

# THE LOCAL HEALTH IMPACT OF RECREATIONAL CYCLING PROVISION: EVIDENCE FROM A SYSTEMATIC REVIEW AND META-ANALYSIS

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## Aim of abstract/paper - research question

To conduct a review of the worldwide research and practice evidence to assess: (a) the economic value of the local health impact of recreational cycling provision; (b) strategies to enhance the local health impacts of recreational cycling provision.

## Theoretical background or literature review

Much research on recreational cycling provision is focused on the maximisation of local economic impact derived from the attraction of cycling sports tourists (e.g., Weed et al, 2013). However, recreational cycling provision also impacts on the health of the local population, and this health impact has an economic value (Kahlmeier et al, 2010) which should be included in assessments of the local economic impact of recreational cycling provision.

However, simply measuring such local health impacts is a rather passive approach. There is a well established body of literature focusing on the active promotion of physical activity to less active populations which has shown that evidence-informed approaches can increase activity levels and thus enhance long-term health (Cavill et al, 2006).

## Methodology, research design and data analysis

The worldwide systematic review reported here draws on the evidence-base in the research and practice literature on recreational cycling provision and participation around the world to answer the following review questions:

*What are the potential health outcomes achievable in local populations as a result of recreational cycling provision?*

*What is the value to the local economy of such potential health outcomes?*

*What are the key factors and inputs that are required to maximise the potential health outcomes of recreational cycling provision in local populations?*

Following standard systematic review search protocols and quality assurance assessments (Coren & Fisher, 2006), 50 studies were included in the final review (from initial search returns of over 12,000), including eleven studies containing sufficient data to conduct a meta-analysis of the economic value of health outcomes from local recreational cycling provision, and four full datasets from which a more detailed meta-analysis could derive differentiated economic values for the health impacts of different user groups.

## Results, discussion and implications/conclusions

**Health outcomes of recreational cycling in local populations:** Review evidence shows that up to 70% of users of local cycling provision say that the availability of the provision helps them to increase their levels of physical activity. Furthermore, there is strong and uncontested evidence that physical activity derived from recreational cycling can make a significant contribution to the public health of local populations in terms of reducing all-cause mortality, protecting against some forms of cancer and reducing obesity. There is also indicative evidence that recreational cycling can help prevent type 2 diabetes and improve psychological wellbeing. Furthermore, even when the potential risks of injury from cycling are factored into the equation, evidence shows that the health benefits outweigh such risks by a factor of twenty to one.

**Value to the local economy of health outcomes of recreational cycling provision:** The meta-analysis shows that the average annual health care saving to the local economy for each user of recreational cycling provision living within 50 miles of such provision is £2.42 at 2010 UK prices. Distance cycled and frequency of use varies with distance travelled to use recreational cycling provision, and so the differentiated meta-analysis shows average annual health care savings per recreational cyclist according to the proximity of their residence to the provision of: £2.26 (<5miles), £2.19 (5-25miles), £2.97 (25-50miles).

**Factors to maximise local health outcomes:** Local health outcomes are most effectively maximised by attracting the less active to use recreational cycling provision. However, such populations are not attracted to sporting images, and many are not motivated by messages emphasising health outcomes. Review evidence shows that key factors to encourage the use of recreational cycling provision by the less active include: traffic-free-routes, clearly marked routes, circular routes, information on cycling time rather than route distance, wide routeways that allow continuous cycling in social formations, promotional images using non-sporty looking cycles and family groups, promotional messages referring to “riders” rather than “cyclists”.

## References

- Cavill, N. et al (2006). *Physical activity and health in Europe – Evidence for action*. Denmark, WHO.
- Coren, E. & M. Fisher (2006). *The conduct of systematic research reviews for SCIE knowledge reviews*. London: Social Care Institute for Excellence.
- Kahlmeier, S. et al (2010). “Health in All Policies” in Practice: Guidance and Tools to Quantify the Health effects of Cycling and Walking. *Journal of Physical Activity and Health*, 7(Supp1), S120-S125.
- Weed, M. et al (2013). A Systematic Review and Meta-Analyses of the Potential Local Economic Impact of Tourism and Leisure Cycling and the Development of an Evidence-Based Market Segmentation. *Tourism Review International*, 17(4).