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- 1 Black MM, Walker SP, Fernald LCH, et al, for the *Lancet* Early Childhood Development Series Steering Committee. Early childhood development coming of age: science through the life course. *Lancet* 2016; published online Oct 4. [http://dx.doi.org/10.1016/S0140-6736\(16\)31389-7](http://dx.doi.org/10.1016/S0140-6736(16)31389-7).
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Early childhood development: the foundation of sustainable development



Momentum for improving early childhood development has grown since *The Lancet* published the landmark Series, Child Development in Developing Countries in 2007, followed by Child Development in Developing Countries 2 in 2011. As shown in this new Series, Advancing Early Childhood Development: from Science to Scale,¹⁻³ between 2000 and 2015 the number of scientific publications on topics central to early childhood development increased substantially, about a third of countries had adopted multisectoral policies on early childhood development, and there has been an increase in funding for early childhood development.¹ Yet, few countries have institutionalised mechanisms to implement these policies, services remain fragmented and of variable quality, and programmes at scale are rare and poorly evaluated. Compelling new evidence in two areas strengthens our resolve to act to reach pregnant women and young children with holistic early childhood development services (panel).

First, new research in early human development shows that epigenetic, immunological, physiological, and psychological adaptations to the environment occur from conception, and that these adaptations affect development throughout the life course.² This knowledge calls for an approach targeting caregivers and children with effective interventions during sensitive times across the life course, with the period from conception to age 2-3 years being of particular importance.

Second, evidence on long-term outcomes from low-income and middle-income countries shows that a programme to increase cognitive development of stunted children in Jamaica 25 years ago⁴ resulted in a significant,

25% increase in average adult earnings. Conversely, long-term follow-up of children from birth shows that growth failure in the first 2 years of life has harmful effects on adult health and human capital, including chronic disease, and lower educational attainment and adult earning.⁵ Moreover, deficits and disadvantages persist into the subsequent generation,^{6,7} producing a vicious inter-generational cycle of lost human capital and perpetuation of poverty. These findings shine light on the transformative potential of early childhood development programmes in low-income and middle-income countries. Only by breaking this cycle will the Sustainable Development Goals (SDGs) be achieved.

The past two to three decades have seen great improvements in child survival. As a result of global efforts to achieve the Millennium Development Goals, under-5 child mortality dropped by 53% between 1990 and 2015.⁸ Yet, this Series shows that the burden of risk for poor developmental outcomes remains extremely high, affecting an estimated 250 million children (43%) younger than 5 years in low-income and middle-income countries, and rising to over two-thirds of children in sub-Saharan Africa.¹ These estimates are based on just two known risks for which we have global data: extreme poverty and stunting. Adding other risks to young children's development, such as low levels of maternal schooling and physical maltreatment, substantially raises exposure to risks for poor development outcomes in many parts of the world.³

Nurturing interactions are crucial to mitigating these risks. A young child's developing brain is activated

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See *Series* pages 77, 91, and 103

For the *Lancet Series* on **Child Development in Developing Countries (2007)** see <http://thelancet.com/series/child-development-in-developing-countries>

For the *Lancet Series* on **Child Development in Developing Countries (2011)** see <http://thelancet.com/series/child-development-in-developing-countries-2>

Panel: Key messages from the Advancing Early Childhood Development Series¹⁻³

The burden and cost of inaction is high

Although fewer than 6 million under-5 child deaths occur each year, about 250 million children in low-income and middle-income countries suffer suboptimal development due to poverty and stunting alone.¹ A poor start in life limits children's abilities to benefit from education leading to lower productivity and social tensions in the long term.² Consequences affect not only present but also future generations. For individuals, it predicts a loss of about a quarter of average adult income per year while countries may forfeit up to two times their current gross domestic product expenditure on health.³ Many countries already feel the drag on their economies of poor human development, more so if they risk losing the dividend gained by improved child survival.

Early means early

Child development starts at conception and the development of the young child's brain is dependent on good nutrition and on certain types of experiences.² Most families provide these experiences for their young children, but many cannot because of stresses and conditions that interfere with their ability to parent. The influence of some of these factors starts during the preconception period. Families must be supported to provide nurturing care; they need material and financial resources, and the knowledge, time, and skilled assistance when required. Families can be supported through the adoption of national policies, affordable quality childcare, and provision of population-based services.

A start can be made through health

Expanding existing maternal and child health services to include interventions that promote nurturing care is an important entry point for multisectoral collaborations that support families and reach very young children.² Essential among these are strengthened maternal, infant, and young child nutrition, for growth and health; child protection, for violence prevention and family support; social protection, for family financial stability and capacity to access services; and education, for quality early learning opportunities.

Scale up what we know works

The Series shows that it is possible to move from small-scale civil society initiatives to nationwide programmes that are effective and sustainable.³ Government leadership and political prioritisation are a prerequisite. Governments may choose different pathways for achieving early childhood development goals and targets, from introducing transformative whole-of-government initiatives to enhancing existing services progressively.³

and patterned by the nurturing care of trusted adults.² Nurturing interactions comprise attentive responses to young children's efforts to connect to and learn about their world, and involve efforts to present children with age-appropriate learning experiences in a safe and mutually enjoyable way. Nurturing care takes place in the context of families and through service providers across many sectors—eg, health, nutrition, education, child and social protection—that provide the essential care for children to survive and to thrive.

Nurturing care can break down under conditions of extreme poverty, family and societal conflict, discrimination, and other forms of individual and social stress. Policies to support families, such as paid parental leave, time at work for breastfeeding, and the provision of free pre-primary education, can relieve pressures on

families and enable them to care for their young children in ways that promote development.³

Services that deliver effective and feasible interventions for children and their caregivers are also essential.² This Series shows that the cost of two such interventions, Care for Child Development and Thinking Healthy, added to an integrated maternal and child health and nutrition package of services is affordable; it would cost an additional US\$0.5 per person per year (equivalent to 10% of the estimated existing costs) to scale up these interventions.^{3,9}

Ideally, early childhood development services must be provided holistically across all relevant sectors to enable young children to thrive. Some countries have adopted multisectoral policies and are beginning to implement them. Other countries are expanding one set of services, such as social protection or pre-primary education, creating a wedge for the introduction of other services.³ Ultimately, action is required across health and nutrition, education, and social and child protection.

In all settings, however, the health sector has unique advantages that allows it to support early childhood development immediately. It has extensive contact with pregnant women and with young children and their families, and enables the implementation of interventions that promote physical and cognitive development during the first 1000 days of a child's life. Many existing maternal and child health and nutrition services have been shown to benefit not only child survival and health but also child development, including cognition, and additional evidence-based early childhood development interventions can feasibly and affordably be integrated into existing services.^{2,3}

UN agencies, the World Bank Group, and others have signalled their willingness to move forward on this front. The UN Secretary-General's Global Strategy for Women's, Children's and Adolescents' Health 2016–2030 and its objectives of survive, thrive, and transform provide a roadmap, including for multisectoral action with monitoring by an Independent Accountability Panel.¹⁰ Similarly, the Global Partnership for Education 2020 embraces early childcare as a core SDG 4 component to achieving equitable lifelong learning opportunities for all.¹¹ A global Early Child Development Action Network aims to advance progress and complement these strategies, together with other global initiatives, including

Scaling Up Nutrition and the Global Partnership to End Violence Against Children.

As lead authors of this Series, we call upon all stakeholders to step up strategic and equitable investments in early childhood development. The SDGs provide the vision and the multisectoral framework, while the findings of this Series map pathways for action towards ensuring that every child can realise their right to development and to achieve their full human potential.¹² We have the knowledge, the resources, and the opportunities. We must act now to lay the foundation for a lifetime of health and wellbeing—for the benefit of today's children, tomorrow's adults, and for future generations.

*Bernadette Daelmans, Gary L Darmstadt, Joan Lombardi, Maureen M Black, Pia R Britto, Stephen Lye, Tarun Dua, Zulfiqar A Bhutta, Linda M Richter, on behalf of the *Lancet Early Childhood Development Series Steering Committee* Department of Maternal, Newborn, Child and Adolescent Health, World Health Organization, 1211 Geneva 27, Switzerland (BD); Department of Pediatrics, Stanford University School of Medicine, Stanford, CA, USA (GLD); Bernard van Leer Foundation, Washington, DC, USA (JL); Department of Pediatrics, University of Maryland School of Medicine, Baltimore, MD, USA (MMB); RTI International, Research Park, NC, USA (MMB); UNICEF, New York, NY, USA (PRB); Fraser Mustard Institute for Human Development, University of Toronto, ON, Canada (SL); Department of Mental Health and Substance Abuse, World Health Organization, Geneva, Switzerland (TD); Center for Global Child Health, Hospital for Sick Children, Toronto, ON, Canada (ZAB); Centre of Excellence in Women and Child Health, The Aga Khan University, Karachi, Pakistan (ZAB); and DST-NRF Centre of Excellence in Human Development, University of the Witwatersrand, Johannesburg, South Africa (LMR) daelmansb@who.int

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For **Scaling Up Nutrition** see <http://scalingupnutrition.org/>

For the **Global Partnership to End Violence Against Children** see <http://www.end-violence.org/>

The early years: silent emergency or unique opportunity?



Today's children will drive growth and development in the societies of tomorrow. We should be deeply concerned, therefore, that an estimated 250 million children (43%) younger than 5 years in low-income and middle-income countries are at risk of falling short of their potential because of adversities they face in their early, formative years.¹

Helping these children reach that potential by investing in early childhood development—and developing their physical, cognitive, emotional, and

social capacities—will benefit not only them but also all of us. Failing to make such investments will have profound implications for children, their families, and their societies, exacerbating inequalities and deepening societal divisions. When it comes to early childhood development, the cost of inaction is high.

The papers published in the *Lancet* Series, *Advancing Early Childhood Development: from Science to Scale*,^{1–3} quantify that cost, showing that children who are not nurtured properly in the early years may forfeit a

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