

# Translating research into practice: the introduction of the INTERGROWTH-21<sup>st</sup> package of clinical standards, tools and guidelines into policies, programmes and services

A Chatfield,<sup>a</sup> JM Caglia,<sup>a</sup> S Dhillon,<sup>b</sup> J Hirst,<sup>b,c</sup> L Cheikh Ismail,<sup>b</sup> K Abawi,<sup>d</sup> G Kac,<sup>e</sup> AS Al Dhaheer,<sup>f</sup> J Villar,<sup>b</sup> S Kennedy,<sup>b</sup> A Langer,<sup>a</sup> for the International Fetal and Newborn Growth Consortium for the 21<sup>st</sup> Century (INTERGROWTH-21<sup>st</sup>)

<sup>a</sup> Maternal Health Task Force at the Women & Health Initiative, Harvard School of Public Health, Boston, MA, USA <sup>b</sup> Nuffield Department of Obstetrics & Gynaecology, and Oxford Maternal & Perinatal Health Institute, Green Templeton College, University of Oxford, Oxford, UK <sup>c</sup> Department of Obstetrics & Gynaecology, Royal North Shore Hospital, Sydney Medical School, University of Sydney, Sydney, NSW, Australia <sup>d</sup> Geneva Foundation for Medical Education and Research (GFMER), Geneva, Switzerland <sup>e</sup> Social and Applied Nutrition Department, Josué de Castro Nutrition Institute, Rio de Janeiro Federal University, Rio de Janeiro, Brazil <sup>f</sup> Department of Nutrition and Health, College of Food and Agriculture, United Arab Emirates University, Al-Ain, UAE

Correspondence: A Langer, Women & Health Initiative, Harvard School of Public Health, 651 Huntington Avenue, Boston, MA 02115, USA. Email alanger@hsph.harvard.edu

Accepted 2 July 2013

The INTERGROWTH-21<sup>st</sup> Project has generated a package of international clinical standards, tools and guidelines. It is now necessary to plan for the next phase of the project: the translation of the research findings into practice through its global dissemination. The plan is to pre-empt barriers to implementation by drawing from the published literature; gathering views and perspectives from policy makers, programmers and practitioners; incorporating input from local ‘champions’, and collecting and analysing data generated by a monitoring and evaluation system. Working at the global, regional, national and local levels will

enable wide dissemination of the package, as well as increase the scope for adaptation and integration in diverse clinical contexts. We seek maximum uptake of the package in policies, guidelines and clinical practice to improve the quality of care offered to mothers and newborns. The strategy will also enhance our understanding of the effectiveness of different approaches to the translation of evidence into practice.

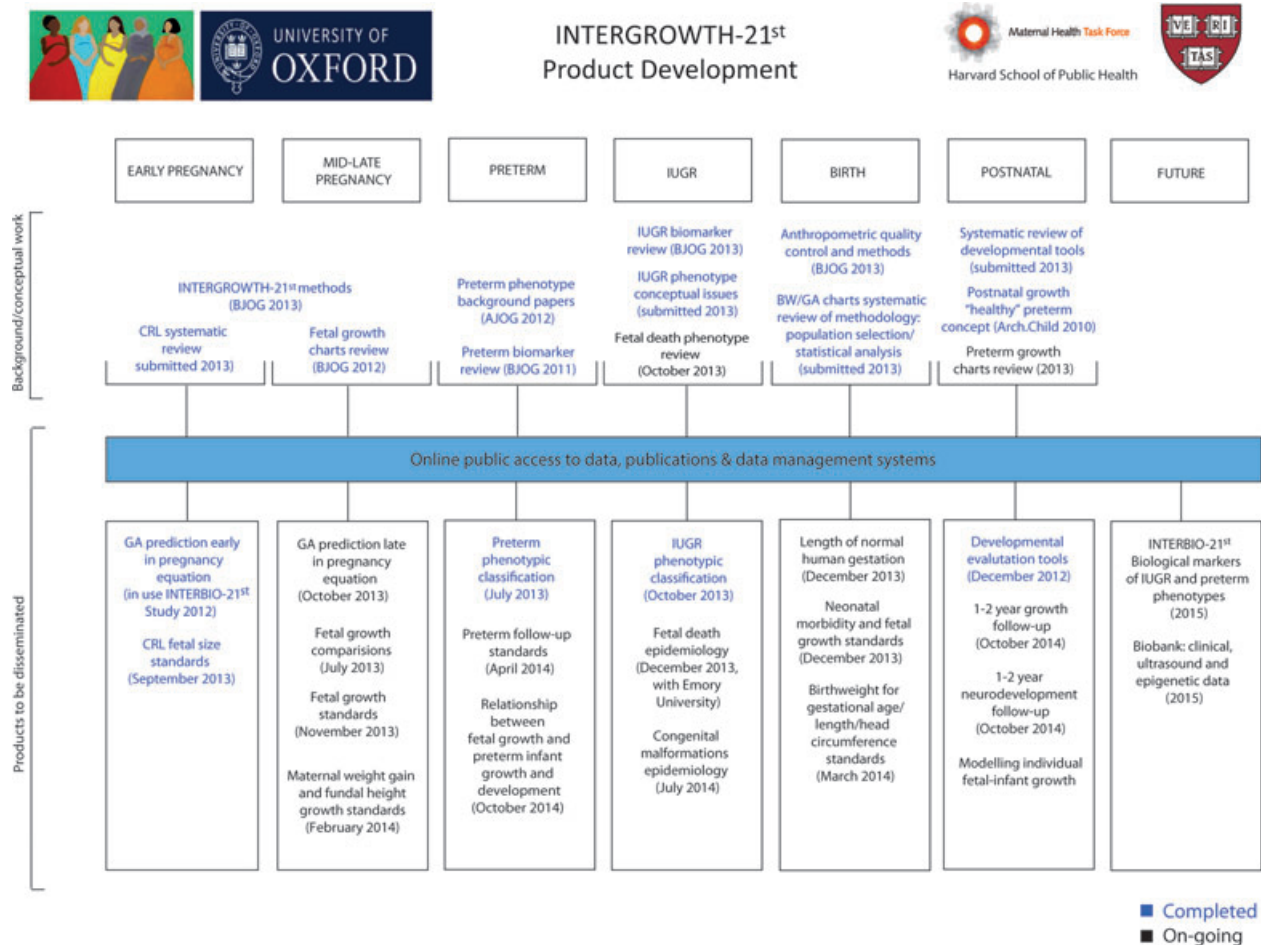
**Keywords** Continuum of care, fetal growth, INTERGROWTH-21<sup>st</sup>, nutrition, standards, translational research.

Please cite this paper as: Chatfield A, Caglia JM, Dhillon S, Hirst J, Cheikh Ismail L, Abawi K, Kac G, Al Dhaheer AS, Villar J, Kennedy S, Langer A, for the International Fetal and Newborn Growth Consortium for the 21<sup>st</sup> Century (INTERGROWTH-21<sup>st</sup>). Translating research into practice: the introduction of the INTERGROWTH-21<sup>st</sup> package of clinical standards, tools and guidelines into policies, programmes and services. BJOG 2013;120 (Suppl. 2): 139–142.

As the largest collaborative global venture in the field of perinatal health research, the International Fetal and Newborn Growth Consortium for the 21<sup>st</sup> Century (INTERGROWTH-21<sup>st</sup>) Project has produced a package of clinical standards, tools and guidelines to improve the continuum of care for mothers and newborns (Figure 1).<sup>1</sup> These open-access resources will allow frontline providers across the world to monitor and evaluate pregnancy, as well as neonatal growth and development, using internationally representative standards. We believe that the INTERGROWTH-21<sup>st</sup> package has enormous potential to improve perinatal health care delivery. However, successful implementation requires managers and providers to

appreciate the value of the resources and incorporate them into clinical practice to improve the health of mothers and newborns. Therefore, the task ahead is to transition the INTERGROWTH-21<sup>st</sup> package from research into practice.

Implementing evidence-based clinical guidelines for integrated maternal and newborn health care is key to improving health outcomes for both mother and baby.<sup>2</sup> Much of the progress made towards Millennium Development Goals 4 and 5 is attributed to the application of research findings and adoption of evidence-based tools.<sup>3,4</sup> However, the challenges of translating research into practice are many. There is a broad literature base that sug-



**Figure 1.** INTERGROWTH-21<sup>st</sup> Project product development.

gests much can be 'lost in translation' on the journey of evidence-based standards from researcher to provider.<sup>5,6</sup> A mismatch between the idealised research environment and clinical reality often limits the feasibility of successfully applying recommendations.<sup>7</sup> These are challenges that will need to be overcome in the next phase of this project.

At the policy and programmatic levels, despite the growing consensus that a continuum of care approach is critical for the post-2015 health agenda, delivery of healthcare services for mothers and newborns is often disaggregated.<sup>8</sup> Attempting to introduce standards that require integrated maternal and neonatal healthcare delivery when there are often separate, and sometimes competing, priorities will certainly be a challenge. At the individual level, we anticipate that changing provider behaviour will be difficult, especially if providers are not convinced that the changes in behaviour needed to use the INTERGROWTH-21<sup>st</sup> package provide additional value and/or are feasible in their contextual, particularly resource-poor, settings.<sup>9,10</sup> Therefore, pre-empting a wide variety of imple-

mentation barriers when designing the plan for the dissemination, implementation and use of the INTERGROWTH-21<sup>st</sup> resources in diverse global settings is essential.

The strategy for translating the INTERGROWTH-21<sup>st</sup> package from research into practice builds on successful approaches documented in the literature and will evolve from our own experience.<sup>11,12</sup> A monitoring system will allow for continuous learning throughout the implementation process, enabling us to adapt and tailor our strategy to meet the unique needs of diverse contexts as implementation unfolds. Our strategy will also focus on ensuring local ownership of the implementation process by engaging networks of regional, national and local 'champions' to advise and lead the adaptation of the research products to meet the needs of individual providers across the world.<sup>13</sup> The learned experience from data collection and management in the INTERGROWTH-21<sup>st</sup> Project will inform our approach.<sup>14</sup>

An essential element of our strategy is substantive, hands-on training targeted towards different types of providers

and other stakeholders who will use the INTERGROWTH-21<sup>st</sup> research products in different ways. In addition, focusing on integrating the new tools with existing guidelines and standards will be a way of building capacity to improve quality and prevent unnecessary competition with other valuable clinical tools.<sup>15</sup> To change provider behaviour we must also communicate the value that the new standards will add and support those providers who face implementation barriers.<sup>16</sup>

Translating the INTERGROWTH-21<sup>st</sup> package will require working at global, regional, national and local levels to achieve optimal uptake. We believe that engaging multi-level actors will open substantive, useful pathways to facilitate multi-directional knowledge transfer. At the global level, we will make the package freely accessible through online platforms that are available to a diverse group of global stakeholders, allowing anyone to use and share the tools with their own regional and local networks. Enabling partners in the INTERGROWTH-21<sup>st</sup> network to work with other maternal and child health consortia will be a way to support the growing community of policy leaders, programmers, managers and providers focused on improving the continuum of maternal and newborn healthcare. We will also ask our regional and national champions to coordinate with and advise relevant local institutions and individuals on how best to integrate the INTERGROWTH-21<sup>st</sup> resources into clinical settings on the ground, and identify appropriate dissemination channels and tactics to overcome context-specific implementation barriers. Local champions will serve as entry points into the clinical setting, playing the part of change agents at the frontline of service delivery. We plan to design, implement and evaluate different approaches to introducing the INTERGROWTH-21<sup>st</sup> package in a wide range of settings around the world, and through rigorous monitoring and evaluation of the dissemination process, we will be able to improve our understanding of the constraints and opportunities that mediate the translation of research-based clinical guidelines into practice.

Part of what makes the INTERGROWTH-21<sup>st</sup> Project unique is its dedication to collaboration, a value that we fully share. The Maternal Health Task Force, the flagship project of the Women & Health Initiative at the Harvard School of Public Health, and a new member of the INTERGROWTH-21<sup>st</sup> consortium, is dedicated to shaping collective efforts to improve maternal and newborn health worldwide, serving as a catalyst to address one of the most critical areas in global health and development. We will use a broad array of tactics to contribute to the successful translation of the INTERGROWTH-21<sup>st</sup> package, including:

- Leveraging our web-based knowledge-sharing platforms to reach multiple audiences;
- Engaging diverse networks of stakeholders;

- Convening discussions and demonstrations of the tools in relevant meetings and conferences; and
- Participating in the design, implementation and evaluation of the most promising approaches to introduce the tools into programmes and services.

Our collective efforts will pay off: the use of these essential tools will strongly contribute to improving maternal and perinatal health globally and especially, in the countries with the highest burden of mortality and morbidity.

### Disclosure of interests

None.

### Contribution to authorship

AC and AL wrote the manuscript and all the authors read and approved the final version.

### Details of ethics approval

The INTERGROWTH-21<sup>st</sup> Project was approved by the Oxfordshire Research Ethics Committee 'C' (reference:08/H0606/139) and the research ethics committees of the individual participating institutions and corresponding health authorities where the Project was implemented.

### Funding

This project was supported by the INTERGROWTH-21<sup>st</sup> Grant ID# 49038 from the Bill & Melinda Gates Foundation to the University of Oxford, for which we are very grateful.

### Acknowledgements

A full list of Members of the International Fetal and Newborn Growth Consortium for the 21<sup>st</sup> Century (INTERGROWTH-21<sup>st</sup>) and its Committees appears on the preliminary pages of this supplement. ■

### References

- 1 Villar J, Altman D, Purwar M, Noble J, Knight H, Ruyan P, et al. for the International Fetal and Newborn Growth Consortium for the 21<sup>st</sup> Century (INTERGROWTH-21<sup>st</sup>). The objectives, design and implementation of the INTERGROWTH-21<sup>st</sup> Project. *BJOG* 2013;120 (Suppl. 2):8–26.
- 2 World Health Organization. *Packages of Interventions: Family Planning, Safe Abortion Care, Maternal, Newborn and Child Health*. Geneva: World Health Organization, 2010.
- 3 World Health Organization and UNICEF. *Countdown to 2015: Maternal, Newborn & Child Survival*. Geneva: World Health Organization/UNICEF, 2012.
- 4 Spector JM, Agrawal P, Kodkany B, Lipsitz S, Lashoer A, Dziekan G, et al. Improving quality of care for maternal and newborn health: prospective pilot study of the WHO safe childbirth checklist program. *PLoS One* 2012;7:e35151.
- 5 Lenfant C. Shattuck lecture—clinical research to clinical practice—lost in translation? *N Engl J Med* 2003;349:868–74.
- 6 Feifer C, Fifield J, Ornstein S, Karson AS, Bates DW, Jones KR, et al. From research to daily clinical practice: what are the challenges in “translation”? *Jt Comm J Qual Saf* 2004;30:235–45.

- 7 Abul-Fadl A, Bagchi K, Cheikh Ismail L. Practices in child growth monitoring in the countries of the Eastern Mediterranean Region. *East Mediterr Health J* 2010;16:194–201.
- 8 Kerber KJ, de Graft-Johnson JE, Bhutta ZA, Okong P, Starrs A, Lawn JE. Continuum of care for maternal, newborn, and child health: from slogan to service delivery. *Lancet* 2007;370:1358–69.
- 9 Althabe F, Belizan JM, Villar J, Alexander S, Bergel E, Ramos S, et al. Mandatory second opinion to reduce rates of unnecessary caesarean sections in Latin America: a cluster randomised controlled trial. *Lancet* 2004;363:1934–40.
- 10 Gulmezoglu AM, Langer A, Piaggio G, Lumbiganon P, Villar J, Grimshaw J. Cluster randomised trial of an active, multifaceted educational intervention based on the WHO Reproductive Health Library to improve obstetric practices. *BJOG* 2007;114:16–23.
- 11 de Onis M, Onyango A, Borghi E, Siyam A, Blossner M, Lutter C, et al. Worldwide implementation of the WHO Child Growth Standards. *Public Health Nutr* 2012;15:1603–10.
- 12 Grol R. Successes and failures in the implementation of evidence-based guidelines for clinical practice. *Med Care* 2001;39:1146–54.
- 13 Lindamer LA, Lebowitz B, Hough RL, Garcia P, Aguirre A, Halpain MC, et al. Establishing an implementation network: lessons learned from community-based participatory research. *Implement Sci* 2009;4:17.
- 14 Ohuma E, Hoch L, Cosgrove C, Knight H, Cheikh Ismail L, Juodvirsiene L, et al. for the International Fetal and Newborn Growth Consortium for the 21<sup>st</sup> Century (INTERGROWTH-21<sup>st</sup>). Managing data for the international, multicentre INTERGROWTH-21<sup>st</sup> Project. *BJOG* 2013;120 (Suppl.2):64–70.
- 15 Oduro-Mensah E, Kwamie A, Antwi E, Amisah Bamfo S, Bainson HM, Marfo B, et al. Care decision making of frontline providers of maternal and newborn health services in the Greater Accra region of Ghana. *PLoS One* 2013;8:e55610.
- 16 Grimshaw JM, Eccles MP, Walker AE, Thomas RE. Changing physicians' behavior: what works and thoughts on getting more things to work. *J Contin Educ Health Prof* 2002;22:237–43.