Monitoring progress of NC for ECD

Regional multi-sectoral meeting to promote nurturing care for early childhood development, WHO-SEARO - Virtual: 27-29 April 2021

Linda Richter
Distinguished Professor
DSI-NRF Centre of Excellence in Human Development
University of the Witwatersrand, South Africa

Claudia Cappa
Senior Adviser, Statistics and Monitoring
Child Protection and Development
Data and Analytics Section
UNICEF

Dr. Tarun Dua
Head, Brain Health Unit
Mental Health and Substance Abuse
WHO
Countdown to 2030
ECD Country Profiles

Linda Richter
Distinguished Professor
DSI-NRF Centre of Excellence in Human Development
University of the Witwatersrand, South Africa
Start up and progress

Arose from the **2017 Lancet Series**, launched with the **Nurturing Care Framework**

Created to track progress & monitor accountability, included in **Countdown to 2030**

Directed by a **Technical Working Group**, maintained and updated by **UNICEF**

---

Bellagio Lancet Child Survival Series

MDGs adopted

Advancing Early Childhood Development from Science to Scale Lancet Series

First set of ECD Country Profiles for 91 LMICs

Updated ECD Profiles for 197 countries

Updated ECD Profiles for 138 countries

Sustainable Development Goals

2030

2020

2019

2018

2017

2016

2015

2003

Countdown to 2015 for Maternal, Newborn and Child Survival

Countdown to 2030 for Women’s Children’s and Adolescent’s Health

Nurturing Care Framework is launched
42 INDICATORS IN 2020

Demographics – 4
Threats to ECD – 8
Facilitating – 9 environment
  • Policies – 5
  • International conventions – 4

Impact - 6
  • Children on track in development (ECDI)
  • Functional difficulty
  • 2005–2015 trend in children at risk

5 components of nurturing care - 15
  • Health – 4
  • Nutrition – 3
  • Security and safety – 4
  • Early learning – 4
  • Responsive caregiving – 0

Gender & residence differences
Lifetime cost of early growth deficits
Profiles include data that are:

- available in multiple countries
- country-comparable (same questions and same survey methodology in each country)

Sources

- UNICEF Multiple Indicator Cluster Surveys (MICS)
- USAID Demographic and Health Surveys (DHS)
- Country data published in high impact journals

Definitions, dates, and countries for which data are available

- Technical appendix
Nearing a global picture of ECD – 197 countries

Expansion of the ECD Country Profiles 2018-2020

- 2018 ECD Country Profiles included data for 91 low- and middle-income countries
- 2019 profiles updated and extended to 138 low- and middle-income countries
- 2020 Profiles updated and extended to 197 countries, including 63 high-income countries
Updates to 2020 ECD Profiles

ADDITIONAL INDICATORS

Children developmentally on track: % children 3-5 years developmentally on track in 3+ domains on ECDI: literacy-numeracy, physical development, social-emotional development and learning (2010-2019)

Children with functional difficulty: % children 2-4 years with a functional difficulty in at least one domain on the child functioning module - seeing, hearing, walking, fine motor, communication, learning, playing and controlling behaviour (2017-2019)

Updated indicator: Clarified and simplified maternity and paternity leave
2020 Profiles translated into Arabic, French, Russian & Spanish
KEY FACTS AND FINDINGS

Low- and Middle-Income Countries with data

- 10 key facts from the 2020 ECD Country Profiles
- Key findings from published analyses
## 10 key facts from the country profiles

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td>In almost ½ of countries, &gt;75% of young children experience violent discipline</td>
<td><strong>2</strong></td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>&lt;50% of young children in ⅓ of countries receive early home stimulation</td>
<td><strong>4</strong></td>
</tr>
<tr>
<td><strong>5</strong></td>
<td>33% of young children had inadequate supervision at home in the past week in 1 in 6 countries</td>
<td></td>
</tr>
</tbody>
</table>
### 10 key facts from the country profiles

<table>
<thead>
<tr>
<th>No.</th>
<th>Fact</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Attendance in early childhood education is &lt; 50% in ¾ of countries</td>
</tr>
<tr>
<td>7</td>
<td>&lt; 50% of children under 5 are birth registered in 1 out of 6 countries</td>
</tr>
<tr>
<td>8</td>
<td>± 50% of children under 5 are at risk of not reaching their developmental potential</td>
</tr>
<tr>
<td>9</td>
<td>± 50% of countries some form of paid paternity leave is lacking, hampering fathers’ involvement in care</td>
</tr>
<tr>
<td>10</td>
<td>&gt; 25% of children under 5 are stunted in nearly ½ of countries</td>
</tr>
</tbody>
</table>
Published findings

REDUCTION IN RISK OF NOT REACHING HUMAN POTENTIAL

(Stunting or extreme poverty)
Children from poorer households fare worse than children from richer households

On average rural children fare worse than urban children

Negligible differences between young girls and boys

Published findings (2010 – 2018)

Children exposed to stunting or extreme poverty
Children not attending an ECE programme outside of the home
Children not receiving adequate home stimulation
Children not developmentally on track

Down from 43% in 2015
GAPS & CHALLENGES

- Data not available for all countries
- Responsive caregiving incomplete
- Definitions, indicators and data needed e.g. maternal mental health etc.
New initiative built on ECD Country Profiles

Harnessing Global Data to Advance Young Children’s Learning and Development
Harnessing Global Data Project

• Bring together researchers, policy makers & implementers to analyse and publish global ECD data

• Convert data into information

• Unite the ECD agenda

• 0-3y (development, health, home/clinic)
  → 3-6y (learning, education, centre/school)

• Disseminate data to advance children’s learning & development
Implementation & Dissemination Partners

Regional & country implementation

- International Step-by-Step Association (ISSA)
- African Early Childhood Network (AfECN)
- Arab Network for Early Childhood Development (ANECD)
- Asia-Pacific Regional Network for Early Childhood (ARNEC)

Global & regional policy & implementation

- Inter-American Development Bank
- Early Child Development Action Network (ECDAN)
- UNESCO
- UNICEF
- WHO
- World Bank
Linked to Countdown 2030 and the ECD Country Profiles

- Profiles at global-, regional- and country-level
- Publications with further analyses
- Virtual events disseminating information
- Advocacy to fill gaps in data
- Capacity building and support for ECD measurement
View and download the Country Profiles, Data Sets, Sources and Methods of data collection from the following web pages

https://nurturing-care.org/resources/country-profiles


https://www.ecdan.org/countries.html

https://data.unicef.org/resources/countdown-to-2030-ecd-country-profiles/
Early Childhood Development Index 2030 (ECDI2030)

Claudia Cappa
Senior Adviser, Statistics and Monitoring
Child Protection and Development
Data and Analytics Section
UNICEF
• **Population-level** data collection instrument that can be integrated into existing national data collection and monitoring efforts, including household surveys like MICS and DHS

• Captures the achievement of key developmental **milestones by children aged 24 to 59 months**

• Endorsed measure to **track progress towards SDG 4.2.1** - Proportion of children aged 24–59 months who are developmentally on track in health, learning and psychosocial well-being, by sex
Early Childhood Development

**LEARNING**
- **Expressive language**
  - Use words to name objects and say sentences
- **Literacy**
  - Identify letters
- **Numeracy**
  - Identify and count numbers
- **Pre-writing**
  - Write own name
- **Executive functioning**
  - Engage in an activity without giving up too quickly

**PSYCHOSOCIAL WELL-BEING**
- **Emotional skills**
  - Offer to help others who seem to need help
- **Social skills**
  - Get along well with other children
- **Internalizing behavior**
  - Seems very sad or depressed on a daily basis
- **Externalizing behavior**
  - Kicks, bites or hits other people more often than other children the same age

**HEALTH**
- **Gross motor**
  - Walk on an uneven surface and jump with both feet
- **Fine motor**
  - Fasten and unfasten buttons
- **Self-care**
  - Put on pants or a shirt without help

---

20 questions addressed to mothers/primary caregivers, 3 minutes to implement, 3 hours for the interviewers’ training
ECDI2030 INDICATOR

Questions ECD1 to ECD20 are used to generate one indicator 48 to 59 months 15

13
11
9
7
24 to 29 months 30 to 35 months 36 to 41 months 42 to 47 months 48 to 59 months

MINIMUM NUMBER OF MILESTONES EXPECTED BY AGE GROUP

Can be disaggregated by a child's sex, area of residence, household wealth and other key variables, to reveal disparities in developmental outcomes among children with different socioeconomic and family backgrounds.

MINIMALLY ON-TRACK CHILD

Percentage of children age 24-59 months who are developmentally on track, i.e. have achieved the minimum number of milestones expected for their age group.

Very far off track

Not on-track

On-track

Minimally On-Track

Developmentally Advanced
IMPLEMENTATION PACKAGE

Tools for survey planning:
- Quick implementation guide
- Guidelines on integration in household surveys
- Frequently asked questions
- Slide decks on the rationale, development and implementation aspects of the ECDI2030

Tools for survey preparation:
- Standard questionnaires in 8 languages
- Administration instructions manual
- Training slide deck and materials
- Data quality guidance

Tools for data analyses and report:
- Syntaxes for data processing and analyses
- Tabulation plan
- Data analyses slide deck
- Report template

Other tools:
- Guidelines on further analysis and dissemination
<table>
<thead>
<tr>
<th>CONTRIBUTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inter-Agency and Expert Group on ECD Measurement</strong></td>
</tr>
<tr>
<td>• Instituto Nacional de Salud Pública, Mexico</td>
</tr>
<tr>
<td>• Inter-American Development Bank</td>
</tr>
<tr>
<td>• Organisation for Economic Co-operation and Development</td>
</tr>
<tr>
<td>• Palestinian Central Bureau of Statistics</td>
</tr>
<tr>
<td>• Save the Children</td>
</tr>
<tr>
<td>• Statistics Canada</td>
</tr>
<tr>
<td>• UNESCO-UIS</td>
</tr>
<tr>
<td>• UNICEF (Chair)</td>
</tr>
<tr>
<td>• World Bank</td>
</tr>
<tr>
<td>• World Health Organization</td>
</tr>
<tr>
<td><strong>Members of the Technical Advisory Group</strong></td>
</tr>
<tr>
<td>• Santiago Cueto, Group for the Analysis of Development (GRADE), Peru</td>
</tr>
<tr>
<td>• Edward Frongillo, University of South Carolina, USA</td>
</tr>
<tr>
<td>• Melissa Gladstone, University of Liverpool, UK</td>
</tr>
<tr>
<td>• Peter Halpin, University of North Carolina, USA</td>
</tr>
<tr>
<td>• Hollie Hix-Small, Portland State University, USA</td>
</tr>
<tr>
<td>• Magdalena Janus, McMaster University, Canada</td>
</tr>
<tr>
<td>• Gillian Lancaster, Keele University, UK</td>
</tr>
<tr>
<td>• Dana Charles McCoy, Harvard University, USA</td>
</tr>
<tr>
<td>• Abigail Raikes, University of Nebraska Medical Center, USA</td>
</tr>
<tr>
<td>• Nirmala Rao, University of Hong Kong, China, Hong Kong Special Administrative Region</td>
</tr>
<tr>
<td>• Ghassan Shakshir, An Najah University, State of Palestine</td>
</tr>
<tr>
<td><strong>Members of the Global Standards Setting Panel</strong></td>
</tr>
<tr>
<td>• Claudia Regina Lindgren Alves, Univ Federal de Minas Gerais, Brazil</td>
</tr>
<tr>
<td>• Yvonne Becher, The Child Development Centre, China, Hong Kong Special Administrative Region</td>
</tr>
<tr>
<td>• Maureen Black, University of Maryland School of Medicine, USA</td>
</tr>
<tr>
<td>• Jennifer Grisham-Brown, University of Kentucky, USA</td>
</tr>
<tr>
<td>• Gauri Divan, Sangath, India</td>
</tr>
<tr>
<td>• Kirsten Donald, University of Cape Town, South Africa</td>
</tr>
<tr>
<td>• Melissa Gladstone, Un. of Liverpool, UK</td>
</tr>
<tr>
<td>• Frances Page Glascoe, Vanderbilt University, USA</td>
</tr>
<tr>
<td>• Meta van den Heuvel, Hospital for Sick Children, Netherlands</td>
</tr>
<tr>
<td>• Gwendoline Kandawasvika, University of Zimbabwe, Zimbabwe</td>
</tr>
<tr>
<td>• Shazia Maqbool, The Children’s Hospital and Institute of Child Health, Pakistan</td>
</tr>
<tr>
<td>• Fahmida Tofail, International Centre for Diarrhoeal Disease Research, Bangladesh</td>
</tr>
<tr>
<td>• Erika Marcela Osorio Valencia, National Institute of Perinatology, Mexico</td>
</tr>
<tr>
<td>• Tao Xin, Beijing Normal University, China</td>
</tr>
<tr>
<td>• Pia Zeinoun, American University of Beirut, Lebanon</td>
</tr>
</tbody>
</table>
The Global Scale for Early Childhood Development (GSED)

Dr. Tarun Dua
Head, Brain Health Unit
Mental Health and Substance Abuse
WHO
The Global Scale for Early Development (GSED)

ECD monitoring at population level

GAP to be filled: indicators for measuring child development up to 24 months of age at population level

ECD measurement for programmatic evaluation

Limited availability of appropriate measures for birth to 3 years

GAP to be filled: indicators that reliable and valid globally, easy to administer and interpretable, free and open-access
The Developmental Score (D-score)

- **The D-score** is an interval scale with a common numerical unit for all ages.

- The DAZ is the age-standardized **D-Score**, which allows to compare developmental levels by age, as does height-for-age for height.

- We can construct cut-off points to identify children reaching their development potential vs. children with developmental delay—this is, on-/off-track children, or in other words, the **equivalent of chronic malnutrition**.
The Global Scale for Early Development (GSED): A single package for measurement

**GSED Long Form**
*Program Evaluation, Direct assessment*

One unidimensional score (by developmental domain being explored)

Complementary Materials: locally made toolkit and interactive media package (audio, visual and short videoclips)

**GSED Short Form**
*Population-Level Monitoring, Caregiver reported*

One unidimensional score

Complementary Materials: media package (audio, visual and short videoclips)

**GSED Psychosocial Scale**
*Caregiver reported*

Supplementary module
Using innovation and technology: Adaptive testing approach

GSED is validating an adaptive testing approach (3 countries) to reduce the number of items asked to each respondent:

- Adaptive testing relies on a probability model for ‘passing’ one item based on the difficulty (determined by existing data available) of the item and the age of the child.
- Depending on each ‘pass’ or ‘fail’ (the ability of the child) the model presents the subsequent item.
GSED development process

**Unique children:** 73,222 – ages 0 to <48 month

**Visits** (unique child/age combinations): 109,079

**Items:** 2,275

**Scores:** 4,740,866

1. **Data harmonization with several counties and instruments:** experts review
   - Item mapping
   - Categorization in developmental areas
   - Reliability analysis

2. **Statistical methodology harmonization:**
   - 2PL vs 1PL (Rasch model)
   - Multidimensional vs unidimensional scores
   - Run model

3. **Develop GSED tools**

4. **Develop an implementation package per instrument:**
Rapid GSED Short Form testing
(n=164 x3 Bangladesh, Pakistan, Tanzania)

- Found to be reliable and valid
- Reference distribution of scores generalizes to out-of-sample data for children aged 4-36 months → changes were made for validation study to address this issue
GSED validation

MAIN VALIDATION

- **Brazil**: Butantã-Jaguaré (São Paulo) [University of São Paulo Medical School]
- **Bangladesh**: Projahnmo [Projahnmo Study Group; Johns Hopkins University]
- **China**: Shanghai, Hainan, Hebei and Yunnan [National Children’s Medical Center / Shanghai Children’s Medical Center]
- **Côte d’Ivoire**: Yopougon (Abidjan), [Innovations for Poverty Action ]
- **The Netherlands**: Leiden [Netherlands Organization for Applied Scientific Research]
- **Pakistan**: Karachi [Aga Khan University]
- **Zanzibar-Tanzania**: Pemba, [Center for Public Health Kinetics]
GSED: Next steps

Availability of GSED package:
• December 2021: Launch of GSED package version 1
• December 2022: Launch of final GSED package

More work:
• Creation of global norms and standards
• Uptake and scale up of GSED use
• Determination of predictive validity of GSED
• Adaptation of GSED for individual-level
• Extension of D-score methodology beyond 3 years including:
  → Harmonization of GSED and ECDI2030 (UNICEF): data being collected on same sample in 3 countries
  → Harmonization of GSED with the work by World Bank
THANK YOU.