Characteristics of participants in Australia's Get Healthy telephone-based lifestyle information and coaching service: reaching disadvantaged communities and those most at need

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Abstract

To address increasing rates of overweight and obesity, a population-based telephone intervention was introduced in New South Wales, Australia. The Get Healthy Information and Coaching Service® (GHS) offered participants a 6-month coaching program or detailed self-help information. Determining the population reach of GHS is of public health importance to ensure that the program reaches disadvantaged groups. This paper describes the socio-demographic and risk profile of participants ($n = 4828$) in the first 18 months of operations, determines how representative they are of the population, assesses changes in participants' socio-demographic profile and compares 'information-only' and 'coaching' participants. The results show that GHS users are representative of the adult population in relation to education, employment status, Aboriginal status, fruit and vegetable consumption and alcohol use. However, more female, middle-aged, English-speaking, rural and socially disadvantaged adults participated in GHS. Coaching Participants were more likely to be overweight and to be ex-smokers than the general population. There was substantial variability in GHS recruitment, when mass-reach television advertising was used, participants enrolled from a major city and from more disadvantaged communities. The GHS has broader population reach than many local interventions, but further efforts are needed to increase reach by Aboriginal communities, other minorities and men.

Introduction

Increasing rates of overweight and obesity are evident across developed countries with at least half of the population overweight or obese in 13 high-income countries [1]. In Australia and in New South Wales (NSW), nearly two-thirds of the adult population are overweight or obese [2, 3], with high associated direct and indirect costs in the order of $58.2 billion [4].

There are many proposed aetiological factors for obesity, but increased energy intake and reduced energy expenditure are primary causal factors. In Australia, 54.2% of adults do not undertake the recommended levels of physical activity (e.g. reduced energy expenditure) [5], and 51.0 and 91.5% do not eat the daily-recommended servings of fruit and vegetables (e.g. increased energy intake), respectively [6]. Promoting regular physical activity and increasing healthy diets at the population level could contribute to obesity prevention.

The evidence base for efficacious, mass-reach low-contact physical activity and nutrition behavior interventions is considerable, across different target populations, a range of settings and different intervention modalities [7–11]. Systematic reviews have confirmed that telephone-based interventions [11] are effective in increasing physical activity, improving nutrition and reducing weight in the short

to medium term (3–6 months). However, the delivery of these interventions has targeted specific population groups with varying effectiveness [12]. To date, less consideration has been given to the true population-wide reach and effectiveness of large-scale telephone-based preventive interventions in supporting behavior change as well as promoting equality in intervention access [12–14].

Increasing population reach would contribute to reducing health inequalities in risk factor profiles. However, studies to date have shown that public health programs are underutilized by those who need them most [15, 16]. Reasons for this are varied and complex, including time and financial constraints, geographical barriers [16] or a tendency for programs to take a 'one-size fits all' approach [12]. Many public health programs also have to deal with the inverse care law effect [17], which sees better health care services being provided and utilized where they are needed least, further exacerbating the gap in health status [18].

In 2006, the Council of Australian Governments [19] agreed to develop and implement a four year $500 million national program named the Australian Better Health Initiative to promote good health and reduce the burden of chronic disease. Within this context, the NSW Get Healthy Information and Coaching Service® (GHS), a free Government funded, population-based telephone-based information and coaching service was launched in 2009 to support NSW adults not meeting population recommendations for healthy eating, physical activity and healthy weight (www.gethealthynsw.com.au). An underpinning equity goal of the GHS was to reach those most in need of lifestyle change, particularly those living in rural and very remote areas and those from lower socio-economic status groups [20, 21].

This paper reports on the process evaluation of the GHS service usage in the first 18 months of operation and assesses its generalizability and differential population reach. The paper examines changes in the socio-demographic profile over this time period and the socio-demographic and health behavior profiles of the different types of GHS participants are presented and compared with the NSW adult population. The primary hypothesis of this paper was that the GHS would reach lower socio-economic groups, those living in regional and remote areas and those with an at-risk behavioral health profile.

Methods

Get Healthy Information and Coaching Service intervention

The GHS is staffed by tertiary qualified allied health professionals with training and expertise in telephone coaching. Once a participant contacts the GHS, they can choose to either receive information (known as an Information Participant) or enroll in a more intensive, personalized 6-month telephone-coaching program (known as a Coaching Participant). Information Participants are provided with a detailed easy-to-use information kit that contains evidence-based information on healthy eating, physical activity and achieving or maintaining a healthy weight. Coaching Participants have their own health coach, receive evidence-based supporting print materials and engage in a maximum of 10 coaching telephone calls (maximum length of 30 minutes per call) over a 6-month period. The coach, using psychology informed coaching techniques, assists the participant in setting personally relevant lifestyle change goals, developing actions, maintaining motivation, overcoming barriers and preventing relapse. Participants are recruited to the GHS through mass media marketing activities, local health service promotional initiatives and non-government organization promotions. In the period from March to June 2009, statewide television advertising was the primary vehicle of promotion; after this time, local health service and non-government activities were the primary sources of promotion.

Participants and ethics approval

Potential users of the GHS comprised all adults living in NSW aged 18 years or older who contacted the GHS and elected to take part in the information or coaching components of GHS. Informed consent was obtained from all participants prior to their information being included in this study. The University of Sydney Human Research Ethics Committee

granted ethics approval for this study (Ref. No. 02-2009/11570).

Measures and procedures

The GHS collected socio-demographic data from both Information and Coaching Participants through the use of a telephone survey. Specific questions on level of education, employment, language spoken at home and Indigenous status were derived from the NSW Population Health Survey [22]. Participants were also asked how they heard about GHS (referral source). For Coaching Participants, additional questions relating to self-report height, weight, waist circumference, physical activity [23] and dietary behavior [22, 24] were collected. These data were collected by the GHS coaches.

Population norms for adults in NSW were estimated from the NSW Population Health Survey [25–27], the Australian Bureau of Statistics Census data [28, 29], the National Health Survey [2, 30, 31] and the National Drug Survey [32].

Analysis

Descriptive and chi-square analyses were performed using PASW 17.0 (IBM SPSS Inc. 2009) on key demographic variables, stratified by type of GHS participant (Information and Coaching) and time periods (3-month periods from March 2009 to August 2010). Descriptive analyses on key behavioral risk factors for Coaching Participants were stratified by gender. Chi-squared tests were performed to examine the relationship between type of GHS participants and time period. Forced entry logistic regression models computed the adjusted odds ratios (AORs) of the likelihood of socio-demographic groups being more likely to participate in GHS within certain time periods.

Socio-Economic Indexes for Areas (SEIFA) [33] and Accessibility-Remoteness Index of Australia Plus (ARIA) [34] measures were used to assess social disadvantage. The SEIFA data are based on aggregate area-level socio-economic status indicators and were categorized into quintiles (1 = most advantaged, 5 = most disadvantaged). The ARIA is a measure of geographical remoteness, categorized as major cities, inner regional, outer regional, remote and very remote.

Results

Between 23 February 2009 and 3 September 2010, 5174 adults engaged with the GHS, of these, 1934 (37.4%) registered as an Information Participant and 3240 (62.6%) enrolled as a Coaching Participant. A total of 4828 (93.3%) participants consented for their information to be included in the evaluation of GHS (data included here).

Analysis of Coaching Participants who had completed the 6-month coaching program showed that half of the participants (52.9%, $n = 418$) did so in 7 months or less, with 17.7% ($n = 140$) finishing in 6 months. One quarter (26.4%, $n = 208$) of the Coaching Participants completed the program in 8 months and a further 12.4% ($n = 98$) took 9 months. Overall, 61% of those who enrolled in the coaching program did not complete their 6 month program, with the highest proportion of withdrawals occurring at the first call (14.0%) and the lowest at call eight (6.9%). Of these participants, 82.9% were female, and similar proportions of withdrawn participants were among those aged 30–39 and 40–49 years (26.1%). The majority of participants (77.8%) withdrew from the program because they were unable to be contacted by their coaches after several attempts.

Socio-demographic profile of GHS participants

Table I compares the socio-demographic profile of the information-only and Coaching Participants in the first 18 months of GHS. Females, and people with a tertiary education and English speakers, were more likely to enroll in coaching (P-value < 0.001). Participants who were employed full time were more likely to request the GHS information kit only (P-value ⩽ 0.05).

Participants from more advantaged backgrounds were more likely to enroll in coaching than those from the third and fourth quintile of disadvantage; however, those from the most disadvantaged quintile were also more likely enroll in coaching (P-value ⩽ 0.05).

Table I. *Socio-demographic characteristics of information and Coaching Participants*

Characteristics	Information		Coaching		Total		P-value[a]
	n	%	*n*	%	*n*	%	
Gender							*P* < 0.001
Female	1274	75.7	2592	82.4	3866	80.1	
Male	410	24.3	552	17.6	962	19.9	
Age							*P* < 0.001
18–29	214	12.7	291	9.3	505	10.5	
30–39	317	18.8	617	19.6	934	19.3	
40–49	382	22.7	765	24.3	1147	23.8	
50–59	391	23.2	833	26.5	1224	25.4	
60–69	240	14.3	446	14.2	686	14.2	
70+	140	8.3	191	6.1	331	6.9	
Educational attainment[b]							*P* < 0.001
Year 10 and below	450	28.5	756	24.1	1206	25.6	
Years 11 and 12	266	16.8	477	15.2	743	15.8	
Diploma and certificate	404	25.6	808	25.8	1212	25.7	
Degree or higher	459	29.1	1094	34.9	1553	32.9	
Employment status							*P* ⩽ 0.05
Full time	599	37.8	1087	34.6	1686	35.7	
Part time/casual	350	22.1	795	25.3	1145	24.3	
Home duties	147	9.3	267	8.5	414	8.8	
Retired	269	17.0	499	15.9	768	16.3	
Other	133	8.4	295	9.4	428	9.1	
Unemployed	85	5.4	195	6.2	280	5.9	
Language spoken at home							*P* ⩽ 0.01
English	1458	91.9	2958	94.2	4416	93.5	
Other	128	8.1	181	5.8	309	6.5	
Aboriginal status							NS
Non-aboriginal	1642	97.5	3065	97.5	4707	97.5	
Aboriginal	42	2.5	79	2.5	121	2.5	
ARIA classification[c]							NS
Major city	971	57.8	1792	57.1	2763	57.3	
Inner regional	484	28.8	828	26.4	1312	27.2	
Outer regional	209	12.4	478	15.2	687	14.3	
Remote/very remote	13	0.8	37	1.2	50	1.1	
SEIFA index[d]							*P* ⩽ 0.05
First quintile (most advantaged)	187	11.1	384	12.2	571	11.8	
Second quintile	290	17.3	628	20.0	918	19.0	
Third quintile	401	23.9	696	22.2	1097	22.8	
Fourth quintile	500	29.7	827	26.3	1327	27.5	
Fifth quintile (most disadvantaged)	299	17.8	600	19.1	899	18.6	
Referral source							NS
Television	490	29.1	882	28.1	1372	28.4	
Other	1194	70.9	2262	71.9	3456	71.6	

NS, not significant.

[a]Chi-square tests of analysis undertaken.

[b]Year 10 or below is the equivalent of lower secondary education; Year 12 or below is the equivalent of upper secondary education; Diploma and certificate is the equivalent of post secondary non tertiary education and degree or higher is the equivalent of tertiary qualifications [35].

[c]ARIA + was calculated and is based on the road distance from a locality to the closest service centre and classifies locations as major cities, inner regional, outer regional, remote and very remote.

[d]SEIFA provides a summary of people in an area representing the general level of socio-economic disadvantage of all the people in the area in which a person lives.

Compared with the NSW adult population (data not shown), the GHS sample comprised a higher proportion of female participants than the NSW adult population (80.1 versus 51.1%, respectively) [25], a higher proportion of adults aged 40–59 years (49.2 versus 36.8%) [25] and a higher proportion of English-speaking adults (93.5 versus 74.0%) [29]. The proportion of Aboriginal participants was similar to NSW [25]; and the level of educational attainment among GHS participants was representative of NSW adults [26]. There was a higher proportion of GHS participants from inner and outer regional locations when compared with the NSW population (27.2 and 14.3% versus 22.9 and 10.5%, respectively) [26]. Based on SEIFA, GHS participants were more likely to come from the lowest two quintiles of socio-economic status (46.1% compared with 38.0%) [26].Socio-demographic profile of GHS participants over time

Table II presents the socio-demographic profile of GHS participants in 3-month time periods over the first 18 months of the GHS. The age of the participants did change over time, with more participants aged 40 years+ joining GHS in the last 12 months of GHS when compared with the first 6 months (P-value < 0.001).

Educational attainment and the employment status of participants varied across the 18 months, with less educated participants enrolling in the first 3 months compared with the following 15 months (P-value < 0.001) and lower proportions of full-time employed participants in the first 3 months compared with the following 15 months (P-value < 0.001).

In the first 3 months, more participants were from the most socially disadvantaged quintile, according to the SEIFA index (P-value < 0.001). Further, compared with the initial period March–May 2009, participants were significantly less likely to be from the most disadvantaged quintile in the periods September–November 2009 and June–August 2010 (AOR = 0.67 for both time periods; P-value ⩽ 0.05). The ARIA measure of GHS participants also changed over this time with more participants from major cities being apparent in the first 6 months of the GHS when compared with the next 12 months; this change was significant (P-value < 0.001).

Adjusting for other covariates and compared with the period March–May 2009, participants were significantly less likely to be from a major city in the periods September 2009–August 2010 (AOR = 0.5, 0.68, 0.7 and 0.54, respectively; P-value ⩽ 0.05).

There was a corresponding significant change in the reported source of referral to the GHS, with television more likely to be reported as a participant's source of referral in the first 3–6 months of the GHS when compared with the following 12 months (P-value < 0.001). In all subsequent periods, the likelihood of citing television messages as the source was markedly reduced, reaching negligible levels by late 2010 (Table II).

Risk profile of Coaching Participants

Table III summarizes the key behavioral risk factor profile of GHS Coaching Participants by gender. Men were more likely than women to be overweight (P = 0.04) and not consuming the recommended levels of vegetables and fruit (p-value = 0.01 and P-value = 0.05, respectively). Men were also more likely to consume take-away meals more than once a week, usually consume full fat milk, consume more than two sugary drinks per day and drink alcohol at an amount that placed them a lifetime risk (all P-values < 0.001).

When comparing the distribution of the GHS participant's body mass index (BMI) to the broader NSW adult population surveys (data not shown), this study found similar proportions of overweight in the GHS sample but included a higher proportion who were classified as being obese (51.4 versus 19.0%, respectively) [26].

All Coaching Participants, who provided their waist circumference, (n = 1 626), were classified as having an increased (waist circumference for men, ⩾94 cm and for women, ⩾80 cm) or greatly increased risk (for men, ⩾102 cm and for women, ⩾88cm), which is substantially higher proportion (57.8%) compared with the NSW adult population [31].

The proportion of Coaching Participants consuming insufficient daily fruit and vegetable was comparable to that of the broader NSW adult population

Table II. *Socio-demographic characteristics of information and coaching participants over time May 2009–August 2010*

Characteristics	March–May 2009 (%)	June–August 2009 (%)	September–November 2009 (%)	December 2009–February 2010 (%)	March–May 2010 (%)	June–August 2010 (%)
Gender (*n* = 4743)						
Male	18.5	14.4	22.5	18.8	18.3	21.4
Female	81.5	85.6	77.5	81.2	81.7	78.6
AOR	Reference	0.78	1.48*	1.22	1.13	1.42*
Age (*n* = 4742)						
18–39	32.4	38.3	27.6	28.3	26.8	28.5
40+	67.6	61.7	72.4	71.7	73.2	71.5
AOR	Reference	1.46*	1.13	1.28*	1.10	1.40*
Educational attainment (*n* = 4701)						
Degree or higher	25.8	33.9	35.6	38.0	36.7	32.8
Other	74.2	66.1	64.4	62.0	63.3	67.2
AOR	Reference	1.25	1.14	1.28*	1.29*	1.02
Employment status (*n* = 4708)						
Full time/part time/casual	49.9	57.6	67.9	63.0	62.4	63.4
Other	50.1	42.4	32.1	37.0	37.6	36.6
AOR	Reference	1.10	1.57*	1.15	1.19	1.14
Language spoken at home (*n* = 4712)						
English	93.1	93.6	91.6	93.7	93.8	96.7
Other	6.9	6.4	8.4	6.3	6.2	3.3
AOR	Reference	1.17	0.65*	1.01	1.03	1.80*
Aboriginal status (*n* = 4743)						
Non-Aboriginal	97.0	98.5	98.0	97.2	98.2	95.9
Aboriginal	3.0	1.5	2.0	2.8	1.8	4.1
AOR	Reference	1.98	1.42	1.11	1.61	0.72
ARIA classification[a] (*n* = 4727)						
Major city	67.8	69.7	50.7	55.7	56.8	47.6
Other	32.2	30.3	49.3	44.3	43.2	52.4
AOR	Reference	1.10	0.50*	0.68*	0.70*	0.54*
SEIFA index[b] (*n* = 4736)						
Fifth quintile (most disadvantaged)	21.4	18.8	16.5	18.5	20.0	17.0
Other quintiles	78.3	80.7	83.5	81.4	79.7	83.1
AOR	Reference	0.89	0.67*	0.79	0.87	0.67*
Referral source (*n* = 4743)						
TV	64.9	43.7	16.3	6.1	15.7	3.7
Other	35.1	56.3	83.7	93.9	84.3	96.3
AOR	Reference	0.40*	0.11*	0.04*	0.10*	0.02*

The adjustment has been done for the remaining covariates. NS, not significant.
[a]ARIA + was calculated and is based on the road distance from a locality to the closest service centre and classifies locations as major cities, inner regional, outer regional, remote and very remote.
[b]SEIFA provides a summary of people in an area representing the general level of socio-economic disadvantage of all the people in the area in which a person lives. *Significance at $P \leqslant 0.05$.

[26]; usually, consuming full fat dairy products was higher than NSW adult population (21.5 and 47.5%, respectively) [26] and a greater proportion reported consuming more than two sugary drinks per week compared with the NSW adult population (78.7 and 62.5%, respectively) [26]. Further, Coaching Participants were less often 'sufficiently active' compared with the NSW adult population (55.2% of NSW adults undertake adequate levels of physical activity) [27].

A higher proportion of Coaching Participants indicated poorer overall health compared with the

Table III. *Risk profile of Coaching Participants by gender*

Risk profile characteristics	Female		Male		Total		P-value[a]
	n	*%*	*n*	*%*	*n*	*%*	
Weight							
Under and normal weight (BMI 10.0–24.99)	302	16.2	41	10.9	341	15.3	$P \leqslant 0.05$
Overweight (BMI 25–29.99)	605	32.5	142	37.6	747	33.3	
Obese (BMI 30–70)	956	51.3	195	51.6	1151	51.4	
Sufficient physical activity[b]							
Insufficient	1 114	58.5	232	60.4	1346	58.9	NS
Sufficient	789	41.5	152	39.6	941	41.1	
Nutrition							
Insufficient fruit consumption[c]	862	45.3	204	53.1	1,066	46.6	$P \leqslant 0.01$
Insufficient vegetable consumption[d]	1600	84.0	338	88.0	1938	88.7	$P \leqslant 0.05$
Usually consumes full fat milk	374	19.7	118	30.8	492	21.5	$P < 0.001$
Consumes more than two sugary drinks per day	110	5.8	44	11.5	154	6.7	$P < 0.001$
Consumes take-away meals more than once a week	364	19.1	136	35.4	500	21.9	$P < 0.001$
Overall health rating							
Excellent/very good	475	24.9	84	21.9	559	24.4	NS
Good	878	46.1	166	43.2	1044	45.6	
Fair	553	29.0	134	34.9	686	30.0	
Alcohol use[e]							
No lifetime risk	1500	78.9	250	65.4	1750	76.6	$P < 0.001$
Lifetime risk level for alcohol	402	21.1	132	34.6	534	23.4	
Smoking status							
Daily smoker/smoke occasionally	151	8.0	32	8.3	183	8.0	NS
Ex-smoker	623	32.7	149	38.9	772	33.8	
Never smoked regularly/never smoked	1129	59.3	202	52.7	1331	58.2	

NS, not significant.
[a]Chi-square tests of significance undertaken.
[b]Sufficient PA: $\geqslant 5$ sessions week^{-1} walking or $\geqslant 5$ sessions week^{-1} moderate activity or 3–4 sessions week^{-1} walking and $\geqslant 1$–2 sessions week^{-1} moderate activity or $\geqslant 1$–2 sessions week^{-1} walking and 3–4 sessions/week^{-1} moderate activity [23].
[c]Based on less than two serves of fruit per day [36].
[d]Based on less than five serves of vegetables per day [37].
[e]Lifetime risk of harm from drinking alcohol is based on the latest National Health and Medical Research Council Australian guidelines to reduce health risks from drinking alcohol [38].

NSW adult population (30% compared with 15.3% reporting being in fair health 24.4%, compared with 55.5% reported being in excellent or very good health) [31]. A smaller proportion of Coaching Participants were current smokers compared with the NSW adult population (5.5 and 16.5%, respectively) [32] and risky alcohol use by GHS Coaching Participants was typical of the NSW adult population [27].

Discussion

This study has shown that the GHS is being used by those who are most in need as determined by their socio-demographic and risk factor profile. One

of the benefits of a free telephone-based service is the potential for population reach into socially and geographically disadvantaged regions. This study provides evidence for this hypothesis; GHS participants were more likely to be from disadvantaged areas in NSW from inner and outer regional locations and have a high chronic disease risk profile.

In regard to risk profiles, Coaching Participants were more likely than the general population to be obese, have an increased waist circumference and rate themselves as being in fair health. These results suggest that the GHS is being used by at-risk adults who would most benefit from the intervention. These are important findings given limited evidence so

far on the population groups most reached by telephone-based programs such as the GHS.

In the first 18 months of operation, GHS has been mostly used by middle-aged English-speaking women. This is consistent with other studies showing that women are more likely to seek advice for health issues [39], to access health services [40] and are more likely than men to be attempting weight loss [41, 42]. The use of GHS by adults aged 40–59 years further shows that, with the onset of middle age, the effects of risk factors begin to manifest [43, 44], and with the increased risk of ill health comes an increase in health care seeking behavior.

The majority of participants were from English-speaking backgrounds, which reflects not only that the GHS is provided in English but also the poor utilization of translator services offered to GHS participants more generally [45]. In this study, we found Aboriginal participants were representative of the broader NSW population. While caution is advised when interpreting results relating to this group given the small numbers ($n = 121$), this level of participation is encouraging [46]. More comprehensive and targeted promotion of the GHS will be needed to encourage even greater representation from Aboriginal communities to reduce health disparities between Aboriginal and non-Aboriginal Australians [47].

This study also reports significant variations in GHS participant's profile over the 18-month period. In the first 3–4 months of the GHS, participants were more likely to be from a major city, from more disadvantaged communities and from lower education categories. This can be attributed to the use of specific mass-reach paid media advertising primarily by television, which was used as the GHS's major promotional driver in the first 4 months of the GHS. The subsequent 14 months relied on the promotional efforts of regional health promotion authorities undertaking localized initiatives, which did not include television advertising. Mass media more equitably reached less educated, more disadvantaged and more urban participants than when localized activities were used. It remains to be seen whether the profile of participants would substantially change with the use of mass media promotions in conjunction with localized promotional activities [48]. It should also be noted that the overall reach of the GHS and its usage in the first 18 months is lower than what should reasonably be expected from a population-based service [49]. The GHS recruited approximately 5200 participants during this period, which is substantially less than 1% of the NSW adult overweight and obese population, placing importance on the need for sustained mass media in promoting the GHS. The experience of smoking cessation helplines [50, 51] suggests that a population target of between 3 and 6% could be an optimal goal for population participation in a program like the GHS. The GHS has flexibility to meet such fluctuating demand levels.

Whilst the broad reach and utilization of the GHS has been positive, a further review of the program based on enrollment into the 6-month behavioral coaching compared with the information component highlights some challenges for GHS. Men and those employed full time were more likely to request information only (and not proceed to enrolling in the coaching program). A closer examination of the participants' profile also shows that less than 2% of users who receive information-only converted to the evidence-based 6-month coaching program [11], which is of concern because the coaching program provides the best support for lifestyle changes. Furthermore, those in the highest two quintiles of disadvantage and also in the lowest quintile of disadvantage were more likely to take part in GHS coaching compared with the information-only component. More may need to be done to ensure that GHS coaching appeals to men and those in the third and fourth quintile of disadvantage.

In relation to risk profile, GHS telephone coaching is being used by those who are at high risk of chronic diseases, as measured by BMI and waist circumference. Interestingly, the nutrition and physical activity profile of the Coaching Participants did not vary greatly from that of the broader population, reflecting at-risk levels across the whole population. Coaching Participants were also less typical of the NSW population in relation to having lower levels of risky alcohol usage and smoking; there were lower proportions of daily smokers and more ex-smokers in the GHS sample. These variations can be explained by the older age groups

enrolled in the telephone coaching than are typical of the adult population. Additionally, male Coaching Participants were more likely than female participants to be at increased risk. This again highlights the need to increase recruitment of men to the GHS.

A limitation of this study is that the data are based self-report collected by the participant's coaches. So social desirability in reporting physical activity levels, healthy eating behaviors, weight and waist measurements cannot be ruled out.

Conclusions

The ongoing evaluation and reflection is an important part of program feedback and modification over time. This process evaluation data clearly show that the GHS is being used by those in the community who are most at need in terms of socio-demographic and risk factor profiles. These results are encouraging. More will need to be done to target men, and those from culturally and linguistically diverse communities. The GHS will also require mass-reach promotion in a comprehensive and sustained manner if its population reach is to be realized. Finally, assessing the profile of program users across the GHS can increase the 'translational ability' of such a program in other population settings.

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Conflict of interest statement

None declared.

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