Time limits? Reflecting and responding to time barriers for healthy, active living in Australia

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SUMMARY

Lack of time is the main reason people say they do not exercise or use public transport, so addressing time barriers is essential to achieving health promotion goals. Our aim was to investigate how time barriers are viewed by the people who develop programs to increase physical activity or use active transport. We studied five interventions and explored the interplay between views and strategies. Some views emphasized personal choice and attitudes, and strategies to address time barriers were focused on changing personal priorities or perceptions. Other views emphasized social-structural sources of time pressures, and *provided pragmatic ideas to free up time. The most nuanced strategies to address time barriers were employed by programs that researched and solicited the views of potential participants. Two initiatives re-shaped their campaigns to incorporate ways to save time, and framed exercise or active transport as a means to achieve other, pressing, priorities. Time shortages also posed problems for one intervention that relied on the unpaid time of volunteers. Time-sensitive health and active transport interventions are needed, and the methods and approaches we describe could serve as useful, preliminary models.*

Key words: time pressure; physical activity; active transport; health equity

...in health terms, time is almost like a prescription... like two fruit, five veg... and thirty minutes of physical activity

> *Find Thirty® every day (interview)*

Many health interventions take time to do, but few acknowledge the importance of time. For example, when Rose (Rose, 2007) scrutinized a major US nutritional health program, he found that participating in it was likely to cost households an extra 2.3 h per day. Participants were welfare recipients on very low incomes who were required to seek paid employment. Many were also lone parents, and because they were already 'time poor' they could ill-afford more hours out of their day. In contrast, a parenting program for high-risk families (also USA),

provided meals, transportation and childcare as strategies to reduce time burdens on parents, which the developers recognized as a key constraint. They achieved a participation rate well above those usually reported (Dumka *et al.*, 1997). Time may also be a critical ingredient in lifestyle physical activity (LPA) interventions, where the focus is on accumulating at least 30 min of activity over the day in convenient short bouts. Physical activities are built into other, everyday activities (work, household, leisure); a more sustainable way to achieve comparable health benefits than longer sessions because LPA interventions minimize time costs (see Dunn, 2009 for a review).

With these findings in mind, we examined a number of Australian interventions that aimed

to improve physical activity and active transportation. Our purpose was to identify (i) the way intervention designers and implementers viewed the problem posed by lack of time, and (ii) the strategies used to address time barriers. We included interventions for active transportation in our study, since it can reduce carbon emissions contributing to the health threat from climate change (McMichael and Butler, 2007).

We argue that health and active transport campaigns must understand and deal with time-related barriers to their uptake. Whether real or perceived, lack of time is the main reason people say they do not exercise, prepare healthy food or use public transport (Ball *et al.*, 2004). Time is viewed as more important for regular exercise than either income or knowledge (Sherwood and Jeffery, 2000), and experts rank time pressure and car reliance as the most important social trends underlying rising obesity (Banwell *et al.*, 2005).

Health promotion interventions must be feasible to be effective (Tannahill, 2008); those that ignore time may fail and inadvertently compound health inequity (a foundational health promotion principle in the Bangkok Charter; Collins and Hayes, 2007). Like income, time has value. It is finite, and can be considered an element of social inequality: not everyone faces the same demands on their time. There is, however, little research on how health or active transport interventions consider time and time barriers. Time barriers, like many determinants of healthy behaviour, are complex. For example, when people say they 'don't have enough time', this could be viewed as a reflection of personal attitudes, choices and priorities. Such understandings are individually focused. On the other hand, time barriers can also be understood as a form of social-structural disempowerment linked to class, gender or new demands flowing from urbanization, technologies and a changed socio-temporal order (Wacjman, 2008). The latter views locate time barriers within an equity or social structural framework, pointing towards a different range of intervention strategies aiming at the social determinants of health (Commission on Social Determinants of Health, 2008). Work hours are key drivers of time pressure, especially for people who have caring responsibilities, making an analysis of time compatible with settings and ecological models of health promotion (Dooris *et al.*, 2007). In practice, however, this poses

challenges for intervention planning: while time barriers span structural, social and individual levels, many health promotion strategies continue to target downstream, individual determinants (Stronks *et al.*, 1996; Östlin *et al.*, 2007). We therefore investigate the way time pressures and barriers are viewed by intervention designers or implementers, and whether their views are reflected in the strategies incorporated in the intervention.

METHOD

Using literature and web searches, we identified Australian interventions aiming to improve health or the environment by increasing physical activity or active transport. We selected five that referred to perceptions of time, saving time or time barriers in their title, published aims or strategies because we expected that they would have specific methods for dealing with time barriers.

The case studies were located across three states/territories in Australia. We contacted key informants who were directly involved in either the development or implementation of the interventions. Informants held various positions in government and non-government organizations and were experts in the specific intervention selected for study.

We conducted in-depth, semi-structured interviews with eight experts during 2008, using a list of open-ended questions that covered: how time came to be a part of the intervention, how they and others central to the intervention thought about time and how important time barriers were to the strategies or design. As is usual in qualitative research, these questions enabled informants to reflect widely and introduce new perspectives. The interviews were digitally recorded and professionally transcribed. The research team read all transcripts, using a modified grounded theory approach, and formulated a theme list that was used to analyse the interviews. Analysis aimed to reflect the range and complexity of views rather than the number of times a specific theme was mentioned.

In addition to the interviews, we studied the published reports and materials designed for program participants. Objectives and target population for each intervention are summarized in Table 1, with additional details

Table 1: Case study summary

Case study	Objectives (target population: intervention focus)
Walking School Bus (WSB)	Encourage more children to walk safely to school; improve child health; replace short car trips with walking; support neighbourhood networking; build capacity within local government to facilitate ongoing WSB in area (parents and school-aged children: individual and structural focus)
Active Transport Tool (ATT)	Help local governments reduce CO_2 emissions and evaluate benefits, including health (parents and school-aged children: individual and structural focus)
TravelSmart	Reduce greenhouse gas emissions via voluntary travel behaviour change (urban households: individual focus)
Find Thirty® every day	Increase the number of adults who are sufficiently physically active (PA) for good health by: increasing awareness of type and frequency of PA required; increasing awareness of specific benefits of PA; demonstrating how to overcome barriers to participation; congratulating people who are already active (adults and their families: individual focus)
Liveable Neighbourhoods	Combat high car dependency, lack of public transport and disincentives for walking from urban sprawl (urban adults and families, residents in new developments: structural focus)

(including published references to time) below. Participants gave informed consent, and the study was approved by the Australian National University Ethics Committee.

Case study descriptions

(i) The *Walking School Bus* (WSB) involved groups of primary school children ('buses') walking to school with volunteer adult supervisors. It aimed to increase children's physical activity for health, social and environmental benefits (Victoria University, 2003). 'Buses' were organized via local schools and parent groups, and to date have been supported by council grants with funding received from the state. Saving parents' time was one benefit listed in a publication about the project (Ross and RMIT CIRCLE, 2007), although not stated as a goal of the intervention.

(ii) The *Active Transport Tool* (ATT) was a computer-based tool used by local councils to evaluate active transport initiatives. The tool was developed by an international organization aiming to support environmentally sustainable practices in member countries. The tool calculated the time (as well as health, financial and environmental) benefits of active transport, including a formula for calculating parental time savings if children walk, cycle or take public transport to school.

(iii) The *TravelSmart* program was part of an Australian Government-funded initiative to promote sustainable transport. In Canberra, the program provided support to devise new, less car-reliant travel habits. Travel counsellors trained in facilitation contacted families, and the program also provided brochures on strategies and tips. *TravelSmart* recognized the issue of time through research conducted by consultants, thus some brochures focused on ways to save time and improve the quality of travel time. The program also promoted the health benefits of active transport in marketing and published documents (ACT Government, 2005).

(iv) *Find Thirty® every day* was a media campaign which provided suggestions for how to exercise at least 30 min every day. It was the only case study that referred explicitly to time in its branding (Heart Foundation WA, 2008). The campaign has been run in several states across the country.

(v) The *Liveable Neighbourhoods Design Code* (LN) promoted the design of physically well-connected suburbs, with services and infrastructure located at the centre and close to most residences (Jones, 2001). The code included the concept of a 'ped shed', where distance (400 m) is equated with walking time (5 min) with the intention of designing suburbs to benefit resident health and reduce car use. The code is currently being applied by a city council.

RESULTS

Overview

The interventions were selected because they all contained references to time, so we expected the

key informants to recognize potential time costs, and for there to be a considered focus on how to address time barriers to participation. We discovered, however, that our informants varied in the degree they viewed time barriers as real and significant, even when time costs were explicitly acknowledged. Only some of the interventions appeared to address time barriers systematically, although most informants held multiple and layered views of time. To clarify this complexity, we organized the analysis into views regarding the *causes* of time-related barriers (individual or social/structural), followed by intervention approaches and strategies. Note that several interventions used strategies that addressed both individual and social-structural time barriers. We also identified a potential blind spot regarding the significance of time barriers for volunteers. Finally, we explored the effect of research on views about the significance of time barriers.

Time barriers: views and intervention strategies

So we ask people how much activity they do. They do twenty minutes. 'Why aren't you more active?' 'Because I don't have time'

Find Thirty® every day

. . . only 18 percent of people change because of environment . . . 'time' was more like 25–30 percent.

TravelSmart

Time is a complex construct. For example, as these quotes indicate, informants identified time as being an important determinant of intervention success, yet often the concepts of time availability and energy, priority and motivation were used interchangeably. Thus, one problem confronting intervention designers and implementers is how to distinguish between personal choices, priorities and excuses about time on the one hand, and 'real' time pressures on the other.

Time scarcity: a matter of choice

Views. In the following quote, the interviewee teases out a distinction between real and perceived time shortages.

. . .we know that lack of time is . . . a legitimate reason and also a perception. Because things that you have time for by and large are the things that you perceive as important, and people who perceive physical activity as important find the time

Find Thirty® every day

Perceptions and attitudes are individually based reasons for time scarcity, implying that to free up more time would require changing people's choices and priorities. The same interviewee observed that some people spent 3 h a day watching television: hours that could be reallocated to exercise. The notion of 'finding' time in the branding of this intervention similarly suggested that extra time was 'lying around' and might be discovered or created if an individual looked hard enough.

Strategies. If time scarcity is viewed as a perception that reflects priorities, then the individual becomes the logical target for change. Thus a key strategy of the *Find Thirty® every day* campaign was to encourage people to change their priorities, and switch from sedentary to active pursuits. This focus on personal choices and priorities was reflected in two of the three *Find Thirty® every day* objectives: to raise awareness of the 30 min a day message, and to raise awareness of the benefits of physical activity (both aim to change preferences and priorities).

Under pressure? Socio-structural explanations of time scarcity

Views. As well as these individual, perceptual understandings of time barriers, most informants reflected on the role played by broader social practices and structures in shaping use of time.

There's a definite overlap with how we live our lives on so many levels and our misconception about ides of time; the quickness to get in the car and drive . . . if you drive to work you need . . . a good car to do it, and to buy and maintain a good car you need to work more so you work longer hours. You feel guilty because you don't spend that time with your kids. You take them on flasher holidays, you have bigger houses, you're buying presents, you work more. It's all that time . . . it takes just because of how we lead our lives around that great big cycle . . . we don't understand all the time involved to maintain that. We [could] lower our expectations, have a small house.

Walking School Bus

This informant linked consumer culture with individual aspirations and their effects on time. Choice was still viewed as the responsibility of the individual, but was framed in terms of the need to resist a compounding socio-cultural pressure to work longer and consume more in

order to avoid time scarcity. In contrast, another informant emphasized the role of the modern urban form and new social conventions which rely on the car. This interviewee considered time-consuming demands to be embedded in social practices, thus difficult to avoid or replace.

Once upon a time if you lived in suburb A your child played soccer in suburb A, but now it's pretty likely . . . a team plays in suburbs A, X, Y . . . we can do a lot more things in a lot more places . . . but in fact we then realise this is taking up a whole lot of time. You . . . can't just pull your child out of soccer because you suddenly realise that you're going all over the place, because it's not only time but it's the welfare of your children. So I think there's a lot of these factors that, underneath, it is a time factor, but it's articulated as something else.

TravelSmart

The *Liveable Neighbourhoods* Design Code (LN) was based on an understanding of time scarcity as a function of urban design rather than individual perceptions or choices.

As soon as new suburbs are being developed there is a huge time component because everything takes longer.
Liveable Neighbourhoods

Strategies. The *Liveable Neighbourhoods* project used a design code which locates services and other destinations close to homes. Walking time to destinations is viewed as an indicator of built environment efficiency, thus this intervention changed environments to reduce the time costs of walking.

What you've got in this design code is a series of little neighbourhoods which are based on the five minute walk . . . clustered around like a town centre
Liveable Neighbourhoods

Despite taking a socio-structural understanding of time barriers, the material produced by *TravelSmart* was directed at individual behaviour change. However, the focus was on pragmatic ways to save time with little emphasis on choice or changing perceptions. For example, leaflets (e.g. *Time is of the essence* brochure) presented strategies to save travel time by planning ahead, trip chaining (each travel trip serving multiple tasks) and phoning in advance to see whether appointments were running to schedule.

Life cycle barriers: work, caring and time

Views. Some demands on people's time were viewed as legitimate and not readily replaceable, especially time devoted to paid work or caring for children. Informants recognized that at certain stages in the life cycle, people faced real and significant time shortages (e.g. employed parents).

. . . if you take women for example when they have their first or second child, we've got good data on that and then later on, men and women when they're juggling mortgages and work and competing priorities. So there are points in the life cycle . . . undoubtedly they relate to time and to competing priorities for time.
Find Thirty® every day

. . . those who have gone into retirement, those who have got children they change their behaviour . . . walking for recreation and walking for transport . . . changing jobs, changing number of children , changing retirement/work status.
Liveable Neighbourhoods

I think of somebody in Sydney who was taking four kids to three schools and she was trying to do a TAFE course and she got home at eleven from taking them there and she had to pick the youngest one up at one . . .
TravelSmart

Strategies. Given such competing work and caring priorities, one intervention reframed exercise as a way to meet these demands. Thus, in the case of *Find Thirty® every day*, some advertisements showed parents playing with their children in front of a billboard 'Finding quality time with the kids' implying that exercise could give time to family rather than take time away. The *Find Thirty® every day* campaign also showed advertisements suggesting how 30 min of physical activity could meet more than one goal: parents walking with their children to return a rented DVD meant exercise achieved a task and provided the opportunity for talking and interacting with children.

The Active Transport Tool developed a formula for calculating the potential time savings for parents if children walked to school—a benefit to be marketed. *Travel Smart* tailored its products to time demands relevant to people at different stages of the life cycle. For example, the brochures presenting ways to save time were designed for people aged between 'roughly 25 and pre-retirement age' (*Travel Smart*). The

Liveable Neighbourhood code was usually targeting suburbs populated by young families.

Blind spots? The valued and the invisible

Despite acknowledging that time pressures were especially acute for parents, caring time was paradoxically less visible in some accounts of time. For example, the *Walking School Bus* recognized that transporting children to school required parental time, and it promoted time savings as one reason for families to participate. The intervention relied on the (paid) time of both council and school staff and on (unpaid) volunteer time—usually mothers. Like most interventions, the WSB had a limited funding cycle, and it was hoped that after withdrawal of funding, the 'buses' could be sustained by the volunteer parents.

Some of the councils are taking on funding for the Walking School Bus independently . . . [we] will not be funding it. The ideal for the bus . . . is have a program that can be done more informally . . . have a resource as one of the things where the communities can adapt it to their needs where one mum can do Monday morning, another can do a Tuesday, that sort of thing. So the bus we're hoping will keep going but not in that big structured program that we've been doing.

Walking School Bus

But reliance on volunteers carries a (time-related) risk, especially for time-pressed parents. A published *Walking School Bus* evaluation reported the related finding that high use of volunteer and school time had already contributed to some failures, and lack of volunteers and high turnover undermined the ongoing sustainability of others because 'most schools had difficulty in attracting and maintaining volunteers' (Ross and RMIT circle, 2007).

The more you know

A key finding of our study was that time barriers (and strategies for dealing with them) were more systematically addressed in the two interventions which invested in research, including soliciting people's own views. Both the *Find Thirty*® *every day* and the *TravelSmart* program designed strategies and social marketing material that explicitly targeted time and both used focus groups and research to inform and tailor their messages. For example, *Find Thirty*® *every day* changed its marketing and approach to time after evaluating the previous four-year campaign, commissioning a literature review, and conducting focus groups.

. . .we had the University . . . perform a literature review for us . . . in lots and lots of studies time was the major barrier. Our [State's] physical activity population surveys confirmed that . . . the focus groups that we did in the development of the campaign again confirmed that.

Find Thirty® *every day*

The flavour of the campaign subsequently changed. Advertisements and information reframed exercise time as a way of meeting valued priorities such as spending time with partners or children, rather than compete with or change those priorities. At the time of our interviews, the program was conducting research to evaluate the impact of this new focus.

. . .[being active is] costing you time but you're finding time to talk and . . . you're finding quality time with your children . . . this is based on our research, much greater focus on social benefits of being active and being active with other people. So the previous ads tended to depict people being active on their own. There's 80 odd people in our new television commercials and they're showing very explicitly people being active with other people and experiencing social rewards . . .

Find Thirty® *every day*

DISCUSSION

Our aim was to describe the way time pressure and time barriers were considered, and the interplay between views and the strategies used in the interventions. Our informants understood that the causes of time pressures are individual *and* social structural, but some emphasized people's personal responsibility and choices more than others. Where individual responsibility for time use was emphasized, interventions tended to focus on changing people's perceptions and priorities. Interventions that accepted time barriers as real and significant placed less emphasis on awareness or personal choice. They targeted time barriers directly by providing pragmatic strategies on ways to free up time, or else they addressed upstream determinants such as the built environment.

Yet even in interventions which made explicit mention of time or time barriers, the importance and visibility of time was elusive.

Everyone agreed that time pressure was pervasive, and that some people were particularly time poor. Yet money trumped time in terms of visibility. For example, paid time inputs were accepted as being in limited supply, while volunteer time was seen as a (less limited) resource. Our findings are consistent with other research showing that time pressures are a major challenge for volunteer organizations worldwide, as mothers' availability for volunteer work becomes strained (e.g. Drummond and Sheppard, 2004; Merrill, 2006). However, many health promotion campaigns rely on volunteer time to sustain them, especially after funding dries up.

Another finding is that the most nuanced and detailed strategies to address time barriers were employed by programs that researched and solicited participants' own views. Two of the initiatives found through research that their target audiences were concerned about time. These interventions accepted that time posed a major problem for uptake, and they used this information to re-shape their campaigns, leading to a strong emphasis on ways to save time or use time spent exercising to achieve—not compete with—other priorities.

This is a preliminary study of a relatively few interventions, and although we describe possible interplays between views and intervention strategies, we note that our data do not permit us to make causal inferences, and there were no formal evaluations of effectiveness. Indeed, we were unable to locate any research on intervention uptake that evaluates methods to address time costs. Insufficient time is one of the most important reasons people say they do not exercise or use active transport, so this represents a major evidence gap. However, the research reported by Dumka *et al.* (Dumka *et al.*, 1997) suggests that addressing time costs is beneficial. They achieved a 70% retention rate of the high-risk parents that they recruited, compared with the rates of between 6 and 14% usually reported. Not only did they employ strategies to offset time costs they also considered the *scheduling* of their programs, ensuring they did not conflict with parents' work time. Our findings also support the rationale for LPA interventions, which emphasize convenience and minimize time costs (e.g. Dunn, 2009).

Most physical activity and active transport interventions entail time investment from participants. We found that programs that fail to define time barriers as real or significant also neglected targeted measures to address the time costs of taking part. We speculate that this may systematically exclude people who face heavy demands on their time (lone mothers, employed parents, carers for the elderly or disabled) from the intervention, and therefore the health benefit (Potvin *et al.*, 2007).

Like other social determinants of health, an analysis of time could be integrated into the planning, implementation and evaluation phases of health promotion interventions. Although not yet explicit in established models (such as the PRECEDE/PROCEED approach), we argue that an analysis of likely time constraints should be part of any needs analysis, viewing time as another essential resource for health and integral to quality of life. As well as lack of knowledge or low income, planners could consider their target population in term of work hours and schedules, commutes, lifecycle or caring responsibilities, along with the potential time costs of participation in the intervention. This would enable them to assess the extent time poses a problem, and guide strategies to address the problem.

Conclusions: implications for health promotion policy

We selected case studies because time was explicitly referred to in either published documents or media campaigns. They used strategies such as reframing the time costs of exercise or active transport to meet other goals, giving help, information or advice on how to save time, and addressing environmental drivers of time pressures such as sprawling urban design. Our review of the literature suggests other strategies could be added to this list, including offsetting time costs and freeing participant time by supplying services such as child care or meals. Similarly, short, incidental exercise that occurs while working or doing other tasks may make exercise more feasible. Although these strategies may be most relevant to participants juggling caring with work, as marketers know, saving time is a powerful incentive for most people.

People now feel busier, however time pressure continues to be viewed as a private problem to be managed by individuals, not a social problem to be addressed by broader policies. Rather than compete for people's time, health promotion interventions may need to

address time barriers at the social structural as well as individual level. Health economists view time as an essential input for health (see Anderson and Grossman, 2009, also Becker, 1965), yet in Australia there is no national health policy focus on time. Some nations are recognizing citizens' 'right to time' and there are policies to change time patterns linked to city designs, service delivery, walkability and transport infrastructure (Mareggi, 2002). Time costs (or savings) could be part of intervention cost-benefit analyses, and time barriers to participation given an informed and multiple-level health promotion response. Although preliminary, our study is one of the first to investigate methods for addressing time costs.

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