

30 April 2015

Submission 011

Submission to the Health and Ambulance Services Committee: Inquiry into personal health promotion interventions using telephone and web-based technologies

Overview

The Australian Health Promotion Association Ltd (AHPA) Queensland Branch welcomes the opportunity to provide comment on the inquiry into personal health promotion interventions using telephone and web-based technologies to the Health and Ambulance Services Committee.

AHPA is the peak professional body for health promotion in Australia. It is a member based national not-for-profit organisation with a national Board of Directors, National Committees and State Branches. It provides a forum for the exchange of ideas, knowledge, information, and advocacy for population health and health promotion. AHPA's objectives include providing opportunities for professional development, increasing public and health professional awareness of the roles and functions of health promotion practitioners; advocacy, and contributing to discussion, debate and decision-making on health promotion policy and programs.

Health promotion is defined as the process of enabling people to increase control over their health and its determinants, and thereby improve their health. An individual's health is not only determined by their behaviours but also the circumstances and the environment in which they live. To improve an individual's health, health promotion uses a multi-strategic approach which is guided by the Ottawa Charter for Health promotion. The Ottawa Charter outlines five key action areas: building healthy public policy, creating supportive environments, developing personal skills, reorienting health services and strengthening community action. Focusing on an individual's personal skills to adopt a healthy behaviour needs to be supported by a holistic health promotion approach which considers not just one, but all five of the action areas for health promotion.

Community based health promotion interventions involving the creation of supportive environments for health and policy and regulatory frameworks and legislations have a strong history of producing favourable, cost-effective behaviour change at a primary and secondary prevention level. More recently with the evolution of technology, it is recognised that telephone and web-based technologies also hold potential for successfully reducing body weight, increasing physical activity and improving nutrition.

AHPA Queensland believes that telephone and web-based technologies can be effective methods to support a reduction in lifestyle-related diseases; however as a sole-strategy has limited reach and long term, sustained effectiveness. It is strongly recommended that the Committee provide support and resourcing for qualified health promotion professionals as advisors to this initiative to support appropriate evaluation and monitoring. Additionally to plan, implement and evaluate complementary, evidence based health promotion initiatives targeting well populations.

Effectiveness of telephone and web-based health coaching interventions

Although far from extensive, the evidence reviewed including high-risk and general population interventions utilising telephone and web-based protocols to affect change in dietary habits, levels of physical activity and/or changes in body weight, conducted in Australia between 2009 and 2014, indicated effective results. A collation of the data retrieved from these reviews can be seen in appendix 1.

The NSW Get Healthy Information Coaching Service (GHS) offers evidence of the effectiveness of telephone-based interventions aimed at supporting Australian adults to make sustained improvements in healthy eating, physical activity and achieving or maintaining a healthy weight.³ This intervention was designed around evidence from systematic reviews that confirmed telephone-based interventions to be effective in increasing physical activity, improving nutrition and reducing weight in the short to medium term (three–six months) across different populations, in a range of settings, and using different intervention modalities.³

Participants within the GHS intervention were self-referred or secondary referred (GPs or other) from all states across Australia during 2009 to 2013, after initial success within New South Wales (NSW). Participants had access to 10 individually tailored calls, over the six month of enrolment in the program. This was provided by university qualified health coaches based on behaviour change and self-regulation principles. The program specifically targeted adults ‘most at need’ due to their risk of chronic disease including Aboriginal and Torres Strait Islander, Culturally and Linguistically Diverse, those residing in low socioeconomic areas, remote, rural and regional residents and those participants at risk of diabetes. The program, given its resourcing had significant reach recruiting 25,425 participants in total, 76.8% opting for the telephone based coaching and 23.2% opting to receive information only.³

GHS participants who completed the 6 month telephone coaching program made significant improvements to their weight (-3.8kg; 56% of participants lost 2.5% - 10% body weight), waist circumference (-5.1cm), BMI (-1.4kg/m²), healthy eating behaviours (32% increase in number of participants meeting recommended fruit intake; 27% increase in number of participants meeting recommended vegetable intake) and physical activity levels (26% increase in participants meeting physical activity recommendation).³ Further to the positive effect of this program on healthy eating, physical activity and BMI, this program was considered cost-effective, incurring costs ranging between \$640 - \$1,030 per person (including marketing, \$350 per person excluding marketing) for the six month duration of participation.

The Queensland based Man-Up Study similarly demonstrated positive changes in physical activity and dietary behaviour among 301 male participants 35-54 years who received either IT-based or print-based intervention for nine months.⁴ This intervention reported increases in self-reported minutes and sessions of physical activity and dietary scores at both three and nine months compared to baseline across both groups of participants, which suggests that in this instance ICT based health promotion to be equally as effective as traditional, print based intervention.⁴ This study did not report on cost-effectiveness.

Lastly, a cluster randomised control trial (RCT), to assess the impact of a telephone-based intervention targeting the home food environment of preschool children on the fruit and vegetable consumption of parents (n=394), founds that after parents received 4 weekly 30-minute telephone calls and written resources their fruit and vegetable consumption significantly exceed consumption of control parents at the 2 and 18 month follow-up (+0.71 serves and +0.36 serves, respectively)⁵.

Cost effectiveness of telephone and web-based interventions

Although the cost effectiveness of each intervention reviewed was not provided, the cost-effective conclusion of the GHS can be considered in addition to other cost-analysis data to suggest the cost-effectiveness of telephone and/or web-based interventions to be likely. According to a 2010 study, the direct costs (health care and non-health care) per person of obesity in Australia are almost twice that of a healthy weight person (\$2788 compared to \$1472 per person, respectively).⁶ This study estimated that in 2005 the total excess annual direct cost due to overweight and obesity (above the cost for normal-weight individuals) was \$10.7 billion, with overweight and obese individuals receiving a further \$35.6 billion (95% CI, \$33.4–\$38.0 billion) in government subsidies.⁶

A further report evaluating the cost-effectiveness of 150 preventive health interventions, addressing areas such as mental health, diabetes, tobacco use, alcohol use, nutrition, body weight, physical activity, blood pressure, blood cholesterol and bone mineral density, identified sufficient evidence of internet based interventions targeting physical activity to be very cost-effective (\$0–10,000/DALY), with medium annual costs (\$10–100 million) and a small lifetime health impact (0–10,000 DALYs).⁷ Similar cost analysis for internet or telephone delivered interventions targeting dietary intake and/or weight loss intake were not available.⁷

Limitations of this approach

Following review of the evidence, a number of limitations and gaps in the evidence were highlighted, which AHPA Queensland would encourage further consideration/investigation:

- With approximately 14 million Australians reportedly overweight or obese, the Get Healthy Coaching (GHS) only captures a small number of the whole population at risk – approximately 0.17% (n=25,000) of the 63% of Australians who are overweight or obese³. The program would need to be scaled up substantially to have major impact on rates of overweight and obesity in the population.
- Telephone and web-based interventions targeted toward ‘at risk’ individuals are secondary prevention strategies, targeting the people who are already overweight and obese and at risk of chronic disease. Whilst these types of interventions have a role to play, it is also important to acknowledge the vital and proven role of primary prevention in keeping the healthy weight people well. To provide a comparison, the success of tobacco control in Australia came about through a combination of strategies which significantly reduced smoking prevalence rates and subsequently deaths from tobacco related lung disease. These include environmental regulatory policies and legislation, fiscal legislation, education and health information across various sectors including mass media, point of sale and school based education. In addition, a supportive and significantly mobilised community advocating for action contributed along with screening and brief interventions in the healthcare setting.
- Consideration also needs to be given to equity issues such as computer literacy, access to technology devices (telephones, mobile phones, computers, and internet) and whether telephone and web-based interventions are effective in sustainable behaviour change for vulnerable groups.
- Current evaluation and review of the effectiveness of telephone and web-based interventions does not demonstrate long-term behaviour change. Consideration should be given for further follow-up of participants in the program through a longitudinal cohort study to ensure sustained behaviour change beyond the life of the intervention before a

further significant financial investment is made. In the example of the GHS evaluation³, evidence is also not clear whether all the people who accessed the service completed the program and whether the 'at risk' target groups were represented in the cohort that completed the program.

Potential opportunities for collaboration

Given the need for a further and more thorough evaluation to prove the longitudinal value and efficacy of this strategy, a collaboration with a Queensland based university with skills and experience in obesity related health promotion research and evaluation is essential. To ensure equity of access and reach, various non-government organisations across the vast regional areas of Queensland whom engage with various at risk clientele would need to be engaged to ensure referral pathways are well promoted and utilised.

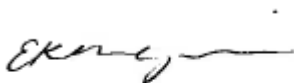
It is essential however that collaboration with trained and skilled health promotion professionals are built to ensure that the other factors that support the engagement, success and maintenance of health coaching. A health promotion professional is able to plan, implement and evaluate health promotion programs, engage key stakeholders, and tailor strategies to best engage and address the needs of the target audience. Health promotion professionals are university trained and highly skilled in this public health field. Health promotion professional led collaborations between Hospital and Health Services, local governments and the relevant sector partners (landscape architects, urban planners, food and grocery industry etc) must be fostered to both create environments and policy that support the prevention and maintenance of healthy lifestyles and weight.

Final Comments

It is our recommendation that the Health and Ambulance Services Committee recruits health promotion professionals in the strategic planning and subsequent rollout of future health promotion interventions.

AHPA Queensland is happy to give evidence and comment at the public hearing of this report on May 20th 2015.

Yours sincerely



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Reference List

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2. Australian Institute of Health and Welfare (2015). Overweight and obesity. Retrieved from <http://www.aihw.gov.au/overweight-and-obesity/>
3. B J O'Hara, P Phongsavan, B McGill, M Maxwell, N Ahmed, S Raheb & A E Bauman (2014) The NSW Get Healthy Information and Coaching Service: the first five years. NSW Ministry of Health & Prevention Research Collaboration: University of Sydney.
4. Duncan M, Vandelanotte C, Kolt GS, Rosenkranz RR, Caperchione CM, George ES, Ding H, Hooker C, Karunanithi M, Maeder AJ, Noakes M, Tague R, Taylor P, Viljoen P, Mummery WK. Effectiveness of a Web- and Mobile Phone-Based Intervention to Promote Physical Activity and Healthy Eating in Middle-Aged Males: Randomized Controlled Trial of the ManUp Study. *J Med Internet Res* 2014;16(6):e136
5. Wyse R, Campbell K J, Brennan L, Wolfenden L. A cluster randomised controlled trial of a telephone-based intervention targeting the home food environment of preschoolers (The Healthy Habits Trial): the effect on parent fruit and vegetable consumption *International Journal of Behavioral Nutrition and Physical Activity* 2014, 11:144 doi:10.1186/s12966-014-0144-6
6. Colagiuri S, Lee C M Y, Colagiuri R, Magliano D, Shaw J E, Zimmet P Z, Caterson I D. The cost of overweight and obesity in Australia. *Med J Aust* 2010; 192 (5): 260-264.
7. Vos T, Carter R, Barendregt J, Mihalopoulos C, Veerman JL, Magnus A, Cobiac L, Bertram MY, Wallace AL, ACE-Prevention Team (2010). Assessing Cost-Effectiveness in Prevention (ACE-Prevention): Final Report. University of Queensland, Brisbane and Deakin University, Melbourne.

Appendix 1

Name/date	Aims	Method	Target /Participants/Reach	Outcomes
<p>NSW Get Healthy Information Coaching Service</p> <p>(2009 -2013)</p> <p>*QLD joined service in Feb 2013</p> <p>Cost effectiveness:</p> <ul style="list-style-type: none"> • Mean coaching costs ranged from \$640 -\$1,030 per person • Models which excluded the costs of marketing = \$350 per person 	<p>Assess the process of implementation, the reach and the impact of GHS in relation to health and behaviour-related outcomes.</p>	<p>Free telephone-based service supporting NSW adults to make sustained improvements in healthy eating, physical activity and achieving or maintaining a healthy weight:</p> <p>6 month coaching program: 10 individually tailored calls provided by university qualified health coaches based on behaviour change/self-regulation principles designed to assist with goal setting, maintaining motivation, overcoming barriers and making sustainable lifestyle changes, plus print support materials.</p> <p>Information-only: Printed information package on healthy eating, physical activity, and achieving or maintaining a healthy weight, consistent with the Australian Guide to Healthy Eating and National Physical Activity Guidelines.</p>	<p>‘At risk’ adults (Aboriginal, CALD, low SES areas, remote/rural/regional areas, at risk of diabetes)</p> <p>Coaching participants n= 18,167 (76.8%)</p> <p>Information only n= 5,483 (23.2%; 72.3% F)</p>	<p>At 6months Coaching participants:</p> <ul style="list-style-type: none"> • lost weight (-3.8kg; 56% of participants lost 2.5% - 10% body weight) • reduced waist circumference (-5.1cm) • decreased BMI (-1.4kg/m²) • improved healthy eating behaviours (32% increase in n meeting recommended fruit intake; 27% increase in n meeting recommended veg intake) • Increase participants meeting PA recommendation by 26% from baseline to 6months
<p>Effectiveness of a Web- and Mobile Phone-Based Intervention to Promote Physical Activity and Healthy Eating in Middle-Aged Males: Randomized</p>	<p>Assess the effectiveness of a 9-month IT-based intervention to improve the physical activity, dietary behaviors, and health literacy in middle-aged males compared to a print-based intervention.</p>	<p>2:1 basis RCT favouring IT-based intervention over print-based intervention.</p> <p>Participants’ self-reported physical activity, dietary behaviors, and health literacy were measured using online surveys at baseline, 3 months, and 9 months.</p>	<p>Middle aged men, (n=301; n=205 ICT, n=96 print) 35-54 years living in 2 regional cities in Queensland, Australia,</p> <p>Recruited offline</p>	<p>Self-reported minutes and sessions of physical activity were significantly higher at 3 and 9 months compared to baseline in both groups. Dietary scores were significantly higher (improved) at both 3 and 9 months compared to baseline in both groups.</p>

1. <http://www.nslhd.health.nsw.gov.au/HealthInformation/HealthPromotion/Documents/AHPAInfographicSep13.pdf>
2. <http://www.health.qld.gov.au/ph/documents/hpu/healthykidsqld2006.pdf>
3. <http://theconversation.com/brace-yourself-for-a-fatter-unhealthier-queensland-after-health-promotion-cuts-9789>

Controlled Trial of the ManUp Study 2014				
A cluster randomised controlled trial of a telephone-based intervention targeting the home food environment of pre-schoolers (The Healthy Habits Trial): the effect on parent fruit and vegetable consumption 2010 No cost effectiveness provided	<p>To assess the impact of a telephone-based intervention targeting the home food environment of preschool children on the fruit and vegetable consumption of parents.</p>	<p>RCT Intervention group parents received 4 weekly 30-minute telephone calls and written resources. The scripted calls focused on; fruit and vegetable availability and accessibility, parental role-modelling, and supportive home food routines</p>	<p>n=394 parents of 3–5 year–old children from 30 preschools in the Hunter region</p>	<p>At each follow-up, intervention parents consumed significantly more vegetable serves than control parents. At 2-months the difference was 0.71 serves (95% CI: 0.58-0.85, $p < 0.0001$), and at 18-months the difference was 0.36 serves (95% CI: 0.10-0.61, $p = 0.0067$).</p>

1. <http://www.nslhd.health.nsw.gov.au/HealthInformation/HealthPromotion/Documents/AHPAInfographicSep13.pdf>
2. <http://www.health.qld.gov.au/ph/documents/hpu/healthykidsqld2006.pdf>
3. <http://theconversation.com/brace-yourself-for-a-fatter-unhealthier-queensland-after-health-promotion-cuts-9789>