

# **Move for health: a policy brief addressing the built environment and physical activity in Oman**

Ruth M. Mabry,<sup>1</sup> Huda Al Siyabi,<sup>2</sup> Muhssen Kannan,<sup>2</sup> and Amal Al Siyabi <sup>2</sup>

<sup>1</sup>World Health Organization Regional Office for the Eastern Mediterranean Region, Cairo, Egypt. <sup>2</sup>Department of Community-based Initiatives, Directorate General of Primary Health Care, Ministry of Health, Oman. (Correspondence: R. Mabry: rmmabry@gmail.com).

## **Abstract**

Rapid modernization in Oman has resulted in a massive population shift to the cities, urban sprawl, and a car-dependent culture associated with lowered levels of physical activity and elevated rates of noncommunicable diseases. Since the built environment is a major contributing factor to physical inactivity in the region, this policy brief identifies key steps for creating an urban environment more supportive of physical activity. Such transformations would also have wide-ranging health, social and economic benefits. Design standards appropriate for the local terrain and social-cultural context should be developed using existing neighbourhoods that provide environmental support for physical activity (residential density, mixed land use and street connectivity) and a participatory approach to urban planning. When policy-makers recognize the links between physical activity, urban design, and transportation modalities, a national vision for promoting physical activity can be created and endorsed at the highest levels, thereby providing a government mandate for multisectoral action.

**Keywords:** built environment, Oman, physical activity, physical inactivity, policy

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## **Statement of problem**

Physical inactivity is the fourth leading risk factor for noncommunicable diseases (NCDs) globally, with less than 1 in 4 adults meeting the World Health Organization (WHO) recommendation of 150 minutes of moderate-intensity, aerobic physical activity per week (1). In some countries, the direct medical cost of physical inactivity is estimated at 1.5–3% of

total medical costs (2), and as high as 15% in China (3); the economic burden is even higher when indirect costs are taken into account (2,3). Studies in Oman and neighbouring Gulf Cooperation Council (GCC) countries have identified the key barrier to physical activity as the built environment (4,5), which has changed dramatically during the past 50 years and created a car-centred culture and sedentary lifestyle; it is projected to get even worse (5, 6). Urgent action is required if the country is to meet its national goal of a 10% reduction in physical inactivity by 2025 (7). This will require transforming the urban environment to one supportive of physical activity, which will also have wide-ranging health, social and economic benefits (2,3,8).

## **Background**

NCDs are a major health burden in GCC countries, costing \$36.2 billion in 2013 and a projected \$67.9 billion by 2022 (9). More than 1 in 2 Omani adults are overweight or obese, 2 in 5 have hypertension and 1 in 8 have high blood glucose (7). These high rates are driven in part by physical inactivity, which is 1 of the top 5 contributors to health risk in the country (10). Nearly half of the adult population does not engage in sufficient physical activity, while the rate is even higher among adolescents who fail to engage in at least 1 hour of physical activity daily (11–13) (Figure 1).

The benefits of physical activity are well documented: it extends life expectancy and reduces premature mortality related to NCDs like diabetes, cardiovascular disease and cancer; it also promotes mental health (14,15) and brings other demonstrable social and economic benefits (2,3,8). Research has identified poor access to appropriate places and facilities as a significant barrier to improved levels of physical activity, but health and education sectors can do little to address the problem of access (4,5).

The built environment – such as buildings, streets and public open spaces – also has a demonstrable influence on the level of physical activity in a population (16–18). However, with cities, communities and neighbourhoods dominated by motorized vehicles, walking and cycling have been designed out of people’s lives. Thus, active forms of travel, the most common physical activity in Oman, are limited, while recreational activity (like walking) is virtually nonexistent (11). Thus, the problem of access can best be addressed by creating communities where physical activity can become part of people’s daily lives.

However, there are several constraints to building an environment supportive of physical activity (19). These constraints were identified in interviews with Omani urban planners, health experts and academics (20), replicating the findings of other studies in the region, including in the ground-breaking “Urban Oman, Trends and Perspectives of Urbanisation in Muscat Capital Area” (21). These findings can be summarized around 3 key issues. First, the urban landscape, marked by urban sprawl, has produced a car-dependent culture with extensive land use for roads, streets and parking spaces. This avoidable development results

from poor urban design and transport planning, dated planning principles (like the functional separation of residential, commercial, administrative and industrial spaces), poor intersectoral coordination, and the land allocation system. As a result, the environmentally friendly, people-centred approach of older communities has been lost (19,21). Second, planning principles inappropriate for the local climate and terrain still dominate perceptions among policy-makers about how cities and neighbourhoods should be shaped, and the relationship between the process of urbanization and levels of physical activity is also poorly understood (19,21). Despite the government's commitment to a 25% modal shift away from personalized motor vehicles by 2040, negative perceptions about public transport (and bicycling) still prevail (22). Third, health experts identify public spaces as crucial for sustaining public health (19), particularly in light of their role in promoting physical activity (20). They also endorse the principle of "universal access to safe, inclusive and accessible, green and public spaces", a Sustainable Development Goal, including its concern "for women and children, older persons and persons with disabilities" (23), as these vulnerable groups face specific barriers and constraints that impede physical activity (11–13).

### **Policy options**

The first option is maintaining the status quo so that sectors can implement a significant portion of their 5-year development plan for 2016–2020. With minimal coordination, each sector can set its own agenda and timeline with little concern about how people-centred communities and neighbourhoods can support physical activity. Existing sectoral arrangements can remain unchanged, with the Supreme Council of Planning overseeing the development and implementation of the National Development Plan (including the National Spatial Strategy), the Ministry of Transportation overseeing the national transportation system (including the inter-city public transport network), and the 3 municipalities (Regional Municipalities, Dhofar Municipality and Muscat Municipality) overseeing local urban design (including roads, parks and public transportation). While certain advancements are still possible, this option does little to support physical activity in daily living, as the prevailing car-dependent urban design would remain unchanged. Increasingly, physical activity would become limited to population groups with the interest, time, resources and social support (i.e., children, young people, men and wealthier groups).

A more strategic option involves developing a national vision for promoting physical activity while building national capacity; both endorsed by the WHO Technical Package (20). A national vision would increase the allocation of resources for the promotion of physical activity, and enable improved cross-sectoral communication, more efficient use of government resources, reduced duplication of work, and establish the basis for future transformation and growth. The mandate should build upon research evidence about urban design elements found to promote physical activity (residential density, mixed land use and street connectivity) (18,24,25), where compact, highly connected neighbourhoods provide easy access to work, services and leisure activities, resulting in higher levels of physical

activity when compared to residential areas that are more dispersed and less connected. Omani neighbourhoods with these key design elements can contribute to a more deliberate and innovative urban planning and design process (19), including: Muttrah (high density, mixed land-use), Al Medinat Sultan Qaboos and Al Mouj (mixed land-use), and Al Khoud (high street connectivity). Easily accessible and environmentally friendly public spaces (such as the Wadi Al Athieba Park) can also be assessed for their value in promoting physical activity (19). Compared to maintaining the status quo, this option will require time to build consensus, allocate resources and revise plans (if necessary), which could delay the implementation of existing sectoral plans.

### **Recommendation**

A national vision for promoting physical activity should be developed (as per option 2 above), to be endorsed at the highest level possible. Policy-makers should incorporate this vision into the Oman National Spatial Strategy, scheduled to be unveiled by the Supreme Council of Planning in 2018. A national vision will provide a catalyst for implementing the National Plan on Action for the Promotion of Physical Activity endorsed by the National Multisectoral Noncommunicable Diseases Committee and ensure that sufficient resources are allocated for its full implementation.

Efforts should also be made to raise awareness among policy-makers of urban design and transportation modalities more appropriate for the Omani environment and social-cultural context. Policy-makers should recognize the human and economic burden of NCDs, the role of physical activity in reducing NCDs, and how the built environment can hinder or facilitate physical activity. Existing neighbourhoods in Oman (19) and neighbouring countries (26–28) provide a growing database to assess how the relevant urban design elements can be applied to the local context. Planning at the city level should utilize a participatory approach, as exemplified by the Nizwa Healthy Lifestyle Initiative (29), to identify how best to address the key barriers at the community level, especially for the most vulnerable groups (19). The participatory approach is not just applicable to new developments but already existing communities where the majority of Omanis currently live.

### **Conclusion**

Physical inactivity has significant direct and indirect economic costs to a country. The price of inaction has enormous consequences. Option 2, while requiring investment in time and energy and possible delays in implementing existing plans, extends and deepens initiatives already underway in the country, including the development of a National Spatial Strategy, expansion of the public transportation system, and growth of the tourism industry. The highly targeted steps of Option 2 would help ensure that Oman meets its physical activity target of a 10% reduction in physical inactivity by 2025.

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**Figure 1. Prevalence of physical inactivity, Oman (12,13,30)**

