Introduction to the *Global Matrix 2.0*: Report Card Grades on the Physical Activity of Children and Youth Comparing 38 Countries

Mark S. Tremblay, Silvia A. Gonzalez, Peter T. Katzmarzyk, Vincent O. Onywera, John J. Reilly, and Grant Tomkinson

Active Healthy Kids Canada prepared and released a *Report Card on the Physical Activity of Children and Youth* every year between 2005 and 2014 in an effort to “power the movement to get kids moving” in Canada. This instrument was shown to be very effective at stimulating efforts to improve childhood physical activity¹ and requests were received from many countries to replicate the Report Card in other jurisdictions. To facilitate this, in 2014 Active Healthy Kids Canada hosted a *Global Summit on the Physical Activity of Children* in Toronto, Canada.² The Summit welcomed more than 750 delegates from 32 countries. The highlight of The Summit was the release of the 10th Anniversary Active Healthy Kids Canada Report Card³ that compared grades on 9 report card indicators (overall physical activity; organized sport participation; active transportation; active play; sedentary behavior; family and peers; school; community and the build environment; government strategies and investments) across 15 countries (Australia, Canada, Colombia, England, Finland, Ghana, Ireland, Kenya, Mexico, Mozambique, New Zealand, Nigeria, Scotland, South Africa, United States of America) using a harmonized data gathering and grading framework.^{4,5} The resulting *Global Matrix* provided a comprehensive overview of the “state of the nation” of each participating country, assessing how they were succeeding in providing physical activity opportunities for children and youth, while also providing a forum for international comparisons and shared learning.⁵

The Global Summit and *Global Matrix* release received extensive media coverage (>220 million media impressions in Canada alone; trending on Twitter on day of release) and was deemed very successful by delegates (>90% delegate satisfaction). Participating countries were very satisfied with the domestic and international impact of their substantial efforts in producing report cards. More importantly, participating countries found that the comparison of

who was leading and who was lagging on the various indicators provided insights for improving the grade in their own country. The overall *Global Matrix* process and cross-fertilization of potential solutions was discussed at a post-Summit workshop where it was decided that this initiative should be repeated, with an even greater number and dispersion of participating countries. Given recent evidence of the disproportionate progress on increasing global physical activity levels relative to the disease burden,⁶ and the extraordinary cost of physical inactivity to the global economy,⁷ such repeated efforts seem warranted.

With the goal of creating a *Global Matrix 2.0*, the *Active Healthy Kids Global Alliance* (AHKGA) (www.activehealthykids.org) was created to provide a portal and mechanism where countries interested in participating could register and be mentored on how to develop a Report Card and participate in the *Global Matrix 2.0*. Information about the AHKGA was distributed through networks of those that participated in the first *Global Matrix* and was available with open access on the internet. Forty countries, representing all inhabited continents and from all income levels, responded with interest by the registration deadline (Australia, Belgium, Brazil, Canada, Chile, China, Colombia, Cuba, Denmark, England, Estonia, Finland, Ghana, Hong Kong, India, Indonesia, Ireland, Japan, Kenya, South Korea, Malaysia, Mexico, Mozambique, the Netherlands, New Zealand, Nigeria, Poland, Portugal, Qatar, Scotland, Slovenia, South Africa, Spain, Sweden, Thailand, United Arab Emirates, United States, Venezuela, Wales, Zimbabwe) and all but 2 countries were able to complete their Report Cards and participate in the *Global Matrix 2.0*. These 38 countries represent approximately 20% of the countries in the world, 40% of the world's land mass, 60% of the world's population, and an increase of >150% in participating countries compared to the *Global Matrix 1.0*. On November 16, the *Global Matrix 2.0* was released at the 2016 *International Congress on Physical Activity and Public Health* (www.ispah2016.org) in Bangkok, Thailand. In addition to participating in the launch preparations and activities, all participating country Report Card leaders made poster presentations on their individual country Report Card and provided copies of Report Cards for those in attendance. All Report Cards are also available on the AHKGA website.

This supplemental issue of the *Journal of Physical Activity and Health* serves to preserve the content legacy of the *Global Matrix 2.0*. The supplement contains Report Card summary papers representing all participating countries (presented in alphabetical order) and follow a prescribed manuscript template to facilitate comparisons. Each paper outlines the process used in each country to develop the Report Card, the data sources, partners, final grades for each indicator, and a figure of the Report Card cover. The final manuscript compiles the grades from each of the 38 countries into

Tremblay is with the Healthy Active Living and Obesity Research Group, Children's Hospital of Eastern Ontario Research Institute, Ottawa, Ontario, Canada. Gonzalez is with the Dept of Public Health, School of Medicine, Universidad de los Andes, Bogotá, Colombia. Katzmarzyk is with Pennington Biomedical Research Center, Baton Rouge, LA, USA. Onywera is with the Dept of Recreation Management and Exercise Science, Kenyatta University, Nairobi, Kenya. Reilly is with the Physical Activity for Health Group, School of Psychological Sciences and Health, University of Strathclyde, Glasgow, Scotland. Tomkinson is with the Alliance for Research in Exercise, Nutrition, and Activity (ARENA), School of Health Sciences & Sansom Institute for Health Research, University of South Australia, Adelaide, South Australia, Australia; and the Dept of Kinesiology and Public Health Education, University of North Dakota, Grand Forks, ND, USA. Tremblay (mtremblay@cheo.on.ca) is corresponding author.

the *Global Matrix 2.0* (a matrix of the 9 common indicators for each country), analyses and discusses differences and similarities around the globe, and offers insights for improving the grades.

This supplemental issue of the *Journal of Physical Activity and Health* is available electronically through open access to facilitate access for students, researchers, practitioners, and policy-makers around the world, with assistance from publisher Human Kinetics.

References

1. Tremblay MS, Barnes JD, Cowie Bonne J. Impact of the Active Healthy Kids Canada Report Card: a 10-year analysis. *J Phys Act Health* 2014;11(Suppl 1):S3–S20. [PubMed doi:10.1123/jpah.2014-0167](#)
2. Tremblay MS. 2014 Global Summit on the Physical Activity of Children. *J Phys Act Health* 2014;11(Suppl 1):S1–S2. [PubMed doi:10.1123/jpah.2014-0182](#)
3. Gray CE, Barnes JD, Cowie Bonne JC, et al. The 2014 Active Healthy Kids Canada 10th anniversary report card on physical activity for children and youth. *J Phys Act Health* 2014;11(Suppl 1):S26–S32. [PubMed doi:10.1123/jpah.2014-0178](#)
4. Colley RC, Brownrigg M, Tremblay MS. A model of knowledge translation in health; the Active Healthy Kids Canada report card on physical activity for children and youth. *Health Promot Prac*. 2012;13:320–330. [PubMed doi:10.1177/1524839911432929](#)
5. Tremblay MS, Gray CE, Akinroye K, et al. Physical activity of children: a global matrix of grades comparing 15 countries related to the physical activity of children. *J Phys Act Health* 2014;11(suppl.1):S113–S125. [PubMed doi:10.1123/jpah.2014-0177](#)
6. Sallis JF, Bull F, Guthold R, et al. for the Lancet Physical Activity Series 2 Executive Committee. Progress in physical activity over the Olympic quadrennium. *Lancet*. 2016;388(10051):1325–36. [PubMed doi:10.1016/S0140-6736\(16\)30581-5](#)
7. Ding D, Lawson KD, Kolbe-Alexander TL, et al. for the Lancet Physical Activity Series 2 Executive Committee. The economic burden of physical inactivity: a global analysis of major non-communicable diseases. *Lancet* 2016;388(10051):1311–24. [PubMed doi:10.1016/S0140-6736\(16\)30383-X](#)
8. Tremblay MS, Aguilar Farias N, Akinroye K, et al. Global Matrix 2.0: report card grades on the physical activity of children and youth comparing 38 countries. *J Phys Act Health* 2016;13(Suppl 2):S343–S366.