Submission No. 70
(Inq into Obesity)
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Committee Secretary
Standing Committee on Health and Ageing
House of Representatives
PO Box 6021
CANBERRA 2600

Dear Committee Members,

Inquiry into Obesity in Australia

We are all aware of the obesity crisis gripping the nation and the significant challenges faced by the Australian health system in the ensuing decades to combat obesity related diseases. My submission to the Committee specifically addresses 'recommendations for action' in the terms of reference.

Background

Obesity can be broken down into the most basic of formulas:

Energy intake > Energy expenditure = weight gain

My passion and field of expertise lies with the 'energy expenditure' side of the equation.

Exercise increases energy expenditure by a factor of 2 – 15 depending on intensity of exercise and physical fitness. However, daily exercise has decreased significantly over the last 50 years due to the abundance of immobilisation devices that include motorised transport, escalators, lifts, moving walkways, computers and remote controls. Consensus among exercise physiologists and public health experts now believe that the current guidelines for weekly exercise dose of 30 minutes per day 3 -7 times per week is not enough to stem the increasing weight gain of Australians.

There are effectively two periods during the working week to do exercise. They are exercise during work hours and/or during non-working hours. Organised exercise programs during working hours will be seen by employers as a cost to business and will be resisted. Therefore

exercise during non-working hours needs to be focused on and encouraged. One period during non-working hours where exercise can be encouraged is commuting to and from the work place. Exercise during commuting is seen as a productive use of time, i.e. going from one place to another, as opposed to set discrete time periods devoted to an exercise program.

Commuting via non-motorised transport as a proportion of total trips taken is lowest in non-European OECD countries, including the USA, Canada and Australia. The number of trips taken by non-motorised transport (i.e. walking and bicycle riding) in the USA is <6% of total trips compared to >45% in The Netherlands[1]. The obesity rate in The Netherlands is approximately one third that seen in the USA (10.7% versus 32.2% respectively)[2]. In Sydney the proportion of total trips made per day walking and cycling is equal to 17.9% and 2.3% respectively, equivalent to 4.9% of total distance travelled[3]. Therefore considerable scope exists in increasing daily energy expenditure by increasing non-motorised commutes to and from the work place.

Bicycles parked near Amsterdam Central Station

Recommendation for action

The recommendation for action made in this submission is to use the Australian taxation system to encourage people to commute to and from their work place using non-motorised transport.

The plan is analogous to the log book and cents per kilometre methods for the motor vehicle tax deduction calculations and would involve a tax rebate on a per kilometre basis. However in the absence of a calibrated odometer that is by law unable to be tampered with, measurement of commuting journey distance would be self reported and open to fraud. Therefore another system needs to be adopted to objectively quantify distance travelled by non-motorised transport to and from the work place.

The plan proposed in this submission would be to use the global positioning system (GPS). The use of GPS is now ubiquitous within our society, appearing in many devices such as in motor vehicle tracking and navigation, recreation navigation, mobile phones and even in the

sporting arena to track AFL players during matches. GPS enabled mobile phones in particular show the greatest potential to track exercise patterns and non-motorised journeys.

The plan involves using GPS to track journeys to and from the work place for non-motorised transportation. The data recorded during the commute would then be uploaded to a central website and stored. At the end of each financial year a statement would be produced and mailed out to the commuter and used as evidence in their tax return information.

The Plan

The non-motorised commuter plan would involve the following steps:

1. The commuter would initially register at the central website giving some personal information (name, address, age, gender and possibly height and weight for research purposes)
2. The commuter would then enter the address and/or coordinates (via Google Earth™) of their work place(s).
3. Upon leaving home for work the GPS device would be started and a recording of the commute to work would be stored. The data would consist of distance travelled, time taken, route taken, speeds during the commute and possibly heart rate depending on the level of sophistication of the device.
4. The same procedure would take place for the commute from the work place back to home.
5. All data files for the days commute would be uploaded to the central website for storage with each file being date and time stamped.
6. A tax receipt would be issued at the end of the financial year that would include total kilometres travelled, average speed, total time and total eligible tax rebate.

To prevent misuse and fraud via multiple uploads of the same file, search engine algorithms would be developed to analyse uploaded files and compared with the users previous file history. Each file would be unique in terms of the position on the Earth, time of day and speed for every recorded data point (sample rates are usually between 1 and 60 seconds). Therefore any file that is exactly the same or very similar would produce a query and would warrant further investigation.

Algorithms would also be developed to determine the mode of non-motorised transport. Walking and jogging are distinctly different from bicycle riding in terms of speed and distances covered. The analysis of each uploaded file would determine whether the commuter walked, jogged or cycled to work. Tax rebates would be adjusted for the mode of non-motorised transport. A higher rebate would be recommended for per kilometre of walking/jogging as speed and distance covered is lower than for cycling.

Any part of the journey that took place in motorised transport would be identified by the speed, position and distance covered. A query would be raised and further investigation would be required.

Starting and finishing points could possibly be adjusted to coincide with public transport nodes if the commuter lives too far from work to cover the whole distance via non-motorised transport.

The central website

The website would be modelled on the successful Facebook™ and MySpace™ websites. The commuter would have their own home page with information on distance travelled, total time, average speeds, most efficient routes in terms of time and distance, total accumulated tax rebate, maps and links to other similar sites. The commuter would have the power to invite or bar other users from their home page and upload extra information and visual material. This would have the effect of building an online community to reinforce the motivation to commute via non-motorised transport.

The benefits

This plan will have three broad areas of benefit to Australian society:

1. **Reward and motivate the community to travel to work via non-motorised transport.**
    - The health benefits of walking, jogging and cycling are well recognised. By encouraging exercise before and after work reinforces a lifestyle change that will have significant benefits on long term health outcomes. Reduction in obesity and related metabolic diseases (diabetes and cardiovascular disease in particular) would be the primary outcomes resulting in significant long term reduction of pressure on the Australian health system.
    - Employers would benefit by having a fitter, leaner and healthier work force resulting in fewer days off due to ill health and increased productivity.
    - The plan would reward people commuting to and from the work place via non-motorised transport thus motivating the commuter to continue this behaviour on a year round basis.
    - The plan would encourage and motivate people with no history of non-motorised commuting or structured exercise regimes to take up walking/jogging or cycling to work.
    - Promote a change in mind-set and lifestyle encouraging people to commute to other non-work related centres using non-motorised transport such as for shopping.

2. **Reduction in demand for fossil fuels, vehicle carbon emissions, traffic congestion and pressure on public transport infrastructure.**
    - Most journeys to the work place are by motor vehicles with one person per vehicle. Increasing non-motorised commuting would decrease the number vehicle journeys, road congestion and carbon emissions.
    - Climate change is THE issue of the 21st century. Encouragement of non-motorised transport will help Australia achieve its carbon emissions targets.

- The space taken up by non-motorised transport is significantly smaller reducing infrastructure load including parking facilities.
- Public transport in major Australian cities is close to full capacity. Reduction in demand via increased non-motorised transport will ease pressure on the public transport system.

3. **The generation of a large objective database that can be used to formulate government policy.**
    - The database would contain information such as number of trips taken, average speed, mode of transport, routes taken, time of day, the start and finish of journeys, gender and the socio-economic background of commuters. This objective information could be used by governments to direct infrastructure resources to areas where they are most needed.
    - Information could be used by researchers to determine behavioural patterns of commuters, epidemiology studies and longitudinal health studies.
    - Data could be used by architects and town planners for future town planning projects incorporating non-motorised transport infrastructure.
    - Areas where non-motorised commuting is low could be identified and research conducted to find out the reasons why.
    - Specific infrastructure projects and motivational campaigns could be targeted at low non-motorised commuting areas.

Privacy

- The website would be run as a business independent of government. The company would be run as any other company under Australian law forbidding the selling or misuse of personal information.
- All names and addresses and any other personal information would be secure and only information relating to the individual user would be accessed via a password or personal identification number (PIN). This model would be identical to websites that store personal information such as financial institutions.
- Personal information would be made available to the Australian Tax Office (ATO) for audit only with permission from the user.
- Data would be made available for research and to government departments to formulate policy, however this data would not include personal information only total journeys taken, where from and where to, mode of transport and routes taken.
- In the case of any criminal investigations, the police would need a court order to access information.

Tax rebate policy

- It is recommended that travel to work by non-motorised transport be given a tax rebate on a per kilometre basis. Walking/jogging would receive a higher rebate than cycling due to the higher speeds and greater distances that can be covered in cycling for the same energy expenditure.
- The size of the rebate at this stage is unknown. A pilot study needs to take place to determine average length of the commute for the different modes of transport, the frequency per week of journeys taken and total kilometres covered per year. A recommendation would be made to the government where the Department of Finance and Treasury can calculate the total cost in terms of tax revenue of the scheme. A rebate of 'X' cents per kilometre can then be determined for the modes of non-motorised transport.
- It is also recommended that some or all of the cost of equipment and clothing used for non-motorised transport to and from work be tax deductable. This would further encourage non-motorised commuting.

The Costs

- The implementation of the plan put forward in this submission would result in no cost to the government, no cost to employers, and a small or no reduction in tax revenue.
- The total cost would be borne by the company that sets up the website infrastructure. The company would be a for-profit business raising revenue from a small yearly subscription fee and website advertising.
- Tax rebates could be adjusted to reduce tax revenue loss by redistribution of motor vehicle related tax deductions to non-motorised tax rebates.

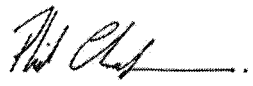
Summary

The obesity epidemic poses significant challenges for Australian society. This submission proposes a novel and innovative plan to help combat the declining health of the nation and the enormous burden this will have on the Australian health system.

The plan proposed in this submission involves using the Australian taxation system to reward, encourage and motivate the community to commute to their work place using non-motorised transport. Objective data would be gathered using GPS technology to track commuters during non-motorised journeys to and from the work place. Data would be uploaded and stored on a central website where at the end of each financial year a tax rebate can be awarded on a per kilometre travelled basis. The cost to the government and to business of this plan would be nil. The benefits include significant reductions in obesity and related diseases, significant reduction in long-term health system costs, reduced carbon emissions, reduced traffic congestion and a valuable data resource to formulate government policy.

Thank you for the opportunity to contribute to this inquiry.

Yours sincerely,



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[1] J Pucher & L Dijkstra (2000), "Making walking and bicycling safer: Lessons from Europe" Rutgers University-Bloustein School.
[2] OECD Health Data 2007
[3] Transport Data Centre, "Household Travel Survey Report 2007", Ministry of Transport, NSW Government.