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## 21. Health Impact Assessment of sports mega-events

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### INTRODUCTION

Sports mega-events (SME) represent large financial investments for their host country or cities and have the potential to produce major health, economic and social impacts. SME introduce changes that affect territorial balances and leave lasting traces. However, evidence analysing the outcomes of these SME, which notably include Olympic Games and Paralympic Games (OPG), Commonwealth Games and Asian Games, is scarce and not particularly conclusive (McCartney et al., 2010; Siliquini et al., 2014; Kemlo and Owe, 2015).

While the anticipated effects of the OPG have been analysed in specific sectors such as employment, economic spin-offs and tourism, a comprehensive approach to OPG legacies remains underdeveloped. Despite initial concerns dating back to the Melbourne 1956 Olympics, the International Olympic Committee (IOC) only mandated legacy planning as part of the bidding process in 2000 (Preuss, 2019). Host cities of the twenty-first-century OPG have since made increasingly significant commitments to legacy planning (London East Research Institute, 2007). Starting with the 2026 Olympics, host cities will be required to monitor and report on their legacy for several years post-event (IOC, 2018). However, a clear and universally accepted framework for defining and measuring OPG legacy is still lacking. The concept of legacy remains ambiguous (Agha et al., 2012; Scheu and Preuss, 2017), creating challenges in establishing robust systems for its assessment. Consequently, much of the Olympic legacy remains undocumented. Recent advancements in the literature (Preuss, 2019) propose a legacy framework designed to be integrated from the outset of a host city's bidding process. This framework categorizes legacy into six key structural changes: urban development (space); environmental enhancement (space); policies and governance (people); human development (people); intellectual property (people); and social development (people). Despite its potential, this framework has not yet been implemented in practice, leaving a significant gap in the systematic planning and realization of Olympic legacy. What is more, the framework does not directly address health issues, which are in part considered within the "social development" dimension.

Health Impact Assessment (HIA) is a way of sharing with relevant stakeholders of a project the issues that may have an impact on health or well-being. Although only recently introduced into the practice of SME, a few HIAs have now been carried out: two rapid HIAs for the London 2012 OPG (Buroni, 2004; Chappel and Bailey, 2006), followed by a participatory HIA for the Glasgow 2014 Commonwealth Games (McCartney et al., 2010). Since SME are usually promoted as having lasting, positive effects on health as a justification for their

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considerable costs, HIA has the potential to improve the study of those impacts and contribute to better health promotion policies, thus leading to more durable legacies.

The purpose of this chapter is to show how the HIA of the Paris 2024 OPG can be used to better plan and manage the future legacy of another SME. The HIA approach developed in Paris will be extensively discussed in the next section. In the third section, the key learnings of this HIA will be presented in terms of benefits and limitations. Finally, the conclusion will reflect on lessons learned and the future of SME legacy.

## CASE STUDY: HIA OF OLYMPIC GAMES PARIS 2024 LEGACY

### Context

The Impact and Legacy Unit (ILU) of the Paris 2024 Bid Committee (BC) coordinated measures aimed at maximizing the OPG legacy for society as a whole and contributing to positive impact in various sectors: development of sport, civic engagement, education, social inclusion of people with disabilities, environmental issues, sustainable development, territorial development, economic development, etc. (Paris 2024a, 2017; Paris 2024b, 2016; Paris 2024c, 2017). To this end, the Regional Health Observatory (ORS Île-de-France) and the City of Paris Environmental Health Department were commissioned by the Paris 2024 BC and the health representative of the city of Paris to carry out a HIA (from November 2016 to June 2017) aiming to identify the main effects of the Games proposal on health and well-being, help to construct the heritage strategy and contribute to the widespread dissemination of knowledge on the determinants of health in public policies. Among the authors, Muriel Dubreuil and Céline Legout were the team responsible for conducting the HIA, while Jean Simos was a member of one of three external advisory technical working groups, tasked with providing advice and proposing recommendations during the HIA.

### Concept of the Paris 2024 OPG

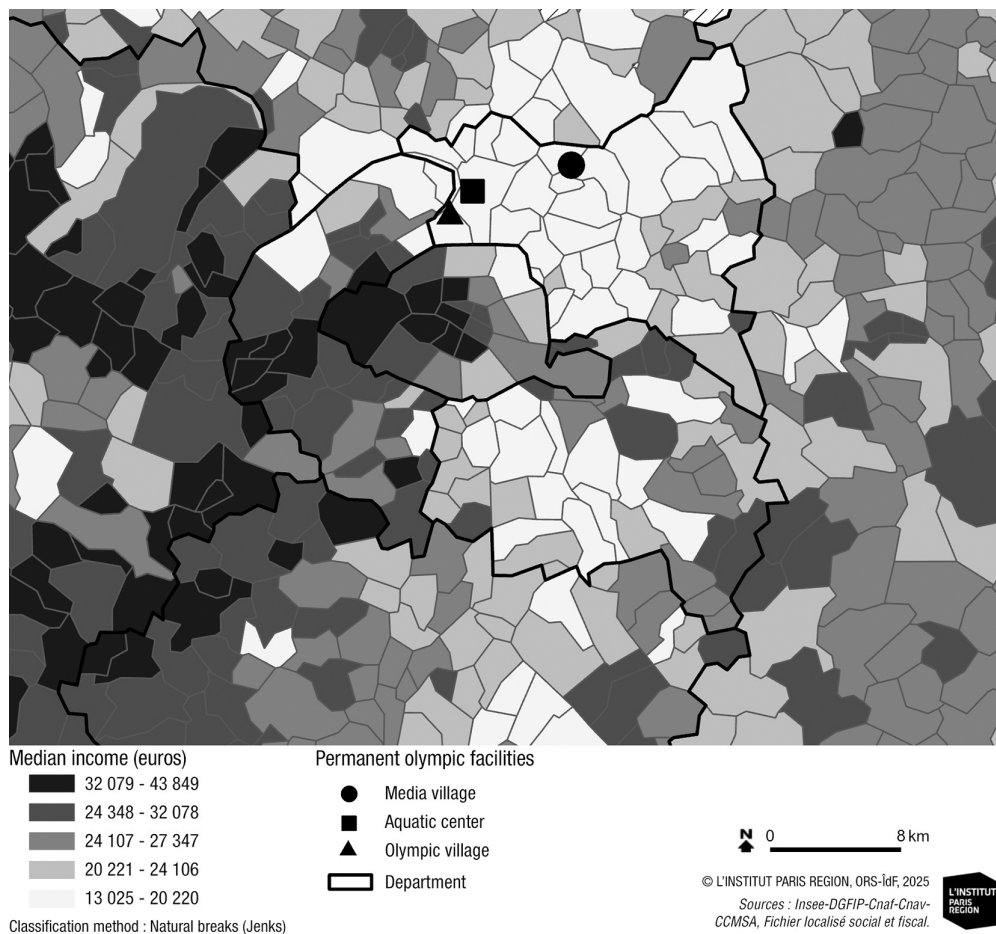
The Paris 2024 BC proposed a compact and low-carbon Olympic Games format, with competition venues grouped around two axes: the heart of Paris and the Paris–Seine–Saint-Denis axis, which is the most disadvantaged area in the Île-de-France region. The vast majority (95%) of the Olympic venues were already existing or temporary, the ARENA project and the Olympic swimming pool (Saint-Denis) being the only sports facilities built to host the OPG events. After the Games, it was planned that the infrastructure would be reconverted and that the Olympic Village would be transformed into an eco-district of around 3,000 homes, while the Media Village would be turned into a new district of 1,500 homes.

The Paris 2024 bid aimed to contribute to accelerating the introduction of new metro lines and reducing the territorial disparities between the Seine-Saint-Denis department and Paris. It aimed to leave a positive legacy, promote a better quality of life and a more inclusive and sustainable society through sport and a compact, low-carbon Olympic project (Paris 2024d, 2017; Paris 2024e, 2016; Paris 2024f, 2016; Paris 2024g, 2017). The Paris 2024 BC and the City of Paris (Health Deputy) had decided to carry out an HIA on the Legacy strategy during the bidding phase of Paris 2024.

### OPG Area Characteristics

Even if the whole of the Île-de-France region and other French regions were part of the Olympic event, the City of Paris and the Seine-Saint-Denis area were particularly involved. The HIA therefore focused on the Île-de-France region, paying particular attention to the Greater Paris area. It is highly urbanized, and it is the richest region in France, with the lowest unemployment rate. Yet income disparities are the widest: the income gap between the poorest 10% of households and the richest 10% has an average ratio of 5 (see Figure 21.1).

In 2014, life expectancy for men in Île-de-France was the highest of all French regions (80.8 years), and life expectancy for women was also the highest in the Pays-de-la-Loire region



Sources: Authors' elaboration based on Insee (2025).

**Figure 21.1** *Median disposable income per consumption unit in 2016 in Île-de-France*

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(85.9 years). However, there were still major disparities within the region: the difference in life expectancy (men and women) reached 6.5 years between the areas with the highest life expectancy (86.6 years) and those with the lowest (80.1 years).

## HIA Methodology

This HIA was based on a comprehensive literature review examining past major sporting events in similar settings and their associated health impacts. It focused on identifying the anticipated effects on the living environment in Paris and Seine-Saint-Denis, as well as assessing the expected impact on the health and quality of life of residents in the host areas. Conducted as a rapid HIA over an eight-month period (November 2016 to June 2017), it relied on existing data without additional data collection and involved limited stakeholder consultation. The process followed a standard step-by-step HIA methodology, including screening, scoping, appraisal, recommendations and follow-up.

### Screening

The screening stage was conducted through a series of steps. First, a rapid literature review was undertaken to examine previous HIAs conducted in the context of the Olympic Games. Preparatory meetings were then held with decision-makers to discuss relevant findings. Health determinants potentially impacted by such events were outlined in a working paper, which was subsequently presented and debated. As a result of these discussions, decision-makers agreed to adopt an HIA approach focused on the legacy dimension of the Paris 2024 OPG.

### Scoping

The HIA team structured its analysis of the Paris 2024 OPG into key components, following a consistent analytical framework to establish links with health and anticipate potential effects. A distinction was made between tangible legacy (e.g., built environment and infrastructure) and intangible legacy (e.g., community engagement, behavioural changes), in alignment with the definition provided by the International Olympic Committee (IOC) (Comité International Olympique, 2013). During this step, elements to be included in the next phases of the HIA were prioritized based on factors such as potential health impact, feasibility and policy relevance (see Table 21.1 for details).

Prioritization was carried out on nine identified components (three of them related to tangible and six of them related to intangible legacy) (see Figure 21.2).

Three components or sub-components of intangible legacy were selected by decision-makers (see Box 21.1).

#### BOX 21.1 AXES/ACTIVITIES INCLUDED IN THE HIA BY SELECTED APPLICATION COMPONENTS

##### SPORTS FOR ALL

National policies/plans/programmes are not included in this rapid metropolitan and regional HIA.

- Ambassador athletes

- Handicap
- Specific populations
- Urban planning, physical activity and sport
- Companies.

**JOBS AND VOLUNTARY WORK**

Tourism strategy does not fall within the scope of this rapid HIA. Jobs strategy (“Mobilizing youth and citizenship” component) will be dealt with in conjunction with the “Jobs” component (there are many lessons to be learned from feedback from previous host cities).

- Local businesses
- Training/integration for young people
- Welcoming tourists
- Volunteering.

**STRATEGY FOR ENVIRONMENTAL EXCELLENCE**

Sustainable mobility was outside the scope of this rapid HIA (it was included in the “Public transport and active mobility” component).

- Circular economy
- Climate change
- Quality of life.



**Appraisal**

As social and territorial inequalities in health are significant in the host areas, differential impacts by population sub-groups were identified. The main sources of information for the HIA were:

*Table 21.1 Summary of criteria used for prioritization: scoping – rapid HIA*

Criteria related to health issues	Criteria related to project characteristics
Extent of expected health impacts	Adjustability of the policy or project
Availability of evidence-based data	Availability of sufficient information on the policy or project
Equity issues	Stakeholder engagement
Population sub-groups more specifically affected	Political context of the project

*Source:* Authors.

PARIS 2024 Bid			
Type of Legacy	General Description	Components for the HIA	Conditions for the HIA
<b>Tangible Building Infrastructures</b> 	<ul style="list-style-type: none"> <li>- Build and repurpose Olympic venues</li> <li>- Develop the region's sports facilities</li> <li>- Expand public transport</li> <li>- Promote active mobility while ensuring metropolitan continuity</li> <li>- Strengthen the urban link between Paris and Seine-Saint-Denis</li> </ul>	<ul style="list-style-type: none"> <li>a. Olympic venues</li> <li>b. Sports facilities</li> <li>c. Public transportation and active mobility</li> </ul>	<ul style="list-style-type: none"> <li>* Stakeholder involvement (venues)</li> <li>* Availability of project documents (timelines)</li> <li>* Evidence-based data</li> <li>* Methods</li> </ul>
	<ul style="list-style-type: none"> <li>- Reclaim the Seine, canals, and banks</li> <li>- Aim for environmental excellence</li> <li>- Encourage technological innovation</li> <li>- Maximise the economic and tourism benefits of the Games</li> <li>- Promote sports for all</li> <li>- Engage youth and citizenship</li> <li>- Mobilise the cultural sector</li> <li>- Foster international cooperation</li> </ul>	<ul style="list-style-type: none"> <li>d. Seine, canals and banks</li> <li>e. Environmental excellence</li> <li>f. Economy, tourism</li> <li>g. Sports for all</li> <li>h. Youth mobilisation and citizenship</li> <li>i. Cultural sector mobilisation</li> </ul>	<ul style="list-style-type: none"> <li>* Ad hoc expertise involvement</li> <li>* Coexistence of public policies and projects</li> <li>* Availability of documents</li> <li>* Evidence-based data</li> <li>* Methods</li> </ul>
<b>Intangible Individuals, Communities Society</b> 			

Source: Dubreuil and Legout (2017).

Figure 21.2 Paris 2024 bid synthetic overview

- Scientific literature review (in this chapter, those elements have been updated, when relevant, with references published after HIA completion in 2017).
- Grey literature (reports and documents produced by resource centres or host countries in the field of both Olympic studies and public health).
- HIA reports on previous Olympic Games.
- Reports from the “sport and society” and “environment” consultative committees led by the Paris 2024 OPG committee.
- Readily available indicators.
- The opinions of the three technical working groups were set up on an *ad hoc* basis.

This step led to two successive deliverables: (i) an interim report produced in January 2017 based on a benchmark of previous editions of selected host cities; and (ii) the final HIA report presenting all the results was issued to commissioners in June 2017, and an edited version for the public was released in December 2017 after Paris 2024 was officially confirmed on 13 September 2017 as an Olympic organizing city.

## Summary of Evidence Collected

### Impacts on physical and sporting activity

Extensive evidence shows that regular physical activity, even at moderate levels, reduces mortality, prevents chronic diseases like cancer, cardiovascular issues and diabetes, and enhances overall quality of life (Inserm, 2008). For children, it supports healthy growth, while for adults and the elderly, it helps manage weight, prevent osteoporosis and maintain independence. Physical activity is also a key part of managing chronic conditions such as heart disease, obesity and diabetes, improving sleep quality and daytime alertness.

In France in 2016, less than 37% of adults and less than 32% of people aged over 65 were physically active at levels considered healthy (Anses, 2016). Those who do not engage in physical activity or sport are older than the average, have lower incomes, fewer qualifications and are also predominantly female. In Seine-Saint-Denis, 17.6% of people aged 15 and over do not take part in physical activity, compared with 11.6% in Paris and 12.4% in the entire Île-de-France region (Institut Régional de développement du Sport, 2012; Institut Régional de développement du Sport, 2015).

Benchmarking and academic studies, especially those based on the London 2012 Olympic Games, suggest that a positive public attitude towards the Games is a prerequisite for increasing participation in sport. Furthermore, without sports and educational programmes targeting the people who are furthest from practising, the Games do not seem to be able to increase the level of physical activity of these less active groups (Weed et al., 2009). Recent systematic evidence suggests that sports mega-events do not result in long-term increases in physical activity among the population (Bauman et al., 2021).

According to experts, Paris 2024 OPG had the potential to boost physical activity and sport. They recommended promoting a “culture of movement” by addressing not only sports but also time spent outside of sports activities, like transport. They emphasized the need for cross-sectoral collaboration, spanning sports, education, urban planning, transport and business, to create environments that encourage physical activity. Additionally, they advised targeting inactive individuals through their social circles and leveraging active people to inspire change. Finally, they proposed intergenerational approaches to increase physical activity among seniors (Dubreuil and Legout, 2017).

### Indirect health impacts associated with employment and volunteering

There are significant differences between the socio-economic indicators in the areas involved in hosting the Games. In Seine-Saint-Denis, there are more single-parent families (headed by women) in a precarious economic situation, young people with fewer qualifications and higher unemployment rates, particularly among 15–24-year-olds (Insee, 2016).

Through income, social networks and the socio-economic status it provides, work is a major determinant of health status. It facilitates recovery from health problems, increases life expectancy and the number of disability-free years, and improves quality of life and overall physical and mental health. However, these benefits are tempered by the negative effects on health of occupational exposure and ways of organizing work. The unequal distribution of employment conditions (unemployment, involuntary part-time work, job insecurity) and working conditions between social groups and between sectors of activity also plays a full part in the construction of inequities in health, causing an important impact on health (reduced

life expectancy, worsening of chronic pathologies and higher mortality) (Doyle et al., 2005; Waddell and Burton, 2006).

Job insecurity and unemployment have proven negative effects on health: an increase in unhealthy behaviours (smoking, alcoholism, etc.) and in premature mortality, the risk of depression and the suicide rate, and an increased risk of cardiovascular pathologies, including myocardial infarction (Doyle et al., 2005; Waddell and Burton, 2006).

Working conditions have an impact on health, which can result in pathologies or accidents. There are many health risks in the workplace: the negative consequences of occupational exposure (chemical, biological, physical stress, etc.) or psychosocial risks; and the negative effects of certain ways of organizing work (long working hours, commuting, etc.) (Inserm, 2011; Kavanagh et al., 2005).

The social and supportive economy is likely to have positive effects on overall health and well-being by improving self-esteem and health behaviours, reducing stigmatization and strengthening social capital, but the evidence is still insufficient (Roy et al., 2014).

Currently, the evidence regarding the socio-economic effects of the Games is insufficient. Previous experience shows that the Games encourage the creation of short-term jobs (mainly in the construction, tourism and events sectors), but there is little evidence that they are transformed into lasting jobs (Kasimati, 2003; Kemlo and Owe, 2014; Davis, 2019). Strategies for recruiting and supporting volunteers, on the other hand, have been shown to have a positive effect on skills acquisition and the development of a social network to facilitate future professional integration (Kemlo and Owe, 2014; Rand Europe, 2007).

According to experts, there is a need to address the diverse challenges faced by job seekers to link them with employment opportunities created by the Games. This entails addressing social barriers, developing tailored local strategies and using regional resources. Moreover, attention must be given to the potential competition between different types of contracts within the employment context of the Games (Dubreuil and Legout, 2017).

### Impacts on the physical environment

The areas hosting the Paris 2024 OPG experience significant environmental disparities (Gueymard, 2016). Some neighbourhoods face higher levels of pollution, urban pressure and substandard housing, exacerbating existing inequalities. Intense urbanization contributes to environmental nuisances, including air pollution (linked to respiratory diseases), noise (associated with stress and sleep disturbances) and waste accumulation (posing sanitation risks). Additionally, land pressure and soil contamination from past industrial activity remain ongoing public health concerns. These environmental challenges disproportionately affect the most disadvantaged populations, increasing their vulnerability to pollution-related illnesses, housing-related health problems and overall poorer well-being (Rand Europe, 2007; Host and Telle-Lamberton, 2014). Several cancers, respiratory diseases, hormonal imbalances, fertility disorders and neurological disorders appear to be increasingly correlated with environmental factors. Exposure to environmental risks (e.g., heavy metals, pesticides, solvents and persistent organic pollutants) can have an impact on health even before birth. In addition, the characteristics of a home or neighbourhood, such as light pollution, noise, air quality and accessibility to services, have an impact on stress levels, which can also indirectly increase the risk of chronic pathologies and reduce life expectancy.

Policies aimed at mitigating climate change bring major co-benefits for health, specifically at the territorial level: the reduction in risks linked to air pollution (reduction in respiratory

and cardiovascular diseases, cancers, etc.); the major health gains from healthy lifestyles (more physical activity); the health co-benefits of green spaces (reduction in respiratory and cardiovascular pathologies, obesity and type 2 diabetes, and improvements in mental health and cognitive functions); and the health benefits associated with healthy housing (Watts et al., 2015).

There is evidence that the Olympic Games have at different times been the source of innovative solutions that have subsequently spread more widely in the host country’s society. The issues of low-energy consumption, more healthy transport, food supply, waste and water management and the preservation of natural environments have been addressed in previous editions (Tarradellas, 2010; Ashton, 2016).

According to experts, improving the physical environment must address territorial and social inequalities. They advocate for citizen participation to foster support and collaborative solutions, promoting long-term behavioural changes and healthy lifestyles. Additionally, they stress the need to thoughtfully integrate the Olympic and Media Villages into their surroundings. Finally, they recommend considering emerging health and environmental issues and adopting interdisciplinary approaches (Dubreuil and Legout, 2017).

**Synthesis of expected health impacts**

The main health impacts, in terms of their probability of occurrence and the robustness of the evidence supporting them, are summarized in Tables 21.2a, 21.2b and 21.2c.

Getting the population to move more is likely to be particularly beneficial for children, leading to better school results, and possibly for the psychophysical state of the elderly. In terms of employment, the expected impacts are ambivalent, with the creation of income-generating opportunities having to be weighed against the risks arising from precarious working conditions, particularly for foreign, low-skilled and temporary workers. Finally, in terms of sustainability, the positive effects resulting from efforts to improve the environment and public space must be weighed against the risks (exposure to pollution, safety) entailed by the greater use of these spaces.

*Table 21.2a Main health impacts: get 10 million people into physical or sports activity*

Health Determinants	Health Impacts	Impact Probability	Strength of Evidence
Concentration/school results	Positive	Probable	***
<ul style="list-style-type: none"> <li>• Self-esteem, self-efficacy, self-confidence</li> <li>• Healthy behaviours</li> <li>• Social connection, social capital</li> <li>• Accessibility</li> </ul>	Positive	Possible	***

Source: Authors.

Table 21.2b Main health impacts: create between 110,000 and 250,000 jobs

Health Determinants	Health Impacts	Impact Probability	Strength of Evidence
Income, social status, self-esteem, social support and networks, access to healthcare	Positive	Probable	***
<ul style="list-style-type: none"> <li>• Work organization</li> <li>• Psychosocial factors</li> <li>• Other occupational risks (physical, chemical, ergonomic)</li> </ul>	Positive and negative	Possible	***
<ul style="list-style-type: none"> <li>• Employment conditions</li> </ul>	Negative	Possible	***

Source: Authors.

Table 21.2c Main health impacts: develop a sustainable, compact and efficient Olympic project

Health Determinants	Health Impacts	Impact Probability	Strength of Evidence
Physical activity, sense of security, social network, public spaces, climate (urban heat islands), air, soil	Positive and negative	Probable	**
<ul style="list-style-type: none"> <li>• Climate, lifestyle habits, and air</li> <li>• Sustainable infrastructure, natural sites, and quality of life, lifestyle habits, land use planning, climate, air</li> <li>• Mobility of people, physical activity, sense of security, social network, public spaces, air</li> </ul>	Positive	Possible	**

Source: Authors.

Notes: Health Impacts: Indicates whether a potential health effect is beneficial or adverse. Positive: Changes that can improve health. Negative: Changes that can deteriorate health. Impact Probability: Indicates the level of certainty about the occurrence of the health effect. Confirmed: Impacts that are certain to occur as a result of the projects (75 to 100% probability). Probable: Impacts that are likely to occur as a result of the projects (50 to 75% probability). Possible: Impacts that may occur as a result of the projects (25 to 50% probability). Hypothetical: Impacts that are unlikely but still possible as a result of the projects (0 to 25% probability). Strength of Evidence: \*\*\*: strong evidence from numerous consistent data sources. \*\*: some reliable data sources available. \*: no direct evidence identified, but consistent with public health principles.

## Recommendations of the HIA

### Physical activity

The key recommendations aim to promote physical activity by encouraging inactive people to start or resume physical activity, creating environments that support physical activity and sport and fostering a long-term commitment through cross-sectoral approaches. This includes

reducing barriers to access, developing intergenerational and women–children activities, and promoting engagement through events and urban design. Strategies should be based on understanding barriers, using existing local resources and leveraging major sporting events. The goal is to make physical activity accessible and integrated into daily life for all groups (Dubreuil and Legout, 2017).

### **Employment and volunteering**

The key recommendations focus on maximizing employment and volunteering benefits through strategic partnerships and targeted programmes. To ensure fair and sustainable employment practices, a charter or label should be established for partner companies, alongside public–private partnerships to optimize regional benefits. Vocational training should be aligned with regional economic strategies, leveraging local networks to improve employability. To support youth employment, an “Olympic work-study contract” should be introduced, providing hands-on experience and training opportunities. Additionally, job creation should be strategically planned across different phases of the event to ensure long-term employment benefits. Health prevention programmes should be implemented to support both workers and volunteers, addressing occupational health risks and promoting overall well-being. Finally, volunteer engagement should go beyond the Games by enhancing skill development and facilitating future professional integration (Dubreuil and Legout, 2017).

### **Physical environment**

The key recommendations include participatory approaches to involve the population in the legacy-building process. Collaboration among innovators and researchers is needed to develop best practices. Furthermore, they highlight the need for exemplary environmental practices and anticipating unfavourable climate scenarios. The goals include ensuring safe bathing in the Seine River and using phytoremediation for cleaning up soils. Finally, they call for developing local Health Impact Assessments and using international expertise for public health policies (Dubreuil and Legout, 2017).

### **Urban transformation**

Hosting the Olympic Games can act as a catalyst for the revitalization of abandoned or neglected urban areas. Cities leverage these events to justify substantial investments in infrastructure, including transport networks, sports facilities and public spaces. These urban projects aim to improve housing and living conditions and thus affect numerous socio-economic and environmental determinants of health and well-being. The benchmark of Olympic cities shows that the risk of gentrification cannot be ruled out, in connection with demanding standards and high construction costs (Essex and Chalkley, 2010; Smith, 2012). Studies conducted in the UK and the United States show that gentrification can lead to a reduction in life expectancy, higher infant mortality, a higher prevalence of several cancers and an increased incidence of asthma, diabetes and cardiovascular disease in certain population groups (Redfern, 2003).

At the infrastructure level, a major challenge is the post-event utilization of sports venues and infrastructure, as well as the effective transfer of knowledge and best practices from the construction phase to future urban projects (Olympic Delivery Authority, 2011). While some cities manage to repurpose these facilities successfully, others struggle, leading to underused

or abandoned venues, rapidly deteriorating due to lack of maintenance and becoming so-called “white elephants” (Panagiotopoulou, 2014; Müller and Gaffney, 2018).

### **Vulnerable groups**

Feedback has shown that certain population groups regularly appear to be excluded from the benefits expected from the Games, and that groups which benefit overall from the positive spin-offs of the Games (employment, residential mobility, etc.) have a high level of social capital, that is, very good social integration and a strong sense of belonging to the community. It is more difficult to engage the groups that most need to benefit from the opportunities created by the Games, including in volunteer programmes (Minnaert, 2012). The Olympic and Paralympic Games also represent a unique opportunity to involve people with disabilities by improving accessibility and transforming social relations (Brittain and Beacom, 2016; Minnaert, 2012). Finally, various articles document the potential negative effects of the Games for poorly housed, marginalized or homeless populations, if they are considered to damage the image of the organizing city (St Mungo, 2012; Minnaert, 2012). Anticipating societal issues, such as a migration crisis, is a big challenge for the legacy of such an event.

### **Community participation and civic commitment**

Community acceptance of a major sports event at the local level depends on everyone being convinced that the benefits, but also the expected negative impacts, will be fairly distributed throughout society. Residents are more likely to take a positive view of the Olympic project if they feel that they are part of the process and have a relationship of trust with the organizers. The participation of different population sub-groups in projects that concern them helps to improve social cohesion, social capital and neighbourhood cohesion, all of which are determinants of health (St Mungo, 2012; Waitt, 2003).

## **KEY LEARNING FROM THE PARIS 2024 HIA**

The following analysis of the Paris 2024 HIA is structured around six thematic areas that collectively shed light on the strengths, limitations and broader implications of applying HIA to large-scale sporting events. These themes include: (1) the strategic value and integration of the HIA into the Paris 2024 legacy planning; (2) methodological and operational limitations; (3) issues of participation and deliberative governance; (4) territorial equity and convergence; (5) the role of timing and evaluation frameworks in sustaining policy impact; and (6) broader methodological reflections relevant to future HIAs. Together, these dimensions offer a comprehensive understanding of how health can be integrated into Olympic planning and legacy development.

### **Strategic Value and Integration of the HIA**

The HIA conducted for Paris 2024 provides valuable insights into how large-scale sporting events can shape public health outcomes when health is considered early in the planning process. The HIA was initiated in line with the timeline of the OPG bid, using a rapid methodology adapted to the constraints of limited data, a compressed schedule, and the IOC's standardized requirements for candidate cities. Although detailed project designs, such as

those for the Olympic Village or arenas, were not yet available, the HIA sought to innovate by focusing on broader determinants of health and synthesizing available evidence to formulate recommendations.

Despite these limitations, the HIA proved influential. It served as a roadmap for stakeholders, identifying potential health risks and benefits for affected populations. Its findings informed the legacy programme “Transformations Olympiques” launched by the City of Paris, an unprecedented initiative established five years prior to the event. Of the 20 measures in the programme, 13 aligned directly with the HIA’s recommendations. One tangible example of this alignment is the incorporation of physical activity promotion and active design features into urban redevelopment efforts in Porte de la Chapelle, even before the Games began. Moreover, the HIA contributed to institutional change: the City of Paris established a permanent HIA unit within its environmental health department, using this assessment as a pilot initiative to inform broader urban health strategies.

### **Limitations in Methodology and Scope**

Although the HIA had strategic influence, its methodology and scope were constrained by several factors. The rapid approach, based on literature review and existing data, did not allow for a detailed, territory-specific impact assessment. Olympic infrastructure projects were only outlined at the time, making local-level analysis difficult. As such, the HIA adopted a global rather than spatially differentiated approach. This macro-perspective helped identify general health determinants, but it limited the understanding of how benefits and risks might be distributed across neighbourhoods.

In addition, the HIA excluded crucial institutional components such as the healthcare system and public safety strategy. These sectors, essential to health outcomes, were not considered within the legacy planning framework and were only engaged during the Games’ operational phase. Confidentiality requirements during the bid also limited transparency and data access. Furthermore, the overlap between the bid process and the HIA timeline complicated dissemination, reducing its visibility and potential influence during early implementation.

Dissemination challenges were exacerbated by the COVID-19 pandemic, which disrupted planned follow-ups and delayed integration efforts. Although the HIA team remained involved through events organized by the Olympic Committee and communication with host territories, the large number of actors involved made coordination complex. Employment-related issues raised in the HIA, such as fair recruitment and inclusivity, did receive early media attention, indicating some level of public engagement. However, the lack of a systematic follow-up mechanism, a common shortcoming in many HIAs, hindered long-term knowledge transfer.

### **Participation and Deliberation in the HIA Process**

Participation is a cornerstone of robust HIA practice. In the case of Paris 2024, participatory methods were notably absent. Unlike the HIA conducted for the Glasgow 2014 Commonwealth Games, which actively involved citizens and stakeholders to co-define legacy goals, the Paris HIA was shaped by expert input and internal advisory structures. While thematic committees and three expert working groups (on physical activity, employment and environment) contributed during the recommendation phase, the exclusion of community voices represents a missed opportunity to capture lived experiences and address locally relevant health concerns.

The lack of participatory engagement may have resulted in gaps regarding how local populations perceived the Olympic project, and in turn, how legacy measures might align with community needs. The use of advisory groups helped improve technical robustness, but it could not substitute for direct interaction with residents or local authorities. Participation must become a fundamental component in future OPG-related HIAs if their outcomes are to reflect diverse perspectives and build broader public support.

### **Territorial Equity and Convergence**

One of the most significant contributions of the Paris 2024 HIA was its emphasis on territorial equity. Large-scale events like the Olympics often amplify existing inequalities, especially in urban settings undergoing rapid transformation. The HIA underscored the importance of “territorial convergence”, a strategic commitment to minimizing health disparities and avoiding negative externalities such as gentrification or displacement of vulnerable populations.

This concern was especially relevant for the redevelopment of the Olympic and Media Villages. The HIA drew on lessons from London 2012, where similar objectives had been articulated in efforts to harmonize socio-economic indicators across host neighbourhoods. The Paris HIA sought to embed equity-focused measures into legacy planning, including initiatives targeting education, employment and public space design. This systemic focus on equity positions the HIA as a tool not only for health improvement but for urban justice.

### **Evaluation, Timing and Policy Sustainability**

For legacy policies to be impactful, they must be supported by sustained political commitment and robust evaluation frameworks. The Paris HIA contributed to this by aligning its findings with the legacy strategy early on. A progressive evaluation structure was developed, encompassing three phases: an interim report in 2023 (Pluricité et al., 2023); a post-event review in 2025; and a comprehensive assessment in 2029. This long-term timeline reflects an understanding that many health outcomes, especially those related to behaviour change, social inclusion or urban design, emerge over years.

Evaluation data are being sourced from multiple channels, including the ORAH tool (Outil de Recensement des Actions Héritage), academic research collaborations and targeted studies on specific indicators. Key areas of impact include the promotion of physical activity (e.g., 30 minutes of daily exercise in schools), youth employment and inclusion of marginalized groups. The evaluation scope also extends beyond the Organizing Committee to encompass local authorities, federations, private sector partners and NGOs participating in the Impact 2024 programme.

Nevertheless, maintaining this momentum is challenging. Many legacy-oriented policies suffer from declining interest and resource allocation after the event concludes. The Paris 2024 HIA highlights the need for dedicated funding, long-term governance mechanisms and health-specific indicators established from the outset. Intangible impacts, such as increased well-being, social cohesion or civic pride, must be recognized alongside physical infrastructure as vital components of Olympic legacy. Ensuring these outcomes requires continuity well beyond the Games themselves.

## Broader Methodological Challenges

While the Paris HIA delivered strategic insights, it also exposed structural limitations of HIAs applied to mega-events. There is no universal methodology capable of capturing the full spectrum of legacy dimensions, from environmental and socio-economic impacts to institutional and psychological effects. The complexity of systemic health approaches, combined with the scale and pace of Olympic planning, often forces trade-offs between depth and feasibility.

In this context, the Paris HIA prioritized a broad determinants-of-health framework over detailed sectoral analyses. While this ensured coverage of key health drivers, it limited the granularity of recommendations. Future HIAs could explore hybrid approaches, combining rapid assessment tools with longitudinal, participatory components tailored to specific sites or populations. In doing so, they would not only refine impact projections but also foster a more democratic and inclusive planning process.

## CONCLUSION

The Paris 2024 HIA provides a compelling and timely example of how public health considerations can be effectively integrated into the planning and legacy development of major international events. Conducted within tight time constraints and under evolving project definitions, the HIA showed that even a rapid assessment, when strategically timed, can influence urban policy, shape institutional priorities and inform long-term public investment. Notably, its integration into the “Transformations Olympiques” legacy programme, and the establishment of a dedicated HIA unit within the City of Paris reflect concrete institutional uptake.

Despite these promising outcomes, the Paris 2024 HIA also underscored several critical limitations. The assessment was constrained by methodological trade-offs, including reliance on secondary data, limited territorial granularity and the exclusion of key institutional systems such as healthcare and public safety. These constraints prevented a more localized analysis of impacts and reduced the assessment’s ability to support differentiated interventions across varied communities. Furthermore, the absence of participatory processes meant that the lived experiences, concerns and priorities of residents were not sufficiently captured or integrated. This shortcoming hindered both the legitimacy and potential responsiveness of the recommendations.

Nevertheless, the HIA’s contribution to promoting territorial convergence stands out. By identifying and anticipating the risks of uneven socio-economic outcomes, particularly in areas undergoing Olympic-led urban transformation, it provided a valuable framework for equity-oriented policy measures. Drawing on lessons from previous Olympic Games, particularly London 2012, the HIA emphasized the importance of minimizing gentrification, ensuring inclusive access to employment and housing and supporting long-term well-being in host neighbourhoods. Such considerations align with broader goals of health equity and social justice.

A further strength of the HIA process was its structured approach to legacy evaluation. The inclusion of interim, post-event and long-term assessments signals a commitment to continuity and accountability. This long-range perspective, supported by tools such as the ORAH, offers a replicable model for tracking the public health impact of mega-events. However, the

realization of this potential will depend on sustained political commitment, dedicated financial resources and robust governance mechanisms to maintain momentum beyond the Games.

The Paris 2024 case also highlights the importance of methodological innovation. Future HIAs should seek to move beyond binary distinctions between “rapid” and “comprehensive” models. Instead, hybrid approaches that blend timely assessments with iterative, participatory engagement and longitudinal tracking would likely yield more robust and inclusive outcomes. This methodological evolution is essential if HIAs are to remain relevant and actionable in the fast-paced, politically complex context of mega-event planning.

Ultimately, the Paris 2024 experience reinforces the need to reframe sporting mega-events, not merely as economic catalysts or spectacles of national pride, but as critical opportunities to advance long-term health and urban sustainability goals. For HIAs to fulfil their potential in this context, health must be prioritized as a foundational legacy objective and embedded early in the planning, implementation and evaluation cycles. By doing so, host cities can not only mitigate health risks but also leverage these global events as platforms for inclusive, evidence-informed and resilient urban development.

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