

An Expert Round Table

1 July 2015 at Young Lives, Oxford, UK

Using Longitudinal Data to Support Measurement of the Sustainable Development Goals

How can longitudinal research be better leveraged to track development and well-being from childhood through adolescence? How can longitudinal research help us to better understand the life trajectories of children globally, in a way that informs the Sustainable Development Goals (SDGs)?



Using Longitudinal Data to Support SDG Measurement

This noteⁱ outlines the proposal for an expert round table hosted by UNICEF's Office of Research-Innocenti and Young Lives. The event brings together a small number of key experts knowledgeable about longitudinal research to investigate the potential for longitudinal research to contribute to the Sustainable Development Goals (SDG) agenda. This round table will address the question: how can longitudinal research be better leveraged to track development and well-being from childhood through adolescence, and to better understand the life trajectories of children globally, in a way that helps inform the SDGs?

The Sustainable Development Goal (SDG) frameworkⁱⁱ published on 18 February this year has identified a number of goals and indicators relevant for children. Some of theseⁱⁱⁱ formed part of the Millennium Development Goal (MDGs) agreed in 2000, some are national level measures, while some are global. Many of these indicators aim to capture progress in core domains of child well-being including nutrition, education, health and poverty reduction, among others.

Many of the indicators require routine cross-sectional monitoring and can serve to hold governments and other stakeholders to account^{iv}. As developed, the SDG indicators are designed for orienting action towards the goals, a purpose well served by cross-sectional monitoring. As much as possible, they build upon existing data collection efforts, including household surveys.

In this regard, the SDG indicator frame has (at least) two challenges.

- Within the current framework, it is limited in its ability to understand the connections across development domains.^{v,vi} Despite claims, a lack of a full understanding of how indicators link means that the framework itself cannot inform a strategic response plan with a coherent overview and informed prioritization of SDGs. This risks creating a 'siloed' response to the goals, which is likely to be suboptimal.
- Cross-sectional indicators restrict our ability to see the evolution of a child over his or her life course, and what the impact of interventions today could have on the future wellbeing of these children as they transition and enter adulthood. The cross-sectional measures limit what can be said about elements which contribute to bringing up well-nurtured and supported children or indeed to understand the consequences of missed goals in past cohorts.

Longitudinal data have some advantages compared^{vii} to cross-sectional measures by tracking children as they grow over time. Cross-sectional surveys provide a snapshot of a group in one particular period of time, usually in relation to a single issue. Because longitudinal surveys can track people over periods and can illuminate many aspects and stages of their lives, including unexpected events, they provide more of a film strip than a single image, capturing evolution over time, rather than a static snapshot.^{viii}

Complementing the SDG process

Drawing from this, the SDG process could be complemented by longitudinal research in five ways.

1) Understanding trajectories. Longitudinal data can help 'explore the ways that children's developmental trajectories might diverge from early in life, through to early adulthood, and improve our understanding of the factors shaping these trajectories, and lending to our understanding of the role of the timing of events, influences and institutions on outcomes for children'.^{ix} By observing the same children or their households over time, longitudinal data can track the changes in behaviours or circumstances that are associated with a specific trajectory. As such, it can help to provide an assessment of the timing of child development windows, and coordinate interventions accordingly.

2) *Identifying causal drivers and determinants.* Longitudinal data can permit stronger claims about causality to be made when compared with analyses using cross-sectional data. This means they can lend to an understanding of the causes and drivers underpinning human development, and a deeper analysis of the background variables required to optimize interventions for child development.

3) *Understanding relationships between development domains.* Such data are well suited to understanding how domains such as children’s physical, cognitive and psychosocial development interact in shaping outcomes and well-being. Within this, they provide an opportunity to contribute to informed policy discussions on the potential sequencing of interventions. Longitudinal data can also help the development community reflect on considerations beyond the SDG measurement framework that may have critical bearing on their success.

4) *Capturing the dynamic nature of development.* By tracking households, families or individuals in changing contexts over time, longitudinal data can track movements into and out of situations, for example how households move into and out of poverty (‘churning’). Cross-sectional studies are better at revealing the incidence of a phenomenon and tracking how it changes, while longitudinal studies are able to expose ‘dynamics’ which may enrich understanding of, and policy responses to, estimates of social development.

5) *Generating evidence of the impact of interventions.* Impact evaluations, a type of longitudinal study, can provide convincing evidence of whether impact is achieved as the result of a specific intervention, answering the question: what works to achieve development? Such methods include Randomised Control Trials (RCTs).

MEETING LOGISTICS

When: Wednesday 1 July, 2015 12:30 pm

Where: The meeting will be held in the Oxford Department of International Development, 3 Mansfield Road, Oxford OX1 3TB. Seminar Room 3 for the meeting and Meeting Room A for lunch.

For those traveling from Heathrow to Oxford, we recommend that you catch the Airline bus to Oxford. Buses run approximately every 30 minutes to Oxford from both Heathrow Central Bus Station (for Terminals 1, 2 & 3) and from Terminal 5. A return ticket costs £29. The central bus station in Oxford is Gloucester Green bus station.

Contacts: For any questions related to logistics please contact **Ingrid Jooren** at 0044 (0) 1865 281751 or **Perna Banati** at 0039 3441350405

Longitudinal data already informs national policy making, and has played a key role in the development of new approaches

- *In Zambia*, an RCT conducted in three districts from 2010 to 2013 showed that the government’s cash transfer programme led to a wide range of health and nutrition benefits. It also contributed to an increase in productive activity, and ownership of livestock. The studies were able to leverage additional funds in the long run, with the Zambian government increasing its budget allocation to cash transfer programmes, with an initial investment in evaluations of USD\$5 million leveraging USD\$150 million for children over the next five years.^x
- *In Jamaica*, decision-makers wanted a better understanding of maternal and newborn health problems. Longitudinal research linked premature and early deliveries to undiagnosed hypertension in pregnant mothers. In response, an information card added to expectant mothers’ maternity record books advised them of the signs and risks of hypertension. This led to a 60 per cent decline in hypertension and related complications in pregnancies and deliveries.^{xi}
- *In the UK*, the 2006 Action Plan on Social Exclusion drew on evidence from the British Household Panel Survey (BHPS). This survey revealed that ‘a small group of people experience particularly persistent and severe deprivation and exclusion throughout their lifetime. The resulting Action Plan argues that tackling such marginalization requires highly localized and tailored responses that cut across government departments.’^{xii}

Expert Round Table

There is a clear potential for longitudinal research to contribute in a significant way to the measurement of the SDGs over the next 15 years, and support the *sustainability* of development results across the life course. There is a wealth of information from existing cohort studies that are already running, and the potential to leverage a live network of engaged longitudinal studies (GLORI)^{xiii} that are well positioned to advance global knowledge in some critical thematic areas on important topics for child well-being

AGENDA AND PARTICIPANTS

Agenda for Wednesday 1 July, 2015	
12:30pm – 1pm	Introductions over informal lunch
1pm – 2:30pm	Presentations (15 minutes each with discussion) Describing the challenge and objectives (<i>Prerna Banati</i>) Sequencing of child well-being outcomes across the lifecycle: a focus on education (<i>Dominic Richardson</i>) Integrating cross-sectional and cohort measurement approaches in assessing exclusive breastfeeding: Lessons from Bangladesh (<i>Aryeh Stein</i>) Validation of cross-sectional studies using longitudinal data (<i>Stephane Helleringer</i>)
2:30pm – 3:15pm	Reflections and Reactions (5-10 minutes each followed by discussion) <i>Jere Behrman</i> <i>Rachel Beardsmore</i> <i>Jessica Ozan</i>
3:15pm – 3:30pm	Coffee
3:30pm – 5pm	Open Discussion
5pm – 5:30pm	Wrap up and next steps
7pm onwards	Dinner at location close by (please RSVP to pbanati@unicef.org)
Participants	
Abhijeet Singh , Young Lives Andreas Georgiadis , Young Lives Aryeh Stein , Emory University Caine Rolleston , Young Lives and Institute of Education Craig Bardsley , ESRC Despina Karamperidou , European University Institute and UNICEF Dominic Richardson , UNICEF Innocenti Gary Pollock/Jessica Ozan , Manchester Metropolitan University	Jo Boyden/Ginny Morrow , Young Lives Jere Behrman , University of Pennsylvania Kirk Dearden , Boston University Lorraine Sherr , University College London Marta Favara , Young Lives Prerna Banati , UNICEF Innocenti Rachel Beardsmore , UK Office of National Statistics Rachel Hinton/Lina Payne , DFID Stephane Helleringer , Johns Hopkins Tanya Zebroff , DFID Zambia

KEY QUESTIONS FOR THE TABLE INCLUDE

Where can longitudinal research lend information to strengthen the SDG framework (e.g. prenatal interventions, intergenerational transmission, understanding relationships and drivers, evaluation of interventions, others)?

Where can longitudinal data contribute to a more unified exploration of the multidimensionality of child outcomes for SDG implementation, beyond 'siloed' sectoral approaches?

How can longitudinal data be better linked with cross-sectional data to create a more powerful tool for analysis?

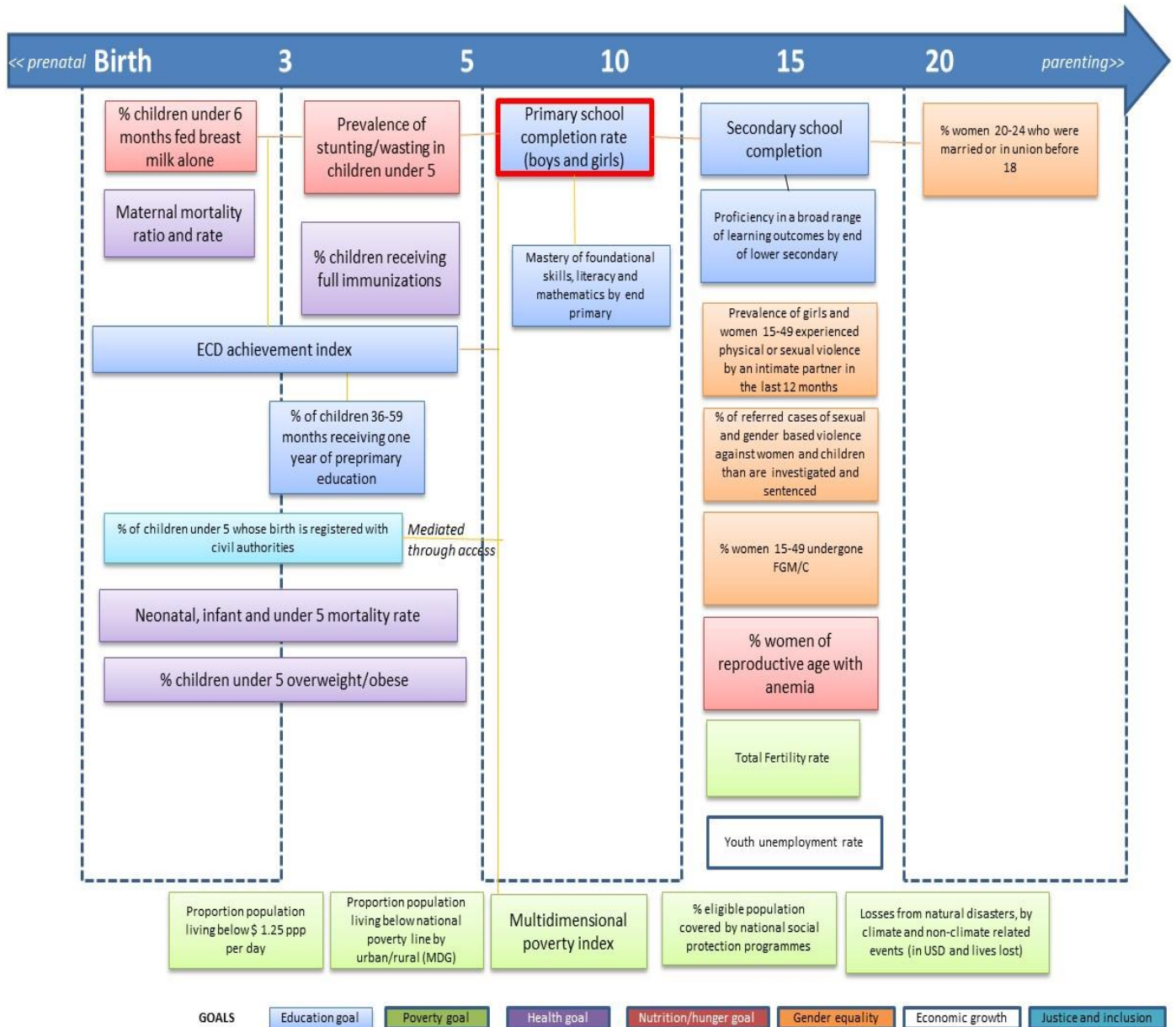
How can we build on existing studies (such as Young Lives) and networks (such as GLORI) to inform the need for longitudinal data development?

Can a subset of globally comparable measures from cohort studies be constructed that could lend to tracking children across the life course, and if so, which ones could be priorities

ANNEX I Child related goals and indicators from SDG framework - 18 February, 2015

	SDG Goal	Indicator	Lead agency/note	Complementary indicators
POVERTY	End poverty in all its forms	Proportion of population living below national poverty line (\$1.25ppp/day)	WB/UNDESA	Poverty gap ratio (MDG measure)
		Multidimensional poverty index	UNDP/WB/UNSD/UNICEF (Disaggregated for 0-18s/ households with children?)	
		% of eligible population covered by national social protection programmes	ILO (Eligible households/ households with children?)	
NUTRITION	End hunger, achieve food security, improved nutrition, sustainable agriculture	% of stunting and wasting in under 5s	WHO/UNICEF	Proportion of infants 6-23 months receiving a minimum acceptable diet % children born with low birth weight
		% of children under 6 months who are exclusively breast fed	WHO/UNICEF	
HEALTH	Ensure healthy lives and promote wellbeing for all at all ages	Maternal mortality rate	WHO/UNPD/UNICEF/WB	% of births attended by skilled health personnel ANC coverage Post natal care coverage Coverage of iron/folic acid supplements for pregnant women Incidence of diarrheal disease in under 5s % of 1 year olds immunized against measles % HIV+ pregnant women receiving PMTCT % of under 5s with fever who are treated with appropriate anti-malarials % of pregnant women receiving IPT for malaria
		Neonatal, infant and under 5 mortality rates	WHO/UNPD/UNICEF/WB	
		% of children receiving full immunizations	UNICEF/GAVI/WHO	
EDUCATION	Ensure inclusive and equitable quality education and lifelong learning	% of children (36 to 59 months) receiving at least one year of a quality pre-primary school education program	UNESCO/UNICEF/WB	% of girls and boys who acquire skills and values needed for global citizenship and sustainable development % of children under 5 experiencing responsive, stimulating parenting in safe environments Number of children out of school % of adolescents (15-19 years) with access to school-to-work programs Literacy rate of 15-24 year-olds, women and men (MDG Indicator) Indicator on share of education facilities that provide an effective learning environment Pupil to computer ratio in primary and secondary education Indicator on scholarships for students from developing countries Indicator on supply of qualified teachers Presence of legal frameworks that guarantee the right to education for all children for early childhood and basic education, and that guarantee a minimum age of entry to employment not below the years of basic education
		ECD index to be developed	UNICEF/UNESCO	
		Primary completion rates for girls and boys	UNESCO	
		% of girls and boys who master a broad range of foundational skills including literacy and mathematics by end of primary school	UNESCO	
		Secondary school completion rate for girls and boys	UNESCO	
		% of girls and boys who achieve proficiency across a broad range of learning outcomes by end of lower secondary schooling cycle	UNESCO	
		% of children (36 to 59 months) receiving at least one year of a quality pre-primary school education program	UNESCO	
GENDER	Achieve gender equality and empower all women and girls	Prevalence of girls and women 15-49 who have experiences intimate partner physical or sexual violence in the last 12 months	WHO/UNSD	Adolescent birth rate % of young people receiving comprehensive sexuality education
		% referred cases of sexual and gender based violence against women and children that are investigated and sentenced	UNWOMEN	
		% of women 20-24 who were married or in a union before age 18	UNICEF	
		% of girls and women aged 15-49 who have undergone FGM/C	UNICEF	
WASH	Ensure availability and sustainable management of water and sanitation for all	% of population using safely managed water services, by urban/rural (modified MDG Indicator)	WHO/UNICEF (disaggregate by households with children?)	% of pupils enrolled in primary schools and secondary schools providing basic drinking water, adequate sanitation, and adequate hygiene services
		% of population using safely managed sanitation services, by urban/rural (modified MDG Indicator)	WHO/UNICEF (disaggregate by households with children?)	
		% of wastewater flows treated to national standards [and reused] – to be developed	WHO/UNICEF	
ECONOMIC GROWTH	Promote sustained, inclusive and sustainable economic growth, employment and decent work	Youth employment rate by formal and informal sector	ILO	% of young people not in education, employment or training (NEET)
JUSTICE & INCLUSION	Promote peaceful and inclusive societies for sustainable development, justice for all and effective accountable inclusive institutions	% of children under 5 whose birth is registered with a civil authority	UNICEF	

ANNEX II A life course representation of the proposed SDG measures



NOTES

- ⁱ This note was prepared by Prerna Banati, Chief Programmes and Planning, UNICEF OoR- Innocenti pbanati@unicef.org, last updated June 16 2015.
- ⁱⁱ Revised working draft of the Indicators and a Monitoring Framework for the Sustainable Development Goals *Launching a data revolution for the SDGs*. Prepared by the Leadership Council of the Sustainable Development Solutions Network, 18 February 2015.
- ⁱⁱⁱ Of interest is a subset of MDG indicators for children that also form part of the SDGs, including primary school enrolment, child and maternal mortality, chronic under-nutrition and stunting.
- ^{iv} The SDG Open Working Group defines two aims in the development of SDG measures: 'Effective SDGs, targets, and their indicators will serve as a management tool to help countries develop implementation strategies and allocate resources accordingly. They will also serve as a report card to measure progress towards sustainable development and to help ensure the accountability of all stakeholders for achieving the SDGs.'
- ^v The report notes, 'Many important issues, such as gender equality, health, sustainable consumption and production, or nutrition cut across different goals and targets and are therefore tracked by indicators arranged under different goals and targets. Similarly, the goals and targets are interdependent and must be pursued together since progress in one area often depends on progress in other areas. As a result, an indicator framework needs to effectively track cross-cutting issues and support integrated, systems-based approaches to implementation.' Annex I makes an effort to cross-reference indicators with other purposes that allows us to begin to see the linkages e.g the links between nutrition and health outcomes; between violence and physical/psychological health.
- ^{vi} One way to represent these linkages is to explore the SDG measures through a life course approach. A graphical representation is presented in Annex II
- ^{vii} In October 2014, UNICEF and Young Lives co-hosted an International Symposium on Cohort and Longitudinal studies which brought together longitudinal studies to explore how to strengthen data, design and coordination for improved policy-making and programmes. A key theme of the meeting was to reflect on the unique nature of this type of data collection. More details of the meeting can be found at <http://www.unicef-irc.org/knowledge-pages/Symposium-on-Cohorts-and-Longitudinal-Studies--2014/1088>.
- ^{viii} Examples of advantages of longitudinal research are identified in *Strength in Numbers: How longitudinal research can support child wellbeing*.
- ^{ix} From Dornan and Woodhead 2015.
- ^x UNICEF's Office of Research – Innocenti 2014 Results Report.
- ^{xi} Translating research from cohort studies into policy: the case of Jamaica, Maureen Samms-Vaughan, University of the West Indies, October 2014.
- ^{xii} ODI Briefing note 92, October 2014.

