic or racial identity, and family outcomes such as increased social connections. Any measure of use of community resources should be broad enough to capture the range of activities that HBCC providers use. For example, some providers might visit an elderly neighbor to provide children with an intergenerational experience; others might visit a

bookmobile, request thematic books for story time, or access online library resources. Still others might walk to a local park or playground or a friend's farm. Measures of quality involving community characteristics should be designed from a strengths-based perspective. Instead of measuring only the presence of community stressors or crime, as several measures included in this review do, they should measure how providers help children learn ways to safely access and use community resources. Community-level measures of community characteristics can help policymakers determine the resources needed to support or improve the quality of care of the children in a community.

2. Provider–child relationships

a. Support for emotional development and well-being

Aspects of support for emotional development and well-being that measures currently address include adult attunement, responsiveness, and respect for children. Some measures include indicators of emotional knowledge, self-regulation, proactive behavior management, and a few dimensions of trauma-informed approaches. Measures should include how providers help children develop strategies to deal with stress and trauma. Trauma-informed approaches involve understanding that children experience trauma, and providers need to respond in ways that support the physical, psychological, and emotional safety of children. Measures that include such strategies should embed them across other features of quality, including responsive relationships and predictable routines, physical exercise and activity, healthy nutrition, and sleep support. Measures can assess the provider's efforts to recognize children's cues that are signs or symptoms of trauma and individualize their responses to those cues, which might include tailored routines or collaborating with early childhood specialists. Research on quality measurement should also integrate how providers understand, experience, and respond to trauma on a community or intergenerational level.

Almost no reviewed measures and indicators assess the providers' role in children's ethnic and racial socialization. This includes the providers' role in supporting development of positive ethnic-racial identities and use of culturally responsive developmental practices as aspects of emotional development and well-being. One reviewed measure assesses FFN providers' racial socialization messages to Black children. Our research and practice experts recommended users review for measurement of this area under social-emotional development and well-being.

Research on families indicates that homes rich in ethnic-racial socialization practices and parents who use strategies to build positive racial identities contribute to positive cognitive development in children, particularly African American children (Caughy et al. 2002; Caughy and Owen 2015). Measures might be adapted from existing tools that assess how parents or K–12 teachers socialize children and help build positive racial identities, such as the Parent's Experience of Racial Socialization (PERS) scale (Stevenson 1999) or the Racial Socialization Questionnaire-Parent Version (RSQ-P). Adaptations are required to include age-appropriate strategies for home-based settings. For example, measures might need to be adapted to understand nuances between providers who are from the same culture as some—but not all—children in their care. The Assessing Classroom Sociocultural Equity Scale (ACSES; Curenton et al. 2018) is a recently developed observation tool for measuring equitable sociocultural interactions between teachers and children in CCEE classrooms (preschool through grade 3).

Researchers could explore if tools like the ACSES can be adapted and expanded for HBCC providers caring for preschool and school-age children. Additional adaptations might be needed for measuring age-appropriate interactions between providers and infants and toddlers, such as including equitable sociocultural interactions during daily routine activities (for example, feeding, diapering, napping, and play). Measures should also consider how providers interact with families in equitable ways, particularly for families with infants and toddlers (Reyes 2019). The formation of identity and biases might begin early in life as children try to understand how the social world works. Measures are needed to assess progress toward greater sociocultural equity in the earliest years.

b. Support for cognitive and language development

Quality measurement in HBCC settings should look at how providers support problem-solving strategies and share new knowledge and ideas about the world. Support for cognitive and language development in current measures of quality often rely on measurement of support for language development. Several measures include supporting language development through frequent conversation, reading and sharing books, writing, introduction to new words, and some math skills and concepts. However, quality measurement should go beyond language to consider the intentional activities and varied strategies providers use to share new knowledge, such as embedding math and science in everyday activities or using pretend play activities to build understanding of the world and develop social, language, representation, and problem-solving skills. Sometimes these intentional activities are drawn from a curriculum, but in HBCC, the range of ages might be too large to rely on a single curriculum.

Many current indicators measure use of curriculum. However, use of packaged curricula might not be relevant, accessible, or affordable for HBCC providers, especially FFN providers. Measures of quality in HBCC should consider how providers plan activities and create opportunities for interactions and activities that build children's developmental skills and broaden their knowledge and understanding of the world, with or without use of curricula. Measures should assess strategies such as assigning age-appropriate roles and tasks, building on children's interests and/or expanding awareness of ideas, use of clear expectations, and guided discovery or adult modeling. For school-age children, support might include help with schoolwork. More research is needed to understand how HBCC providers build their own informal curricula or learning opportunities, what resources are accessible to them, and how they use professional development opportunities.

Informal learning opportunities help children develop social and cognitive skills. Measures of informal learning are based on the recognition that providers can embed learning in play and everyday activities. Moreover, these learning experiences should incorporate cultural beliefs that support families and learning. For example, helping prepare a meal by following a recipe, measuring, and mixing ingredients, or doing chores such as matching socks, setting the table, or sorting and organizing toys to put away are opportunities for children to develop math, science, and literacy skills. For older children, problem-solving and understanding their world might include reading, using the Internet, doing experiments with household items, learning about simple machines such as ramps, and playing card and board games or online games that are engaging and support learning. HBCC settings might give

children more access to these opportunities (via a home kitchen, computer room, and so on) than centers do.

c. Close child–child relationships

Although most measures include support for children to develop positive, trusting relationships with adults, they are missing support for close child–child relationships. These include measurement of social skills development such as empathy, perspective taking, and social problem-solving. Measurement of this area should support providers' understanding of adult safety monitoring without interfering when children are interacting positively. Of the few measures that assess close child–child relationships, none examine how providers support interactions specifically among children from different age groups.

d. Support for mixed-age peer interactions

Support for mixed-age peer interactions is largely missing in the measures we reviewed. To assess care for children at different ages and stages of development, measures should assess how HBCC providers' employ fluid instruction and implement activities at numerous developmental levels. The same standards of child care and early education within age-limited groups of children are not realistic or appropriate in the HBCC mixed-age model. For example, measures should include how providers support older children to problem-solve when older children interact with or assist younger children, as well as how providers support younger children to contribute to more complex activities and play. In general, even when measures examine peer interactions, they do not address all dimensions of peer interactions across the age span of HBCC settings. For example, providers who care for school-age children should have knowledge about and encourage anti-bullying practices. Other features of quality, such as responsive routines and organized environment and materials, might include how the provider addresses safety and developmental needs in mixed-age settings.

Measurement of this area should also be responsive to the cultural differences between the families in care and to the age ranges of the children in care. Measurement in this area should support providers in adapting strategies that reflect the values and cultures of families regarding peer interactions. For example, families that place a higher value on community might expect older children to include younger children in activities in appropriate ways more often; other families that place a higher value on independence might expect older children to have space and time for age-appropriate activities more often. Strategies to help children solve social problems (such as sharing) should also be culturally and age appropriate.

e. Support for physical health and development

Measures on support for physical development should include availability of different types of activities and abilities. These include aerobic activities (for example, walking, jogging, dancing, and climbing stairs), children's ability to control their body in space (for example, stability, balance, and agility), and eye-hand coordination (for example, ball skills, in addition to fine motor activities such as crafts and drawing that measures currently capture). Many activities can be implemented indoors; for example, yoga or wrestling to build body awareness and control and support stress relief. However, research suggests that the amount of indoor and outdoor space available in home-based settings might pose a challenge for

providers (Bromer et al. 2021). In addition, larger spaces and sunshine are also important for promoting physical development. Research suggests HBCC providers have less access to private outdoor spaces such as backyards compared with centers (Francis et al. 2018). As noted, measures should take into account how HBCC providers use shared spaces and community outdoor resources such as parks, sidewalks, or a neighbor's farm.

3. Provider–family relationships

a. Trust

Trust is a gap across current measures and indicators. Measures designed for HBCC might need to more broadly include trust in provider–family relationships, as trust is key to HBCC sustainability and often an indicator of high quality, reciprocal communication. Current measures account for trust in ways that might not apply to providers who already have relationships with families outside of the child care context. For example, trust between family members providing care is situated within a larger and more complex familial relationship. Future research is needed to understand what trust looks like between different types of providers and families and how to appropriately define aspects of trust related to positive child and family outcomes. Measurement might include tools such as reflective questions or ratings that providers can use to self-assess the importance of various aspects of trusting relationships with each family. These kinds of self-assessment tools might help providers identify strategies to tailor reciprocal communication based on each family's preferences. Researchers could also develop tools for families to report on level of trust in different areas.

b. Helping parents with non-child-care tasks

Helping parents with non-child-care tasks is a common practice for some HBCC providers, particularly FFNs. These can include picking children up and dropping them off at home or school, preparing meals outside of child care hours, or doing the child's laundry. These tasks alleviate parents' stress and give them more time with their children. However, they might put more stress on the HBCC provider and take time away from the provider's interactions with children. Measures and indicators should identify providers' non-child-care tasks and responsibilities as context for supporting quality. Support could include strategies for providers to successfully communicate with families about expectations regarding non-child-care responsibilities. This type of measurement could be included in a checklist that accompanies measurement of providers' working conditions, discussed below.

4. Conditions for operations and sustainability

HBCC providers work under unique conditions that might impact providers' own outcomes (for example, provider stress and well-being) and might influence how providers enact quality features (for example, supportive provider–child interactions). The presence and characteristics of these working conditions should be used to understand their effect on positive provider, child, or family outcomes. They are important considerations for developing new indicators or adapting existing ones, especially those used in QRIS or other standards for HBCC. Indicator development should account for challenges in capturing the complex context of HBCC. Indicators can also be used outside of QRIS ratings, for example, in professional development

activities, as part of checklists that providers can use for self-assessment and referrals to resources in areas where they need more support.

Several working conditions are potential stressors for HBCC providers. Researchers could develop a stress inventory tool, such as the Child Care Worker Job Stress Inventory (CCW-JSI; Curbow et al. 2000), to assess the specific challenges of providing care in HBCC settings, including the factors within each condition that contribute to provider stress. Measures of resilience and protective factors could be adapted to the HBCC context. Information from such tools could identify strategies to support sustainable working conditions for providers, including helping maintain providers' positive emotional and physical health. The following working conditions are rarely included in current measures. Adapting or creating a HBCC measure of working conditions could include items addressing these areas in addition to the non-child-care tasks discussed above.

a. Working alone or in isolation

Working alone or being isolated from other adults makes it important for HBCC providers to practice self-care and have access to social support. Assessing the levels of social connectedness among providers could help inform strategies for alleviating loneliness, depression, and stress. These strategies might also include opportunities for networking with other providers, which can reduce the stress of caregiving in isolation. Measures in this review include access to professional resources, such as formal and informal peer support groups.

b. Work-family balance

Work-family balance might be a challenge for some providers who must meet the needs of their own family while also providing care to other children and families. Assessing providers' work and family demands and how well they can balance them could help identify whether the provider needs support managing competing demands. Strategies might include guidance for providers about what they might communicate to families about the families' expectations of the provider and the provider's boundaries.

c. Family support for caregiver

Some HBCC providers might receive a variety of forms of family support. For example, some family child care providers have spouses, siblings, or adult children who help them provide care or interact with children. However, family supports can exist on a continuum from supportive to stressful and consequently might be positive or negative influences on quality. Family members' assistance can give the provider more time and resources to participate in networking and professional development or provide economic support that reduces provider stress. Positive family support might also contribute to positive child outcomes. For example, a family member can be another role model or conversation partner for children. Measures should assess positive interactions within the home from all members of the household who are present. HBCC providers who do not receive positive family support might need more support to sustain quality care.

C. Concluding recommendations for filling gaps in measuring quality

The recommendations above outline key considerations for the gaps in measurement of quality. For sustainability of HBCC, and for the provider to implement quality care, factors (such as work stressors and community resources) that affect the provider's physical, emotional, and financial well-being should be assessed so the provider's needs can be addressed and researchers can include these factors in analyses of quality. For purposes of quality and professional development, we recommend that quality measurement address not just how HBCC providers keep children safe and healthy, but also how providers support social, emotional, language, literacy, and cognitive development. In addition, across many areas of quality, measurement should account for how providers are responsive to families and interact with families about the child's care and the families' goals for children.

Measurement should also examine how providers support family needs and preferences, and how providers support sociocultural equity and honor diversity. To understand how to best support providers, it will be important to take into account the stressors involved in providing HBCC and the protective factors that mitigate those stressors, as well as the ways HBCC conditions and features support families' financial, social, and emotional well-being.

Visit the HBCCSQ project home page to access the other products referenced in this report:

- Compendium of measures and indicators
- Conceptual framework
- Literature review
- Research agenda report
- Research briefs

Research could help determine what high quality care looks like within routines and activities during flexible and nontraditional hours and across wide age ranges. Flexible hours and varied age ranges are two unique aspects of HBCC that influence quality across many features. In addition, future research is necessary to learn more about how to engage and support HBCC providers from diverse backgrounds and contexts. HBCC is important for children, families, and the nation's economic stability. This project's research agenda (Del Grosso et al. 2021) describes key gaps in research on the availability and quality of HBCC and potential opportunities to address these gaps.

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