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New Urban Mobility: A Catalyst to Enhance Population Health

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Abstract

Promoting active travel is a key strategy for enhancing population health. However, people often have no choice other than relying on private motor vehicles for daily travel. Initiatives to make neighbourhood environments more walkable are promising to facilitate active travel, but attributes of the environment relevant to the travel mode choice are hard to modify. This commentary argues that new urban mobility, which involves shared and integrated modes of transport, can work as a catalyst to transform the built environments by enticing people to live in urban areas where such services are available and convenient. Resultant densification can help improve the walkability of the area by attracting businesses. Given that there is a society-wide interest in promoting new urban mobility, the magnitude of the transformation can be substantial. Researchers in public health, transport and urban design/planning need to work together to take this as an opportunity to address physical inactivity.

New Urban Mobility

Cities around the world are now experiencing mobility transitions, in which more options for inner-city travel, e.g. car sharing, ride sharing, on-demand transport and bicycle sharing, are becoming available. (1) “Mobility as a Service”, which offers an integrated door-to-door transport service, is also being introduced in European cities. (2) Such new urban mobility is likely to bring major societal changes in public sectors, private sectors and users. (3) In this commentary, we argue that new urban mobility can also have implications for population health.

Physical Inactivity: Risk for Developing Chronic Diseases

Physical inactivity is recognised as a major risk for chronic diseases, including type 2 diabetes, cardiovascular disease and some types of cancer. (4,5) However, despite scientific evidence, a large proportion of adults are not active enough to gain health benefits. (5) Given the known health benefits and the low prevalence of physical activity at the population level, promoting regular physical activity has become a key strategy for enhancing public health.

It is well known that active travel such as walking and cycling contributes greatly to daily physical activity. (6) Since travel to work or for errands is a habitual activity, active travel is an effective way to integrate physical activity into daily life and reduce the risk of chronic diseases. New mobility services that involve non-motorised modes can provide residents with active travel options. This could increase physical activity and reduce time spent sitting in cars, which is known to be associated with poor health. (7) However, there is another way through which new urban mobility could contribute to an increase in active travel.

Environmental Approaches to Addressing Physical Inactivity: Promising yet

Challenging

A strategy considered promising for promoting active travel is to improve “walkability”. Research has consistently shown that people living in walkable areas, which typically have high population density, well-connected streets and diverse land use, are more active for transport. (8,9) This suggests that modifying environments can be effective for increasing residents’ physical activity and reducing their use of private motor vehicle (PMVs) for daily travel. However, it is obviously challenging to modify existing neighbourhoods’ environmental attributes such as population density, street layout and land use. In addition, it is also hard to convince stakeholders to change the built environment solely for the sake of active travel. Since PMV use is the predominant travel mode in many countries, (10,11) environmental modifications are often designed to cater to the needs of PMV users, such as more (or wider) roads to reduce traffic congestion. This gridlock, where reliance on PMVs and PMV-friendly neighbourhoods are supporting each other, hinders attempts to promote active travel.

New Urban Mobility as a Catalyst to Create Walkable Neighbourhoods

New urban mobility can break this gridlock and help transform existing neighbourhood environments. A key issue is that new urban mobility, typically shared services, works better for shorter distance travels in comparison with PMVs. This can have an impact on where people prefer to live: diffusion of new mobility services could entice people to live in urban areas where such mobility options are easily available and convenient. Such changes are already underway. Uber, for instance, has been working with real estate partners to develop apartments in locations where residents can access their services. (12) More people living in an area (densification) means greater business opportunities, which attract more shops and services. The reduced need for parking spaces (due to fewer households with PMVs) can also

contribute to this densification process. Thus, wider availability of new urban mobility could generate denser, more walkable environments, where residents can regularly engage in active travel.

Society-wide Interest in Promoting New Urban Mobility

Traditionally, physical activity promotion has been implemented by the public sector using limited funding. In contrast, there is broad public and commercial interest in new urban mobility. The intensive commercial promotion could bring a breakthrough in driving changes in travel behaviours. In addition, there is a “public-private partnership” to manage new mobility services. One example is on-demand transport (e.g. mini-buses) operated by a public transport sector using an information technology platform managed by a third party. (13) Another example is subsidised ride share. Local governments can designate target areas, where it is easy to access such services, to induce densification. Public-private partnership is a powerful mechanism that may have a substantial impact on transforming travel behaviour and the built environment.

Agenda for Linking New Urban Mobility and Population Health

Mobility transformation is gaining momentum. However, its health implications are not yet recognised. An important issue is to establish the current mobility pattern to track future changes. Many cities conduct household travel surveys to estimate travel demand. However, traditional travel surveys cannot distinguish travels using shared services from conventional ones. A new survey format suitable for new mobility services needs to be developed. Research also needs to examine whether the introduction of new urban mobility changes factors such as population density and PMV ownership. This requires linking data from the census and the use of new mobility services. Information technology, which is integrated into

new urban mobility, is a major advantage as it can be used to gather travel behaviour data accurately. It allows researchers to investigate whether new mobility users walk/cycle more compared to non-users.

Conclusions

Promoting active travel is a key strategy for enhancing population health. Initiatives to make neighbourhood environments more walkable are promising in this context, but changing attributes of the environment, which currently favour PMV users, is a challenge. The introduction of new urban mobility could trigger changes not only in travel behaviours but also in the built environment, potentially through densification. This process can be propelled and guided by public-private partnership involving new mobility services. This is a unique opportunity to address physical inactivity in our society. However, new urban mobility may have an unintended adverse effect on people's health. Transport, urban design/planning and health sectors need to work together to identify the health impacts of new urban mobility.

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