

The Olympic legacy for Brazil: is it a public health issue?

Legado olímpico para o Brasil: questão de saúde pública?

Legado olímpico de Brasil: ¿tema de salud pública?

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The London 2012 Olympic Games ¹ and the planned Games in Rio de Janeiro, Brazil, in 2016 ² both stipulated that the events would leave a lasting sporting legacy for the hosting country. The idea of establishing a legacy helped justify the billions spent in organizing and hosting this kind of mega event, and had multiple dimensions: sustainability, infrastructure, jobs, tourism, accessibility and health promotion. There was a belief that the legacy may lead to improvements in population health indicators, generated by direct and indirect investments, the latter through socioeconomic determinants of health ³. The sporting legacy has been an important issue of discussion and criticism, both positive and negative ^{1,3}. With less than three years to go before the Rio Games, there are on-going projects aimed at assessing the potential impact of future Games, mainly the economic and urban legacies ⁴. Thus, it seems appropriate to stimulate this debate in the Brazilian Public Health context.

A recent systematic overview focused on the “health legacy” issue and the improvements which may be generated in levels of physical activity and sports among the hosting countries population ⁵. The study showed a current lack of evidence about the Olympic legacy regarding health promotion. Whilst many questions remain unanswered, it was suggested that some strategies need to be considered if we really want

to leave an Olympic legacy for subsequent generations. Studies have indicated the importance of building a “festival effect” (multiple events associated with the Games in a format of a National Olympic “festival”), which has the potential to positively influence people to participate in the Games. Through the promotion of fun-based activities and social networking (as opposed to just competitive sport), it was hoped that people would improve their levels of physical activity. Moreover, studies have found that the organization of the Games, for administrative or policy reasons, generated a negative perception in the population, which decreases participation in the events. This, in turn, has a negative effect on physical activity and possibly for the health levels of the population ⁵. Interestingly, this latter aspect was highlighted as a concern in an editorial published by the newspaper *Folha de S. Paulo* in 2012 ⁶ and endorsed by non-governmental organizations dealing with the issue of the Olympic legacy for Brazil.

The issue at hand makes us wonder if the Rio 2016 Olympic legacy should also be considered from a Public Health perspective, especially the legacy related to health. Editorials in leading international journals, including *The Lancet* ⁷ and the *British Medical Journal* ³, have raised this issue. There is a consensus that one of the main challenges is to set up a well-designed method-

ological framework to evaluate if there are any health benefits for the people of the hosting country⁸. The challenge is complex, mainly because it is difficult to show evidence of attribution in a non-health intervention related to socioeconomic determinants of health delivered in large geographic areas, and that produce catalytic effects⁷.

The most obvious health legacy is the improvement of physical activity levels in the population at national, regional and local levels. One way that this could be evaluated is by adapting VIGITEL, a Brazilian surveillance system of risk and protection factors for chronic diseases by telephone inquiry, thus using a historical series approach before and after the Games⁹.

Furthermore, others variables relating either directly or indirectly to health could be sourced from the Candidature File for Rio-2016. These include four key areas²: (1) “transformation of the city”, which includes better air quality through stronger emissions controls for industry and mass transport, enhanced public transport through the development of the “high performance transport ring”, extensively improved security, preservation of the largest urban forest in the world, and other significant regeneration projects, such as the transformation of the Port area; (2) “social inclusion: homes, training and jobs”, that includes youth skills development (training of volunteers), and supporting the licensing of environmental and socially responsible products; (3) “youth and education”, that includes the increase of the Programa Segundo Tempo, a United Nations-supported program providing sports at public schools, and extra investments in Mais Educação, a Federal program that funds sport infrastructure for public schools; and (4) “sports”, that includes youth athletics scholarships, increased Federal investment in sport, and legacy training facilities outside and within Rio, mainly located in local communities and next to public schools.

Despite the fact that they are not explicitly mentioned in the Candidature File², other actions could also be addressed and evaluated such as the promotion of physical activity and prevention of chronic non-communicable diseases (NCD) integrated into primary health care and public education campaigns on health, both tailored to the Games’ messages⁸.

The Rio-2016 Olympics can be seen as a “complex intervention”, with the evaluation of any legacy as multifaceted¹⁰, and so some general issues seem fundamental: the development of studies that address effectiveness and cost-effectiveness, the identification of outcomes of interest in public and community health, the ability to

search for “attribution” and “additional” effects, the comparison of Olympic programmes to inference scenarios (“control”) modelled by what would have happened if the Games were not held. An important question is whether the same intervention or action (building of an Olympic swimming pool, for example), would be a priority if Brazil was not organizing the Games^{3,11}.

It is suggested that the use of a mixed methods approach would be the best way to evaluate the Games’ legacy. On the one hand, researchers could focus on evaluating the impact of specific programs linked to the Olympic project compared to a scenario where there were no Games³. Alternatively, they could also set up observational studies suitable for large-scale interventions with little or no manipulation of the various components, including continuous monitoring of multiple indicators at local, regional, and national levels. In addition, it is important to select suitable outcomes; biomedical outcomes such as morbidity and mortality for example are unlikely to change in the short or medium term. Other constructs such as “social capital”, “pride and community engagement” are interesting from the perspective of quality of life and well-being. It is also crucial to evaluate potentially negative or adverse consequences of major events, through qualitative research, documentation analysis, and process indicators⁷.

In conclusion, there is currently a dearth of well-designed studies that support the notion that hosting an Olympic Games leads to improvements in health or an increased participation in physical activity and sports (remembering that “absence of evidence” does not necessarily mean “absence of benefits”). The consensus is that the true legacy of the Games should be evaluated by studies of high methodological quality, using research protocols that are developed and informed by a dynamic environment. Such studies should monitor and evaluate the impact of various projects and initiatives linked to the Rio-2016 Games, generating scientific evidence that can support local policy makers, as well as the organizers of future Olympic Games. Thus, it is essential that Brazil develops research projects that evaluate the Olympic legacy across all these dimensions, and that the impacts on the health of the entire Brazilian population are examined, and so it seems clear that the field of public health must be actively involved in this.

Contributors

M. M. P. Demarzo presented the initial study conception, wrote the first version and organized subsequent versions up until the submitted article. K. R. Mahtani, S. P. Slight, C. Barton, T. Blakeman and J. Protheroe contributed to the write-up of the article up until its final version.

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