

Measuring milestones:

Developing a tool to assess early childhood development outcomes

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Picture 1 Bongani and Khuma share a valuable father-son bonding moment; [@UNICEF/UN0315699/Sokol](#)

Bright-eyed, eight-month-old Khuma smiles, looking down at his father's face. The baby and his dad, Bongani Ngqame, 44, have been watching squirrels scamper in a park on a sunny day in central Cape Town, South Africa. Simple as it sounds, this type of bonding time between father and son is just the sort of early experience Khuma needs to thrive as he gets older. "I wanted to be close to [Khuma] — to hold him. Being with your new baby, it's both mentally and emotionally inspiring," Bongani says.

Simply defined, early childhood development (ECD) are the skills and abilities that develop during the first few years of life and form the foundation of who we are and what we do. Nurturing a child's developing brain through healthy nutrition, care and stimulation is now widely recognized as a critical component for harnessing the potential of every girl and boy, right from the start of life.

ECD and the SDG framework

The role of ECD in reducing inequality and fostering social cohesion and economic growth was formally recognized by the international community in the Sustainable Development Goals (SDGs) under target 4.2, which specifically calls upon countries to ‘Ensure that, by 2030, all girls and boys have access to quality early childhood development, care, and pre-primary education so that they are ready for primary education’.

One of the indicators selected to measure progress towards achieving the target is the percentage of children under age 5 years who are developmentally on track in health, learning and psychosocial well-being (indicator 4.2.1). As the global custodian agency for the indicator, UNICEF has led a thorough process to devise a new and robust measure that monitors and tracks progress on this indicator for children aged 24 to 59 months.

Collaborating for children

Developed by UNICEF and its partners, the measurement tool was reviewed and endorsed in March 2019 by the Inter-Agency and Expert Group on SDGs (IAEG-SDGs). The IAEG-SDGs is composed of Member States and was created by the United Nations Statistical Commission to develop and implement the global indicator framework for the Goals and Targets of the 2030 Agenda. To develop the new measure, UNICEF undertook in 2015 a systematic review of all available tools, identifying an initial set of items that measure child development in the SDG indicator’s three domains: health, learning and psychosocial well-being. This was followed by extensive cognitive testing in six countries (Bulgaria, India, Jamaica, Mexico, Uganda, and the United States of America) in 2016 and 2017 to understand how mothers interpret the questions and formulate their responses.

To oversee this work, UNICEF convened the Inter-Agency and Expert Group on ECD Measurement (IAEG-ECD). It is chaired by UNICEF and includes partner agencies (OECD, UNESCO/UIS, WHO and World Bank) as well as the Inter-American Development Bank, Save the Children, the National Institute of Public Health of Mexico and national statistical offices (Palestinian Central Bureau of Statistics and Statistics Canada). The IAEG-ECD is advised by a technical advisory group composed of 11 academics and researchers from select institutes, agencies and universities.

On the ground

Dedicated field tests were conducted in Mexico, State of Palestine and Belize to collect data and assess the psychometric properties of the new items. Field testing also provided an opportunity to test administration aspects of the new ECD measure and refine the necessary training and logistics to support data collection. In all three countries, the items were collected from a representative sample of children aged 24 to 59 months based on responses provided by mothers/caregivers.

The Mexico field test also included a number of items on learning and gross motor development administered by direct assessment/observation of the child, which contributed to evidence of the validity of the responses in the mothers’ reports. An earlier draft set of items was also tested on small convenience samples through a separate study implemented by the University of Hong Kong in four Asian countries: Bangladesh, China, India and Myanmar.

A series of psychometric analyses were then conducted using the field test data and additional data that had been collected through independent efforts undertaken in a wide range of countries (Bangladesh, Brazil, Cambodia, Canada, Chile, China, Colombia, Ghana, Guatemala, India, Jordan, Lao, Lebanon, Myanmar, Nepal, Pakistan, Philippines, Tanzania, United States and Zambia) to further understand and assess item-level performance.

Setting standards

The next step was to develop an approach for setting performance standards and establishing some preliminary cut scores that will identify children as being 'developmentally on track' on the new measure. A pilot of this approach took place in Mexico in early June 2019, followed by a global panel of 15 ECD experts from 13 countries convening in New York in August. The standard-setting exercise specifically focused on defining expectations of children by ages 24, 36 and 48 months for each of the items remaining on the draft new measure. The panel's recommended cut scores will be recalibrated for consistency with the final selection of items and conveyed back to the IAEG-ECD and its technical advisory group for discussion and approval.

Data for a brighter future

The final measure is expected to be ready for countries to embark on data collection in early 2020. It will be a public good, freely accessible to all countries. The questionnaire will be accompanied by implementation and dissemination tools, including interviewer guidelines, syntaxes and tabulation plans for data analysis, and templates for reporting. Importantly, the new measure can be integrated into existing efforts, including national household surveys like the UNICEF-supported Multiple Indicator Cluster Surveys (MICS). This measure, the first of its kind, will enable the world to track the developmental potential (including cognition, language, learning, socio-emotional competencies, etc.) of young children, at a population level.

This innovative data work holds great promise for children. Because the new measure has the potential to pinpoint areas requiring further investment and intervention, decision-makers will be able to target efforts to ensure every child receives nutrition, care, protection and stimulation, i.e. all the inputs young children need to reach their full potential. Armed with this data, child rights organizations can more strategically advocate for actions that nurture development in the youngest years. And, most importantly, more babies like Khuma will get the opportunity to start life on the right foot.