

# Promoting Child Growth and Development in the Sustainable Development Goals Era: Is It Time for New Thinking?

France Bégin,<sup>1</sup> Leslie Elder,<sup>2</sup> Marcia Griffiths,<sup>3</sup> Silvia Holschneider,<sup>2</sup> Ellen Piwoz,<sup>4</sup> Julie Ruel-Bergeron,<sup>2</sup> and Meera Shekar<sup>5</sup>

<sup>1</sup>Early Childhood Nutrition, UNICEF, New York, NY, USA; <sup>2</sup>Global Financing Facility, World Bank, Washington, DC, USA; <sup>3</sup>The Manoff Group, Washington, DC, USA; <sup>4</sup>Bill & Melinda Gates Foundation, Washington, DC, USA; and <sup>5</sup>Health, Nutrition and Population, World Bank, Washington, DC, USA

## ABSTRACT

Growth monitoring and promotion (GMP) programs have been implemented worldwide for decades. Consistent evidence of their effectiveness is lacking and complicated by design and operational differences. Nevertheless, tracking child growth and development is a fundamental component of routine preventive child health care, and governments in 178 countries implement some form of GMP. This article makes the point that despite implementation challenges, there is a compelling need for GMP. It enables a crucial dialogue with families and communities about how to support the healthy growth and development of their children and can be a powerful tool for stimulating action and accountability for child nutrition and development at household, community, subnational, and national levels. We propose that GMP deserves a fresh rethink, with a paradigm shift that tailors GMP programs and activities for different development, geographic, and cultural contexts and considers how to optimize implementation for scalability. *J Nutr* 2020;150:192–194.

**Keywords:** growth monitoring and promotion, healthy child growth and development, infant and child nutrition, growth measurement, social and behavior change communication, Nurturing Care Framework

## Introduction

Growth monitoring and promotion (GMP) programs have been implemented worldwide for decades. Most programs involve monthly weighing of children aged <5 y in health facilities or communities, with group or individual counseling and education on feeding and health-promoting practices (1). Over the years, GMP programs have had mixed success, leading to criticism for not consistently achieving expected impacts on the health and nutrition of young children (1, 2). These findings are unsurprising because programs differ substantially in purpose, design, and implementation. For example, some use GMP at the health facility as part of clinical assessment, others in a community-based program to identify growth faltering and engage in a conversation with the caregiver. Some programs focus on nutritional status, whereas others focus on growth velocity. Importantly, each differs in the content and quality of the growth promotion component, which is central to GMP programs' ability to deliver better nutrition outcomes. In addition, operational aspects like participation rates, measurement and interpretation accuracy, the capacity

of health systems to handle referrals, and the readiness of community authorities to support GMP vary widely, affecting program results (1, 3–6). This heterogeneity makes it difficult not only to measure the impact of GMP but also to clearly define what GMP currently is, or should be, and why we need it.

Despite the lack of consistent evidence of effectiveness, governments in 178 countries continue to implement some form of GMP and see it as a critical platform for improving child health and nutrition. Given its near universality, we convened a group of 60 thought leaders, program implementers, and researchers 24–26 October 2018 in Washington, DC, to review the empirical and experiential evidence on GMP globally. In preparation for this consultation, two literature reviews were drafted on GMP implementation and impact, using peer-reviewed and gray literature published during the last 10 y, reviewed by the authors, and distributed to program participants before the consultation. We considered whether these programs were worth investing in, and possible changes in how these programs could be designed and implemented to emphasize and address child growth *and development* to achieve global nutrition and development ambitions, including the World Health Assembly global nutrition targets (7), the Sustainable Development Goals (8), and the Nurturing Care Framework (9). The meeting deliberated about coverage and delivery challenges; approaches to improve program outcomes; innovations in growth measurement, analysis, and data use; and

The institutions at which each author is employed funded the individual's time put toward the preparation of this manuscript; these institutions did not play a role in the decision to submit this manuscript for publication.

Author disclosures: FB, LE, MG, SH, EP, JR-B, and MS, no conflicts of interest. Address correspondence to JR-B (e-mail: [jruelbergeron@worldbank.org](mailto:jruelbergeron@worldbank.org)).

Copyright © American Society for Nutrition 2019. All rights reserved. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted reuse, distribution, and reproduction in any medium, provided the original work is properly cited.

Manuscript received June 3, 2019. Initial review completed September 3, 2019. Revision accepted September 11, 2019. First published online October 10, 2019; doi: <https://doi.org/10.1093/jn/nxz244>.

how to strengthen the *promotion* of growth that is required at all levels. Most importantly, the convening provoked thinking about a new GMP that emphasizes the promotion of both child growth and child development.

## Should We Continue to Routinely Monitor Child Growth and Development?

The meeting highlighted that even with the potential efficiency and value of using GMP as a platform for the delivery of an integrated package of child health, nutrition, and development services in communities with the poorest maternal and child health indicators, implementers face numerous challenges. For one, GMP is currently underutilized for delivery of child development services such as early stimulation and early learning. Also, in many settings coverage is low, scaling community programs takes time, and the promotion component of GMP requires strengthening (1, 2). Evidence also suggests that most programs focus on weight alone (1, 10), overlooking other nutritional conditions like linear growth faltering and overweight. Further, the emphasis of health workers on data plotting and record-keeping, as opposed to the analysis of the causes of growth faltering and developmental delays that are amenable to remediation, continues to be of concern.

Even though there are documented implementation shortcomings, we feel that there are several compelling reasons to reinforce—not jettison—GMP: first, GMP provides frequent (usually quarterly if not monthly) contacts with caregivers and community members close to home, serving as an entry point for other essential nutrition and child health and development services. Second, GMP allows caregivers and communities to visualize healthy growth and nutrition, both of which are otherwise still largely invisible, and especially so in communities with a high prevalence of undernutrition. With accompanying high-quality, targeted, and individualized counseling that uses growth data, child age, and general health status, health or frontline workers can promote actions to prevent further growth faltering and optimize development. Third, growth monitoring data can be a powerful tool for stimulating action and accountability for child nutrition and development at household, community, subnational, and national levels.

## How to Shift the GMP Paradigm?

The convening highlighted the following five areas as critical points to consider in shifting the paradigm of GMP programs:

- 1) *Use new tools for child growth measurement and innovations in data for decision making.*

Many health workers have difficulty measuring, plotting, and interpreting growth data (11). It is particularly challenging to accurately measure length/height, limiting the feasibility of tracking this important aspect of child growth in programmatic settings. New tools, such as the child length mat, can improve family and community understanding of linear growth, which can contribute to better nutrition and growth outcomes (12, 13). Others, such as the forthcoming digitalized height board and 3-D anthropometric tool, are being developed to improve the accuracy of anthropometric measurement (14). Mobile phone applications offer promising new tools

to improve decision-making and follow-up. They can track clients, schedule visits, improve plotting and interpretation of child growth, tailor counseling messages, and streamline data processing and interpretation for community dialogue and high-level analysis (15–17). Introducing new tools such as these, accompanied by robust implementation research, can improve the scalability and impact of GMP.

- 2) *Define diverse GMP models and the contexts in which they can be most effective.*

Capturing and sharing critical concepts and lessons from past and existing models would provide an important knowledge base from which GMP designers could modify their programs to best suit evolving and unique contexts and needs. It would be useful to develop a programming guide that describes the various typologies of GMP programming, how to implement GMP at different levels of health system readiness and coverage, and how to implement GMP in geographic and cultural contexts of varied malnutrition prevalence.

- 3) *Improve cross-sectoral engagement using GMP as an entry point.*

Although GMP is often solely a health sector activity, the convening highlighted that countries as diverse as Peru, Nepal, Indonesia, Cambodia, and Senegal are using GMP as a platform to not only assess child growth but also provide referrals to services available through other sectors (e.g., education, social protection, etc.) to improve child nutrition, health, and development. The *Creceer* strategy in Peru (17) provides a good example of the integration of monitoring and action to support early child development through incorporation of parenting skills, responsive care, early stimulation, and other aspects of the Nurturing Care Framework (9) into GMP.

- 4) *Focus on human resources management, training, workload, and performance support.*

Research suggests that longer and more intensive practice-oriented training, coupled with supportive supervision, results in improved GMP implementation and health worker counseling skills (1, 2, 18). In parallel, the question of how to balance the effective operationalization of GMP in the context of overstretched frontline health workers requires careful and context-specific consideration.

- 5) *Strengthen the promotion component of GMP for action and accountability.*

Generally, the education and counseling offered to primary caregivers in GMP programs is absent or weak (1, 2). Growth promotion activities including individual counseling and group or community communication are often delinked from the growth measurement and are too generic, lacking age-specificity or tailoring for the growth status of the child or the community situation (3, 5). In the absence of an explicit link to the measure of a child's growth (and concomitant cognitive and other types of development), the act of measuring is meaningless. With strong evidence that social and behavior change communication (SBCC) can improve infant and young child feeding practices when the messages are locally tailored and delivered with sufficient coverage, frequency, and salience (19–23), it is imperative that the paradigm shift focus on linking growth and development outcomes to well-formulated social and behavior change programming. This means using formative research and human-centered design to develop a robust SBCC plan including counseling and other communication

interventions; strengthening health worker facilitation and counseling capacity with appropriate performance support; and amplifying actions by linking with other sectors providing inputs that enable social and behavior change. Likewise, using growth-outcome data to stimulate collective action and improve community accountability for creating an environment that fosters healthy growth merits attention as part of a strong SBCC plan.

## Where Do We Go from Here?

Despite agreement on the critical points to consider for GMP moving forward, the convening highlighted that much work remains to be done, including operational research to understand and unpack efficient and impactful delivery approaches as well as research on targeting, cost-effectiveness, and scalability of a more comprehensive GMP model. In addition, agreement is needed on the role of length measurement, the use of stunting as an individual-level indicator, and the frequency with which to measure child growth. Despite these significant remaining questions, the convening jump-started a valuable discussion informed by substantial programmatic experience that we hope serves as a starting point to reopen the global conversation on why GMP deserves a fresh new look for promoting child growth and development.

## Acknowledgments

The authors' responsibilities were as follows—all authors: contributed equally to the design, writing, and final content of the viewpoint piece; and read and approved the final manuscript.

## References

- Mangasaryan N, Arabi M, Schultink W. Revisiting the concept of growth monitoring and its possible role in community-based nutrition programs. *Food Nutr Bull* 2011;32(1):42–53.
- Ashworth A, Shrimpton R, Jamil K. Growth monitoring and promotion: review of evidence of impact. *Matern Child Nutr* 2008;4(Suppl 1):86–117.
- Schaetzel T, Griffiths M, Plowman B, Alvarado VD, Villalobos C. Evaluation of the AIN-C program in Honduras. Arlington, VA: Basic Support for Institutionalizing Child Survival (BASICS) for the US Agency for International Development (USAID); 2008.
- Mayhew M, Ickx P, Stanekzai H, Mashal T, Newbrander W. Improving nutrition in Afghanistan through a community-based growth monitoring and promotion programme: a pre–post evaluation in five districts. *Glob Public Health* 2014;9(sup1):S58–75.
- Gyampoh S, Otoo GE, Aryeetey RNO. Child feeding knowledge and practices among women participating in growth monitoring and promotion in Accra, Ghana. *BMC Pregnancy Childbirth* 2014;14(1):180.
- Agbozo F, Colecraft E, Ellahi B. Impact of type of child growth intervention program on caregivers' child feeding knowledge and practices: a comparative study in Ga West Municipality, Ghana. *Food Sci Nutr* 2016;4(4):562–72.
- World Health Organization, Global nutrition targets 2025. Policy Brief Series. Geneva: WHO; 2014.
- United Nations. Sustainable development goals: 17 goals to transform our world [Internet]. [cited 2019 Aug 27]. Available from: <https://www.un.org/sustainabledevelopment/>.
- WHO, UNICEF, The World Bank Group, ECDAN, The Partnership for Maternal, Newborn and Child Health. Nurturing care for early childhood development: a framework for helping children survive and thrive to transform health and human potential. Geneva: WHO; 2018.
- Marini A, Bassett LK, Bortman M. Promoción del crecimiento para prevenir la desnutrición crónica: estrategias con base comunitaria en Centro America. Washington (DC): The World Bank; 2009.
- de Onis M, Wijnhoven TMA, Onyango AW. Worldwide practices in child growth monitoring. *J Pediatr* 2004;144(4):461–5.
- The Manoff Group, Child length mat. A community tool to prevent stunting, 2018[Internet]. [cited 2019 Sep 26]. Available from: <https://www.manoffgroup.com/wp-content/uploads/TMG-Length-Mat-Brief.pdf>.
- Hera D, Oktora I, Kapoor M. Length mats: an innovation to reduce stunting in Indonesia. World Bank Group, Indonesia, 2018[Internet]. [cited 2019 Sep 26]. Available from: <https://localsolutionstopovere.org/story/length-mats-innovation-reduce-stunting-indonesia.html> 9/26/2019.
- Conkle J, Suchdev P, Alexander E, Flores-Ayala R, Ramakrishnan U, Martorell R. Accuracy and reliability of a low-cost, handheld 3D imaging system for child anthropometry. *PLoS One* 2018;13(10):e0205320.
- Barnett I, Sulistyio YS, Befani B, KariSari K, Sharmin S, Dewi D. Mixed-method impact evaluation of a mobile phone application for nutrition monitoring in Indonesia. IDS Evidence Report 200. London, UK: Institute of Development Studies; 2016.
- Dimagi, Inc. Continuum of care services: a holistic approach to using MOTECH Suite for community workers. Cambridge, MA: Dimagi, Inc.; 2014.
- Ministerio de Desarrollo e Inclusion Social. Estrategia nacional de desarrollo e inclusion social. MIDIS, Lima, Peru, 2013.
- Sunguya BF, Poudel KC, Mlunde LB, Urassa DP, Yasuoka J, Jimba M. Nutrition training improves health workers' nutrition knowledge and competence to manage child undernutrition: a systematic review. *Front Public Health* 2013;1(September):37.
- Lamstein S, Stillman T, Koniz-Booher P, Aakesson A, Collaiezzi B, Williams T, Beall K, Anson M. Evidence of effective approaches to social and behavior change communication for preventing and reducing stunting and anemia: findings from a systematic literature review. Arlington, VA: USAID/ Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) Project; 2014.
- Menon P, Nguyen PH, Saha KK, Khaled A, Sanghvi T, Baker J, Afsana K, Haque R, Frongillo EA, Ruel MT, et al. Combining intensive counseling by frontline workers with a nationwide mass media campaign has large differential impacts on complementary feeding practices but not on child growth: results of a cluster-randomized program evaluation in Bangladesh. *J Nutr* 2016;146(10):2075–84.
- Nguyen PH, Menon P, Keithly SC, Kim SS, Hajebehoy N, Tran LM, Ruel MT, Rawat R. Program impact pathway analysis of a social franchise model shows potential to improve infant and young child feeding practices in Vietnam. *J Nutr* 2014;144(10):1627–36.
- Graziose MM, Downs SM, O'Brien Q, Fanzo J. Systematic review of the design, implementation and effectiveness of mass media and nutrition education interventions for infant and young child feeding. *Public Health Nutr* 2018;21(2):273–87.
- Nguyen TT, Alayón S, Jimerson A, Naugle D, Nguyen PH, Hajebehoy N, Baker J, Baume C, Frongillo EA. The association of a large-scale television campaign with exclusive breastfeeding prevalence in Vietnam. *Am J Public Health* 2017;107(2):312–18.