



Healthcare representatives' perspectives on hospital travel plans in England



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ARTICLE INFO

Article history:

Received 17 March 2016
Received in revised form 21 December 2016
Accepted 21 December 2016
Available online 24 December 2016

Keywords:

Travel plan
Travel behaviour change
Walking
Hospital staff
Determinants
Success

ABSTRACT

The take-up of travel plans is increasing across the National Health Service (NHS) in the UK, yet their impact on reducing car use is relatively low. Previous studies have investigated the determinants of generic travel plans but lacked an appreciation of the unique context of healthcare settings. This study investigated NHS travel plan co-ordinators' views on hospital travel plans to identify the factors affecting the success of travel plans in changing travel mode choice behaviour. A nationwide survey was conducted among NHS travel plan co-ordinators in England, with a response rate of 51% ($n = 47$). Findings suggest that despite having the potential for promoting walking as a key travel option among the hospital staff, measures to promote walking were reported as the least effective. Spearman correlation tests show that the effectiveness of measures to promote walking and reduce car use was positively associated with each other – highlighting the significance of designing effective travel measures to promote walking to attain the overall success in changing travel mode choice behaviour. Shift working patterns, personal circumstances, high car use, and staff attitude towards car use were reported as the key barriers to change travel mode choice behaviour among the NHS hospital staff. The use of robust methods, and evidence-base to develop, and monitor travel plan measures were found to be the key determinants of the success of travel plans. The provision of off-site car parks around 10–15 min walking distance away from the hospital site will not only encourage the car users to walk, but also provide a realistic solution to the transport issues experienced by the hospitals. This study contributes to the knowledge gap by providing a valuable insight into the factors that may have affected the success of hospital travel plans, and form a basis for future research.

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1. Introduction

The National Health Service (NHS), the largest organisation in Europe, employs approximately 1.3 million staff, and provides healthcare services to over 57 million people (NHS, 2012). The use of cars to access NHS facilities has been a common practice for many years. Around 83% of the journeys associated with the NHS are made by car (NHS SDU, 2007). Alongside general motives such as convenience, independence, and social status; several other factors including shift working pattern, limited accessibility to hospital sites, and the provision of free parking have contributed to the increased car-dependency among hospital staff (Curtis and Headicar, 1997; Rye, 1999; Stokes, 1996). Transport accounts for 13% of the total carbon equivalent emissions by the NHS in 2012,

and has been identified as key in meeting its target on carbon emissions reduction, by 34% and 80% by 2020 and 2050 respectively from the 1990 baseline of 15 MtCO₂e (NHS SDU, 2014). Moreover, the NHS, as a health service provider, is expected to demonstrate leadership in promoting the health benefits of walking, and cycling in response to the growing concerns over the lack of physical activity among UK adults (Walness, 2002).

According to Rye (2002), a travel plan provides a strategy for an organisation to reduce its transportation impacts, and to influence the travel behaviour of its employees, suppliers, visitors, and customers. It involves the development of a set of mechanisms, initiatives, and targets tailored to meet the needs of an organisation when promoting the use of sustainable modes of transport, and reducing the reliance on single occupancy cars. All

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NHS Acute Trusts¹ were required to produce a board-approved travel plan² as part of their Sustainable Development Management Plan by December 2010 (Arup, 2009; NHS SDU, 2009a). The take-up of travel plans among the NHS Acute Trusts has increased from 45.5% to 88.5% between 2002 and 2013 (HSCIC, 2014a). Only 5% of the Trusts were found to have fully implemented travel plans in 2008 that could reduce carbon emissions by up to 10% (NHS SDU, 2009a). However, the effective implementation of travel plans by 100% of the Trusts can reduce 0.36 MtCO₂e, equivalent to 2.4% of all NHS emissions (NHS SDU, 2009b). Alongside the high policy emphasis on reducing car use; the unique travel context requires the hospitals to accommodate increasing demand for car parking spaces by staff, patients, and visitors; and to provide easy access to their sites for emergency services (Enoch, 2012).

Despite the high policy emphasis on reducing car use (Armitage et al., 2006; NHS SDU, 2013), the impact of hospital travel plans on reducing car use has been relatively low (NHS SDU, 2009a). Securing the success of a travel plan has become a real challenge for most of the healthcare authorities. Previous studies have investigated the determinants of a travel plan (Cairns et al., 2010; Hosking et al., 2010; Macmillan et al., 2013), but were generic, and lacked an understanding of the unique context of healthcare settings. As a result, the issues affecting the success of hospital travel plan measures remain unclear.

The latest statistics published by the Information Centre for Health and Social Care shows that 77.7% of all NHS staff are female (HSCIC, 2014b, 2014c). Commuting trips are often complex in nature for women with children (Root and Schintler, 1999). Transporting children (i.e. dropping off children at school or nursery) limits the opportunity for cycling. Men with an access to a cycle are more likely to cycle to work if the distance criteria are met, and the cycling conditions are satisfactory (DfT, 2014; Dickinson et al., 2003). Irrespective of age, gender, and health conditions, walking is generally considered as a common form of physical activity for all (Sullivan and O'Fallon, 2006). Maximising the potential of promoting walking as an alternative to car use is thus pivotal for healthcare authorities (Coleman, 2000).

Information available on hospital travel plans on a national scale is limited to NHS Trusts with access to a travel plan. In the absence of readily available data at a national scale on hospital travel plans, the alternative approach is to capture the views of the NHS Trust co-ordinators responsible for developing, and monitoring travel plans. This study was, therefore, aimed at investigating the English NHS Trust coordinators' perspectives on hospital travel plans to identify the factors that may have affected the success of hospital travel plans in changing travel mode choice behaviour. After setting the context of the study in the introduction, the paper identifies the determinants of a successful workplace travel plan based on a review of the state-of-the-art. The methodology used to collect, and analyse the data is discussed. Then, the survey findings are explored. Finally, the implications of the research findings for the design effective travel plan measures to promote walking and reduce care use are discussed.

2. Determinants of an effective workplace travel plan

The impact of travel plans on changing travel mode choice in different settings has been an area of active research. A body of

¹ NHS Acute Trusts are the healthcare authorities, who are responsible for managing the NHS hospitals.

² Travel plans are referred to as a mechanism for delivering a package of transport measures targeted at a specific site by an agent with a strong relationship with the local transport users to deliver transport and wider goals to the organisation, and society as a whole (Enoch, 2012).

literature claims that the adoption of workplace travel plans has reduced peak hour traffic congestion, relieved parking pressure, made sites more accessible, raised awareness about sustainable travel options, improved staff travel, and aided staff retention (Cairns et al., 2010; Enoch, 2012; Rye, 2002). In contrast, based on a review of seventeen travel plans, Hosking et al. (2010) suggested that there is insufficient evidence to draw a conclusion on the effectiveness of travel plans on changing travel mode choice. Cairns et al. (2008) conducted a study among 26 organisations, and found that the impact of travel plans on reducing the proportion of car use varied from 1% to 35%. Only a small proportion of the organisations with comparatively well-developed travel plans has achieved a relatively high reduction (up to 35%) in car use, and car driver kilometres. In the context of healthcare, Addenbrooke's Hospital reported having reduced car use from 74% to 42% between 1993 and 2003 through the implementation of a travel plan (CUH, 2004). In contrast, a relatively new travel plan by Weston General Hospital reported having a higher car use rate (82%) for commuting trips when it was introduced in 2010 (Transport and Travel Research Ltd, 2010). The varying impacts of travel plans on reducing car use, and promoting alternatives are attributed to several factors including the knowledge and methods used to develop, implement, and monitor travel plans within a given context (Cairns et al., 2010; Macmillan et al., 2013; Marieke van Stralen, 2010; Roby, 2010; Sanko et al., 2013).

The contextual factors include the availability of resources, attitude towards travel plans, and transport issues experienced by the organisation as a whole (Roby, 2010; Rye, 1999, 2002). A well-developed travel plan with long-term programmes generally requires more resources compared to travel plans with simple measures. Employers with a positive attitude towards a travel plan are more likely to allocate sufficient resources required to develop, and maintain a travel plan. However, Cairns et al. (2010) argued that failure to achieve the expected outcomes over a period may deter an employer's interest in funding travel plans. The optimum allocation of resources to ensure the effective design, and implementation of travel plan measures within the given context is, therefore, vital to sustain the employer's interest, as well as the success in the long-term.

The implementation of a travel plan is often constrained by several organisational factors, and other associated uncertainties including (Gärling et al., 2002; Rye et al., 2011; Watts and Stephenson, 2000): (a) companies' self-interest; (b) availability of resources; (c) employees' perceptions towards alternatives; (d) the provision of alternatives; and (e) public acceptance. The organisations are often reluctant to disclose such information without the consent of senior management. Collecting information related to the implementation of hospital travel plans was beyond the scope of the study. Future studies should consider carrying out a scoping study to explore the issues that are closely associated with implementing hospital travel plans based on in-depth interviews. Hence, this study places a higher emphasis on examining issues related to measures, and monitoring of travel plans.

2.1. Travel plan measures

The impact of travel plan measures on making a prominent and visible change in travel mode choice behaviour is key to determining the overall success of a travel plan (Cairns et al., 2010; Gardner and Abraham, 2008; Petrunoff et al., 2015). The literature emphasises the importance of three interconnected issues in determining the overall success of travel plan measures: (a) context-specific factors; (b) the combination of the measures used; and (c) the robustness of the methods used for the development, and implementation (Cairns et al., 2010; Ogilvie et al., 2007; Petrunoff et al., 2015). An American study evaluated

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