The Get Healthy Information and Coaching Service Aboriginal Program

Evidence and Evaluation Report
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get healthy®
Information & Coaching Service

NSW GOVERNMENT Health

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We pay our respects to the traditional custodians of the lands across NSW, to Elders past and present and to all Aboriginal people. We gratefully acknowledge the valuable contributions that Aboriginal Elders, organisations, community members, staff and families have made to GHS.

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EXECUTIVE SUMMARY

Non-communicable chronic diseases and conditions are associated with approximately 85% of the total burden of disease in Australia. Compared to non-Aboriginal people, Aboriginal community members are 2.7 times more likely to be hospitalised for diabetes; 1.6 times more likely to be hospitalised for cardiovascular disease; and 1.7 times more likely to be hospitalised for stroke. A large proportion of chronic disease is preventable by modifying behavioural or lifestyle risk factors including unhealthy eating, physical inactivity and being overweight and obese. Aboriginal community members are often more likely to experience unhealthy lifestyles than non-Aboriginal Australians.

Given the relationship between potentially modifiable risk factors and chronic diseases there is an opportunity to develop and implement interventions aimed at decreasing levels of overweight and obesity, increasing healthy eating and increasing physical activity. Interventions targeting lifestyle risk factors in Aboriginal communities could have positive implications in terms of health outcomes for Aboriginal Australians.

Telephone-based interventions are 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.

In February 2009, the NSW Ministry of Health launched the NSW Get Healthy Information and Coaching Service®. The Get Healthy Service (GHS) is a free telephone-based service supporting NSW adults to make sustained improvements in healthy eating, physical activity, reducing alcohol consumption and achieving or maintaining a healthy weight. The GHS targets those adults in the community most at need, due to their risk of chronic disease and seeks population level reach to maximise its public health impact.

The GHS is an important component of the *NSW Healthy Eating and Active Living Strategy 2013-2018* with the enhancement of the Service to provide tailored support for Aboriginal people identified as a priority in the Strategy.

Central to the planning, implementation and evaluation of programs and services targeting Aboriginal community members are the principles of community engagement and ownership. Accordingly, in November 2012, the GHS was enhanced with the development of a specific GHS Aboriginal program, which was informed by formative research. The formative research focused on the GHS concept and fit for Aboriginal people, Aboriginal specific marketing and communication strategies and the experiences of Aboriginal people who had used the Service. This was followed by an appropriateness study in 2015, which focused on understanding the Aboriginal participant's experiences and perceptions of the GHS, identifying areas where the appropriateness of the GHS could be improved and providing recommendations to improve the GHS for Aboriginal participants.

Findings from the *Get Healthy Information and Coaching Service - Aboriginal Appropriateness Study*, conducted in 2015, reported that feedback about the Service was overwhelmingly positive and participants reported a high level of satisfaction with the Service. The study found that GHS responded to the health needs of participants and acknowledged that the coaches were caring, understanding and flexible. The study also stated that the advice given as part of the Service was easy to understand, practical and easy to implement.

As a result of this work amendments and enhancements to both: GHS promotion and referral and GHS service design and delivery were made. Service enhancements included ensuring that all GHS Aboriginal participants received Aboriginal-specific resources and three extra coaching calls in the first half of the program. These service enhancements were supported by improved referral pathways through Aboriginal Community Controlled Health Services, Aboriginal Knockout Health Challenge and cultural competency training for GHS coaches.

For the period February 2009 to December 2015, 34,211 participants registered their interest in the GHS and consented for their information to be included in the evaluation of the GHS. Of these participants 99.1% (33,897) had classifications based on the GHS programs available, namely, 85% (28,801) were enrolled in the general GHS service, 12.6% (4,280) enrolled in the type 2 diabetes prevention program and 2.4% (816) enrolled in the Aboriginal program.

The number of GHS participants who identified as being from an Aboriginal or Torres Strait Islander community has increased since 2009; from 2.3% (66) participants in 2009 to 8.8% (345) participants in 2015. For the period February 2009-December 2015 4.5% (1,462) of participants were from an Aboriginal or Torres Strait Islander background. Participation by Aboriginal people significantly increased as a result of the introduction of the GHS Aboriginal program and associated Aboriginal recruitment strategy. The proportion of Aboriginal participants prior to November 2012 (the time of the introduction of the GHS Aboriginal program) was 3.2% (606), which significantly increased to 6.4% (856) for the period after November 2012.

There were significant differences between those participants enrolled in the Aboriginal program and those enrolled in both Get Healthy Service standard program and the type 2 diabetes prevention program. Compared with the other programs, participants who registered in the Aboriginal program:

Aboriginal GHS participants:

were aged 18-49 years
(69.4% compared to 30.6%);

had a high school education
(59.2% compared to 40.8%);

were from a location classified as being most disadvantaged
(in the 3rd, 4th or 5th quintile)
(85.9% compared to 66.1%)

were from inner and outer regional, and remote and very remote locations
(63.1% compared to 36.9%).

The main referral source for all GHS participants was mass media (19,104; 59.9%). There were, however, significant differences between the main sources of referral for Aboriginal participants compared to non-Aboriginal participants. Aboriginal participants were less likely to cite mass media as their source of GHS referral and more likely to cite health professionals (including Aboriginal community health professionals and the NSW Aboriginal Knockout Health Challenge) compared to non-Aboriginal participants. In relation to referral sources for Aboriginal participants prior to and after the implementation of the Aboriginal program (in November 2012):

Referrals as a result of the NSW Aboriginal Knockout Health Challenge increased from 0.5% (3) to 31.3% (261) after the implementation of the Aboriginal program.

Referrals from other health professionals increased from 8.4% (51) to 19.9% (166) after the implementation of the Aboriginal program.

The majority of participants enrolled in the coaching component of the GHS had a risk factor profile that placed them at risk of chronic disease and there were some significant differences between the risk factor profile of Aboriginal community participants and non-Aboriginal participants as detailed below:

Aboriginal participants were significantly more likely to be overweight or obese compared to non-Aboriginal participants
(96.3% compared to 89.5%)

Aboriginal participants were significantly more likely to have a waist circumference measurement that placed them at an increased or greatly increased risk of chronic disease than non-Aboriginal participants
(96.4% compared to 91.0%).

Aboriginal participants were significantly more likely to consume less than the recommended daily serves of fruit
(61.1% compared to 52.1%).

Aboriginal participants were significantly less likely to be undertaking the recommended levels of physical activity
(62.0% compared to 65.6%).

Aboriginal GHS participants who completed the 6-month coaching program made significant improvements to their:

weight: average weight loss of 3.3kg;

waist circumference: average decrease in waist circumference of 6.2cm;

BMI: average decrease in BMI of 1.2 units;

physical activity levels: increases in the number of moderate physical activity sessions; and

healthy eating behaviours: increases in fruit and vegetable consumption and decreases in the consumption of takeaway meals.

Aboriginal participants who completed the 6-month coaching program made improvements to their chronic disease risk profile, with 60.8% (62) of participants losing more than 2.5% of their initial baseline body weight.

1. BACKGROUND AND EVIDENCE

1.1 Chronic diseases and prevalence of lifestyle based risk factors in adults

Non-communicable chronic diseases and conditions are associated with approximately 85% of the total burden of disease in Australia; and they have a number of impacts on a person's individual circumstances, including quality of life and broader social and economic effects.[1] It is apparent that chronic diseases affect some population groups more than others and accordingly the associated health outcomes differ across the community.[1] In particular Aboriginal community members experience differences in health outcomes when compared to non-Aboriginal community members. [1] In NSW:

Life expectancy of Aboriginal males is 70.5 years (9.3 years less than all NSW males) and for Aboriginal females, life expectancy is 74.6 years (8.5 years less than all NSW females)[2];

1.5x

Mortality rates for Aboriginal community members is 1.5 times higher than that of non-Aboriginal people[3];

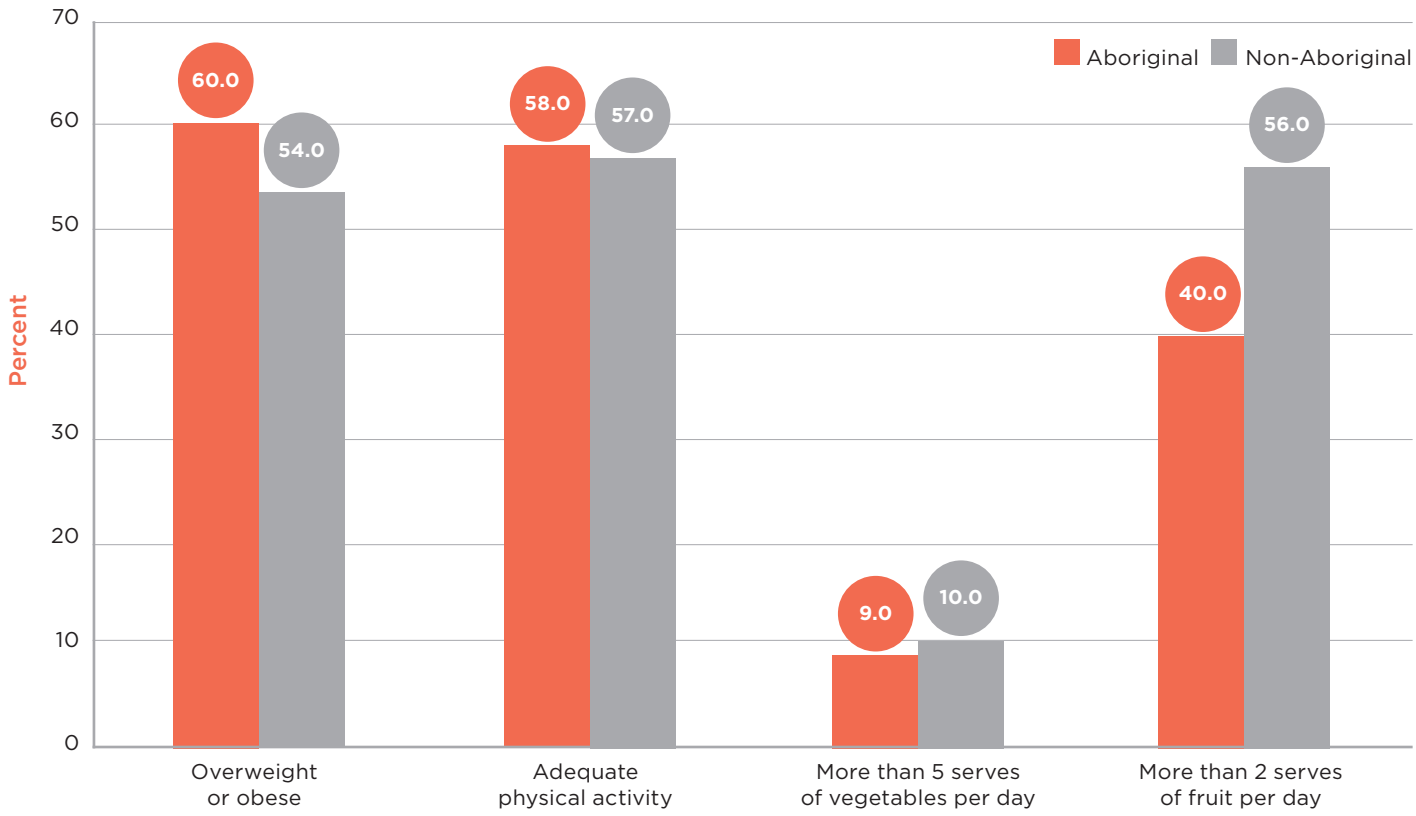
Compared to non-Aboriginal people, Aboriginal community members[3] are:
- 2.7 times more likely to be hospitalised for diabetes;
- 1.6 times more likely to be hospitalised for cardiovascular disease; and
- 1.7 times more likely to be hospitalised for stroke;

Middle-aged and older NSW Aboriginal people have higher levels of disadvantage and experience greater health needs than non-Aboriginal people and in relation to lifestyle-related chronic disease, they are more likely to be obese or have ever been diagnosed with diabetes[4].

It is recognised that a large proportion of chronic disease is preventable by modifying behavioural or lifestyle risk factors.[1,5,6] The leading modifiable risk factors associated with such non communicable diseases and conditions include unhealthy eating, physical inactivity and being overweight and obese (having a high body mass index (BMI).[1]

Approximately two thirds of Australian adults are overweight (35%) or obese (28%).[1] Overweight and obesity rates vary according to geographical location and socio-economic status, with higher rates evident outside of major cities; and for women, rates are higher in lower socio-economic groups.[1] Aboriginal community members are often more likely to experience unhealthy lifestyles than non-Aboriginal Australians.[7] In 2010, lifestyle-related disparities were such that 60% of NSW Aboriginal people (compared with 54% of non-Aboriginal people) reported being overweight or obese, an increase from 49% in 2001 (45% in non-Aboriginal people).[3] Differences between Aboriginal and non-Aboriginal community members undertaking adequate physical activity and having five or more serves of vegetables per day are not large, but the difference between those having two or more serves of fruit per day was more marked (40% of Aboriginal and 56% of non-Aboriginal people) (Figure 1).[3]

Figure 1: Disparity of lifestyle risk factors between Aboriginal and non-Aboriginal communities



1.2 Importance of prevention initiatives addressing lifestyle risk factors

Given the relationship between potentially modifiable risk factors and chronic diseases and conditions there is an opportunity to develop and implement interventions aimed at decreasing levels of overweight and obesity, increasing healthy eating and increasing physical activity. Such interventions are necessary across the population, but interventions targeting lifestyle risk factors in Aboriginal communities could have positive implications in terms of health outcomes for Aboriginal Australians.[7] Further, to reduce the gap in lifestyle-related chronic disease rates between Aboriginal and non-Aboriginal communities, research indicates that improved exercise and nutrition, ability to access and act on health care information and early interventions are required.[8, 9]

1.3 Evidence on effectiveness of telephone-based coaching services

The evidence base from systematic reviews has confirmed that telephone-based interventions are 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.[10, 11] While no specific Aboriginal-targeted telephone-based services are reported in the literature, a mainstream telephone and mail out-based coaching service in Queensland has been shown to improve cardiovascular lifestyle risk factors in the Aboriginal population and to provide equitable access to health enhancing services.[12]

1.4 Ensuring culturally accessible services for Aboriginal people

Central to the planning, implementation and evaluation of programs and services targeting Aboriginal community members are the principles of community engagement in and ownership of all phases of the process to ensure that interventions are feasible, effective[13-16] and build the capacity of Aboriginal communities and their healthcare services to engage as equal partners.[13-16] It is acknowledged that accessible health services are those services and programs that are available, affordable, culturally appropriate; inaccessible services are apparent if they do not acknowledge and respect cultural factors, physical and economic barriers or if the community is not aware of the service or program.[17] Practically, the strategies that are suggested to assist in ensuring culturally accessible services for Aboriginal people include to:

- Involve the community in planning and delivering services;
- Respect and respond to Aboriginal relationships and gendered behaviour protocols;
- Design flexible and well-co-ordinated services;
- Community designed culturally appropriate health promotion campaigns;
- Employ Aboriginal staff in non-Aboriginal specific services;
- Train non-Aboriginal staff in cultural competence skills;
- Engage Aboriginal-specific health services.

2. THE GET HEALTHY SERVICE ABORIGINAL PROGRAM

2.1 Policy context of Aboriginal services in NSW

The NSW Aboriginal Health Plan 2013-2023[18] directs the efforts of NSW Health in relation to Aboriginal health over the next ten years. The Plan will drive health system changes to ensure the health system is more effective in delivering health services to Aboriginal people. Six strategic directions within the Plan identify the areas NSW Health will direct efforts to best achieve the highest level of health possible for Aboriginal individuals, families and communities through:

- Building trust through partnerships;
- Implementing what works and building the evidence;
- Integrated planning and service delivery;
- Strengthening the Aboriginal workforce;
- Providing culturally safe work environments and health services; and
- Strengthening performance monitoring, management and accountability.

The NSW Healthy Eating and Active Living Strategy: Preventing overweight and obesity in NSW 2013-2018[19] provides a whole of government framework to promote and support healthy eating and active living in NSW. The Strategy provides the blue print by which gains will be made to reduce overweight and obesity rates of children and young people and stabilise and then reduce overweight and obesity rates in adults. Aboriginal communities are identified as a priority population recognising that specific and targeted actions are required to improve health outcomes in the Aboriginal Community.

2.2 Overview of the Get Healthy Service Program

In February 2009, the NSW Ministry of Health launched the NSW Get Healthy Information and Coaching Service® (www.gethealthynsw.com.au). The Get Healthy Service (GHS) is a free telephone-based service supporting NSW adults to make sustained improvements in healthy eating, physical activity, reducing alcohol consumption and achieving or maintaining a healthy weight. The GHS targets those adults in the community most at need, due to their risk of chronic disease and seeks population level reach to maximise its public health impact[20-22].

The GHS includes two levels of service[23]:

1. **6-month coaching program:** Includes 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[24]. Coaching calls are provided on a tapered schedule, with a higher intensity of calls occurring in the first twelve weeks of the program to promote initiation of behaviour change, and less frequent calls during the latter fourteen weeks to promote maintenance and prevent relapse.[25] Printed support materials are also provided. Participants can cease coaching at any time during the 6-month program and can also re-enrol in the program after completing the six months.
2. **Information-only:** Provides an evidence-based printed information package on healthy eating, physical activity, and achieving or maintaining a healthy weight, consistent with the Australian Guide to Healthy Eating[26] and National Physical Activity Guidelines[27, 28]. In addition to the package, a one-off information and advice session on these topics is available to callers at the time of the call.

Evaluations of the GHS to date have shown that the program has been successful in engaging participants who are most in need of healthy changes[29] and has been effective in reducing the weight and waist circumference of participants in the short (6-months)[21] and longer term (12-months)[22]. For the period February 2009-December 2013, 3.4% (n=793) of GHS participants identified as being from an Aboriginal community; with the proportion of Aboriginal participants increasing significantly from 2.3% (n=66) in 2009 to 4.7% (n=177) in 2013[20]. Aboriginal participants who completed the 6-month coaching program on average lost 4.0 kg and reduced waist circumference by 7cm and made significant improvements to healthy eating and physical activity levels; whereas non-Aboriginal participants who completed the 6-month coaching program on average lost 3.8 kg and reduced their waist circumference by 5.1cm.[20]

The GHS is an important component of the *NSW Healthy Eating and Active Living Strategy 2013-2018* with the enhancement of the Service to provide tailored support for Aboriginal people being identified as a priority in the Strategy.

2.3 Overview of the Get Healthy Service Aboriginal Program

In November 2012 the GHS was enhanced with the development of a specific GHS Aboriginal program. The GHS Aboriginal program included amendments and enhancements to two GHS domains, namely:

1. GHS promotion and referral.
2. Service design and delivery.

Table 1: GHS Aboriginal program: service components and enhancements

Focus Area	Mainstream GHS	Enhanced Aboriginal Program
Promotion and referral		
Education of key stakeholders	Mainstream health services and providers were educated regarding the benefits of the GHS.	A series of promotional campaigns, workshops and conferences across NSW were implemented to promote activity through routine chronic disease networks and Aboriginal specific cultural events.
Referral pathways from Aboriginal Community Controlled Health Services (ACCHS) to GHS	People can be referred to the service through the following pathways: • Self-referral; • General practice; and • Other health professional.	In addition to the standard GHS referral pathways, Aboriginal people can be referred by health professionals i.e. Aboriginal Health Workers (AHWs) or others working in the Aboriginal Community Controlled Health Services.
Aboriginal specific promotional material	Promotional materials are not specific to the Aboriginal community	Resources have been developed specifically for the Aboriginal community, including brochures, posters and a number of resources targeting pregnant Aboriginal women. The Aboriginal program is also promoted on the GHS website.
Service design and delivery		
Aboriginal-specific 'program' of the GHS is designed for people identifying as Aboriginal and/or Torres Strait Islander	All people are asked whether they identify as being Aboriginal and/or Torres Strait Islander (according to Ministry of Health guidelines). People identifying as Aboriginal follow the same call flow and coaching process as non-Aboriginal people.	Aboriginal participants are identified according to best practice guidelines in NSW and they can register for Level 1 (information only) or Level 2 (health coaching) support, and receive Aboriginal-specific information materials and three additional coaching calls
Aboriginal-specific resources	People who register to receive information only or to participate in the coaching program are sent the following resources: • Welcome letter from the Chief Health Officer • GHS information booklet and/or coaching manual	When an Aboriginal participant is identified, Aboriginal-specific resources are sent to these participants. • Welcome letter from the Chief Health Officer • Aboriginal information booklet and/or coaching manual
Increase in the number of coaching calls from the service	Participants registering with the service receive a total of 10 calls.	Aboriginal participants receive an additional 3 calls (total 13 calls). The additional calls are educational sessions with content focused on prevention of diabetes where appropriate.
Increased call attempts from GHS to participants for coaching sessions	The GHS makes three call attempts to contact a participant, if the call attempts are not successful the participant is withdrawn from service (with the distribution of a letter to the participant offering re-enrollment).	For Aboriginal participants 5 call attempts are made.
Training for health coaches	Coaches are trained and their professional development is monitored by the GHS service provider.	All health coaches receive annual cultural competency training in addition to the routine education and training provided to the service provider.

In summary, all GHS Aboriginal participants receive Aboriginal-specific resources and three extra coaching calls in the first half of the program. These service enhancements were supported by improved referral pathways through Aboriginal Community Controlled Health Services, NSW Aboriginal Knockout Health Challenge and cultural competency training for GHS coaches.

2.4 Formative research and consultation processes

The GHS Aboriginal program was informed by formative research and governed by an Aboriginal Working Group, with members from the Aboriginal Health and Medical Research Council (AHMRC), NSW Ministry of Health and Medibank Health Solutions (the GHS service provider at the time of the project), General Practitioners, chronic disease project officers, dietitians, nutritionists and policy makers. The first phase of formative research[30] was undertaken 2009-2011 and included Aboriginal community members who were existing or previous GHS participants and potential users of the GHS; Aboriginal community leaders and key staff at Aboriginal Medical Services.

The research focused on:

1. The GHS concept and fit for Aboriginal people;
2. Aboriginal specific marketing and communication strategies;
3. The experiences of Aboriginal people who had used the Service.

The results of the formative research are summarised below:

Concept and fit	• Aboriginal people would find a service that focused on information and education around healthy living, physical activity and nutrition beneficial, but not always desirable. • Addressing health and lifestyle issues within the context of the GHS should consider that: – Food choices and losing weight do not have a high priority in everyday living. – Innovative and effective ways of delivering health education and information are needed. – Face-to-face interaction with GHS or partner organisations is an important strategy. Communicating the existing relationship between GHS and Aboriginal Community Controlled Health Services is of particular importance. – Increased involvement by Aboriginal workers in GHS would have an immediate and beneficial effect. – There would be benefit in leveraging existing groups within local Aboriginal communities (e.g. women's groups, young peoples' groups, etc.) where the GHS could be introduced and the group could help generate interest in the GHS, maintain motivation and support individuals. – The proposed online facility of the GHS and to some extent telephone coaching has greater benefit for younger people and those in rural and remote regions. – Increased involvement with existing Aboriginal Medical and Community Health Services will encourage use of both the phone and online facilities, and the GHS convenience and ease of use will become more readily recognised and accepted.
Marketing and communication	• Communication developed specifically for the Aboriginal community with simple, straightforward language would be most meaningful. • Clear and strong communication of what the GHS can provide is fundamental, including key messages that it is free, confidential, works closely with Aboriginal Community Controlled Health Services, that it is sensitive to the needs of Aboriginal people, that it is a personalised service and that support is available. • Strong Aboriginal identification should be incorporated in the promotional materials. • The existing Service Information materials require some adaptation for Aboriginal people with particular regard to: – greater use of Aboriginal visuals and colours; – scaled down versions of the support materials; – greater use of story-telling approaches, including case histories of Aboriginal people that have achieved their coaching goals; and – Aboriginal pages or section on the GHS website.
Experience of GHS service users	• Those that have received Information kits and not progressed on to health coaching cite a range of reasons for this including: – the significant 'commitment' of time they perceived the health coaching would take; – that the GHS failed to meet their expectations with regard to its overt understanding of Aboriginal people and culture; – the GHS's central approach of sending information and leaving it up to the individual to take the initiative to register for health coaching may not be in tune with the way that Aboriginal people prefer to do things; and – the need to be referred by a GP for those with more serious health problems (it was also not clear that health professionals could also refer people to GHS). • For those participants who had experienced health coaching, they generally found it worthwhile. Health coaches were described as being helpful and understanding, offering regular support and advice which was greatly appreciated and valued. • Many of those with health coaching experience stated that they would recommend the GHS to others, in some cases they already had.

2.5 GHS Aboriginal Appropriateness study

Building on the findings of the previous formative work, an Aboriginal appropriateness study was undertaken in 2015[31] to:

understand the Aboriginal participant's experiences and perceptions of the GHS;

identify areas where the appropriateness of the GHS could be improved; and

provide recommendations to improve the GHS for Aboriginal participants.

Interviews were conducted with participants who had graduated from, those who were currently enrolled in and those who had withdrawn from the coaching program. The findings are summarised below:

- The feedback was overwhelmingly positive and participants reported a high level of satisfaction with the GHS.
- The coaching program was highly valued and many participants reported that it had made a significant difference to their diet and physical activity and assisted them to achieve behaviour change.
- Those who withdrew from the coaching program were also positive about the program and that their reasons for withdrawing included not being ready to change behaviours or being unable to commit the time or have the energy to participate.
- Participants felt that the program was tailored to their individual needs, allowed them to set individual goals and provided information and advice in relation to their individual weight loss challenges.
- Participants appreciated that the program was flexible and that coaches would follow up and reschedule if they were unavailable for a scheduled call.
- The health coaches themselves were a key success of the program with the following noted:
  - the skills, knowledge and approach of the coaches was highly valued;
  - the connection and rapport built between participants and coaches was seen as critical;
  - coaches were felt to be caring, understanding and flexible, and communicated in a clear, friendly, supportive and non-judgemental way;
  - coaches were respectful and understood a participant's health needs, their family life and their cultural needs;
  - coaches were seen as encouraging and positive;
  - coaches helped participants identify goals that were achievable and realistic, and this was seen as important to maintaining motivation through the program; and
  - coaches provided advice that was easy to understand and tips that were practical and easy to implement.

Overall, participants felt that the GHS provided a service that was relevant and appropriate for Aboriginal people and they indicated they would, or already had, recommended the program to other Aboriginal people they know.

A number of recommendations were made:

- Continue to deliver the GHS Aboriginal Program to Aboriginal community members.
- Ensure clear information regarding the option to re-enrol.
- Consider follow up opportunities after program completion or exit from the program.
- Provide the option to have a health coach of the same gender at the commencement of the program.
- Consider including simple healthy recipes as part of the suite of resources sent to Aboriginal participants.
- Consider supplementing the coaching program with tailored text messages to remind participants of upcoming calls and to encourage maintenance both during and following the program.
- Consider enhancing the capacity of coaches to provide information about local activities and services.
- Consider opportunities to continue to promote the program to key intermediaries including GPs, Aboriginal Community Controlled Health Services, Aboriginal Medical Services, Aboriginal health workers and other health services that deliver services to Aboriginal communities.
- Consider opportunities to target promotion to male Aboriginal community members through programs and organisations that provide services to male Aboriginal community members e.g. men's sheds and Aboriginal health workers.

Further actions have been taken to increase participation by developing Aboriginal specific testimonial videos, ensuring participants are offered a male or female coach at the commencement of the program and introducing simple recipes on the service website. Strategies to better engage Aboriginal Medical Services and other health services are being developed.

3. EVALUATION OF THE GHS ABORIGINAL PROGRAM

3.1 Overview of the evaluation

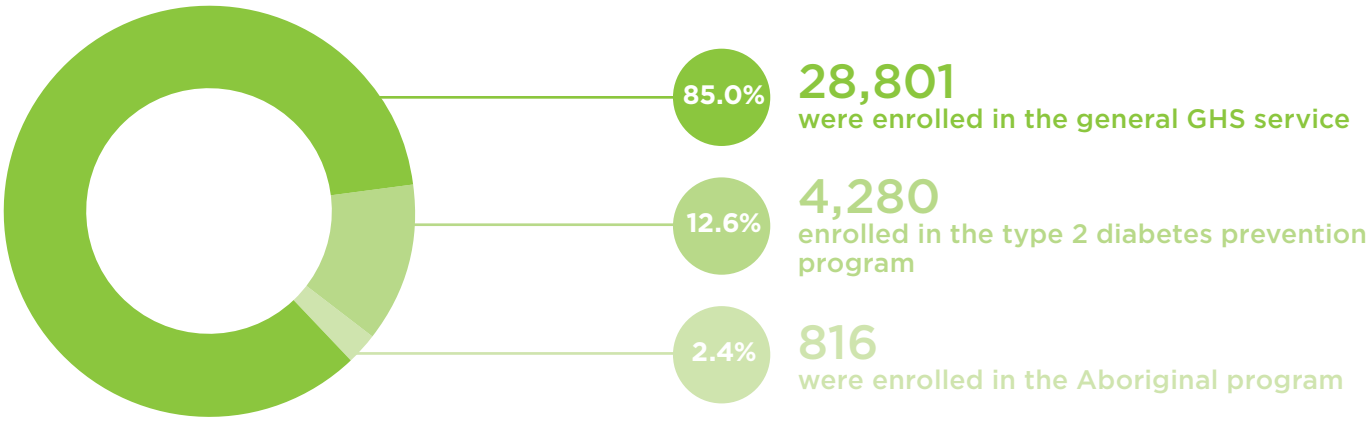
The primary goals of the GHS evaluation framework are to assess the reach and the impact of GHS.[32] This involves collecting information regarding GHS referral sources, the socio-demographic profile of GHS participants (process evaluation) and participant outcomes (impact evaluation) using a pre-test and post-test design (collecting self-reported information at baseline, three months and six months) to assess change in health and behaviour-related outcomes.[23] This report includes a particular focus on:

1. The reach of the GHS in regard to Aboriginal community participation.
2. The impact of the implementation of the GHS Aboriginal Program on the reach of GHS.
3. The impact of the GHS coaching program on Aboriginal community members.
4. The impact of the GHS on Aboriginal participants who completed the GHS Aboriginal program.

3.2 Reach of GHS

3.2.1 Overall GHS participation

From February 2009 to December 2015, 34,211 participants registered their interest in the GHS and consented for their information to be included in the evaluation of the GHS.* Of these participants 99.1% (33,897) had classifications based on the GHS programs available, namely:



* For participants who have enrolled in the GHS multiple occasions, this evaluation focuses on the first enrolment of participants.

Overall for the GHS participants enrolled during this period (Table 2), the majority were female (74.2%); had an average age of 49 years (SD 15.3); 55.1% were in paid employment; 43.6% had a high school education; 95.5% were non Aboriginal; 93.0% spoke English at home; 59.2% were located in a major city and two-thirds (66.6%) were from socioeconomically disadvantaged communities, being from locations classified in the 3rd, 4th and 5th socio-economic quintiles (most disadvantaged).

There were significant differences between those participants enrolled in the Aboriginal program and those enrolled in both Get Healthy Service standard program and the type 2 diabetes prevention program, with participants who registered in the Aboriginal program being significantly more likely than participants enrolled in the other programs to:

- **be aged 18-49 years** (69.4% compared to 30.6%; p-value <0.0001);
- **have a high school education** (59.2% compared to 40.8%; p-value <0.0001);
- **be from a location classified as being most disadvantaged** (in the 3rd, 4th or 5th quintile) (85.9% compared to 66.1%; p-value <0.0001); and
- **be from inner and outer regional, and remote and very remote locations** (63.1% compared to 36.9%; p-value <0.0001).

CASE STUDY: Rebecca

After hearing about the Get Healthy Service through her Aboriginal Medical Service, Rebecca decided to give it a try.

" I used to drink two litres of soft drink per day and have done so for 21 years. I have transitioned to sugar free fizzy drinks and water – I've been having water as my choice of drink and not having any more 'black drinks'."

Despite the challenges of making lifestyle changes, Rebecca says her Get Healthy coach has been a huge help.

" I am so grateful that my coach has crossed my path in my life. It's getting easier and better all the time. I get excited every couple of weeks when my health coach calls. I really like the way my coach talks and shows she cares. She helps me make realistic goals."

Table 2: Socio-demographic profile of GHS participants by program, February 2009-December 2015

	Get Healthy standard		Diabetes prevention€		Aboriginal program#		Total	
	n	%	n	%	n	%	n	%
Gender								
Female	21276	73.9	3248	75.9	629	77.2	25153	74.2
Male	7516	26.1	1032	24.1	186	22.8	8734	25.8
Age								
18-29 years	3739	13.0	41	1.0	167	20.5	3947	11.7
30-39 years	5699	19.8	113	2.6	177	21.7	5989	17.7
40-49 years	5869	20.4	895	20.9	222	27.2	6986	20.6
50-59 years	6213	21.6	1467	34.3	152	18.6	7832	23.1
60-69 years	4715	16.4	1181	27.6	84	10.3	5980	17.7
70 years +	2543	8.8	582	13.6	14	1.7	3139	9.3
Education								
Year 10 and below	7383	25.9	1408	33.2	304	37.3	9095	27.1
Years 11 & 12	4702	16.5	647	15.3	179	21.9	5528	16.5
Certificate / Diploma	8067	28.3	1319	31.1	213	26.1	9599	28.6
Degree & higher	8349	29.3	868	20.5	120	14.7	9337	27.8
Employment								
Full time	9713	34.0	1229	29.0	307	37.6	11249	33.5
Part time / casual	6349	22.3	749	17.6	161	19.7	7259	21.6
Home duties	2487	8.7	256	6.0	67	8.2	2810	8.4
Retired	5417	19.0	1216	28.6	50	6.1	6683	19.9
Unemployed	2338	8.2	381	9.0	137	16.8	2856	8.5
Other	2227	7.8	414	9.8	94	11.5	2735	8.1
Aboriginal status								
Non-Aboriginal	26801	97.7	3998	100.0	0	0	30799	95.5
Aboriginal	636	2.3	0	0	816	100.0	1444	4.5
Language spoken at home								
English	26624	92.4	4084	95.4	813	99.6	31521	93.0
Other	2177	7.6	196	4.6	3	0.4	2376	7.0
Socio-economic status[33]								
1st quintile (most advantaged)	4368	15.2	590	13.8	22	2.7	4980	14.7
2nd quintile	5382	18.8	835	19.6	92	11.4	6309	18.7
3rd quintile	8939	31.2	1060	24.9	225	27.8	10224	30.3
4th quintile	6343	22.1	985	23.1	226	28.0	7554	22.4
5th quintile (most disadvantaged)	3661	12.8	795	18.6	243	30.1	4699	13.9

Table 2 (continued): Socio-demographic profile of GHS participants by program, February 2009-December 2015

	Get Healthy standard		Diabetes prevention€		Aboriginal program#		Total	
	n	%	n	%	n	%	n	%
Region[34]								
Major city	17287	60.3	2414	56.6	295	36.5	19996	59.2
Inner regional	7250	25.3	1100	25.8	235	29.0	8585	25.4
Outer regional	3818	13.3	657	15.4	193	23.9	4668	13.8
Remote / very remote	333	1.2	91	2.0	86	10.7	510	1.5
Participant type								
Coaching	22282	78.4	4250	99.7	741	94.3	27273	81.5
Information	6143	21.6	12	0.3	45	5.7	6200	18.5

Table 3: GHS Referral source, February 2009-December 2015

	Get Healthy standard		Diabetes prevention€		Aboriginal program#		Total	
	n	%	n	%	n	%	n	%
Referral source								
Mass media	17293	61.5	2355	56.7	204	25.7	19852	60.0
Health Professional	2412	8.6	750	18.1	160	20.1	3322	10.0
General Practice	1207	4.3	295	7.1	37	4.7	1539	4.7
Workplace	1070	3.8	181	4.4	31	3.9	1282	3.9
Family and friends	1669	5.9	231	5.6	25	3.1	1925	5.8
Aboriginal community health professionals	90	0.3	1	0	32	4.0	123	0.4
Knockout challenge	35	0.1	3	0.1	247	31.1	285	0.9
Other	4364	15.5	336	8.1	59	7.4	4759	14.4
Information	6143	21.6	12	0.3	45	5.7	6200	18.5

Notes: Missing data n=314 for program classification and missing data also varies for each variable.
€ Diabetes Prevention program commenced in July 2013
Aboriginal program commenced in November 2012

3.2.2 GHS participation by Aboriginal community members

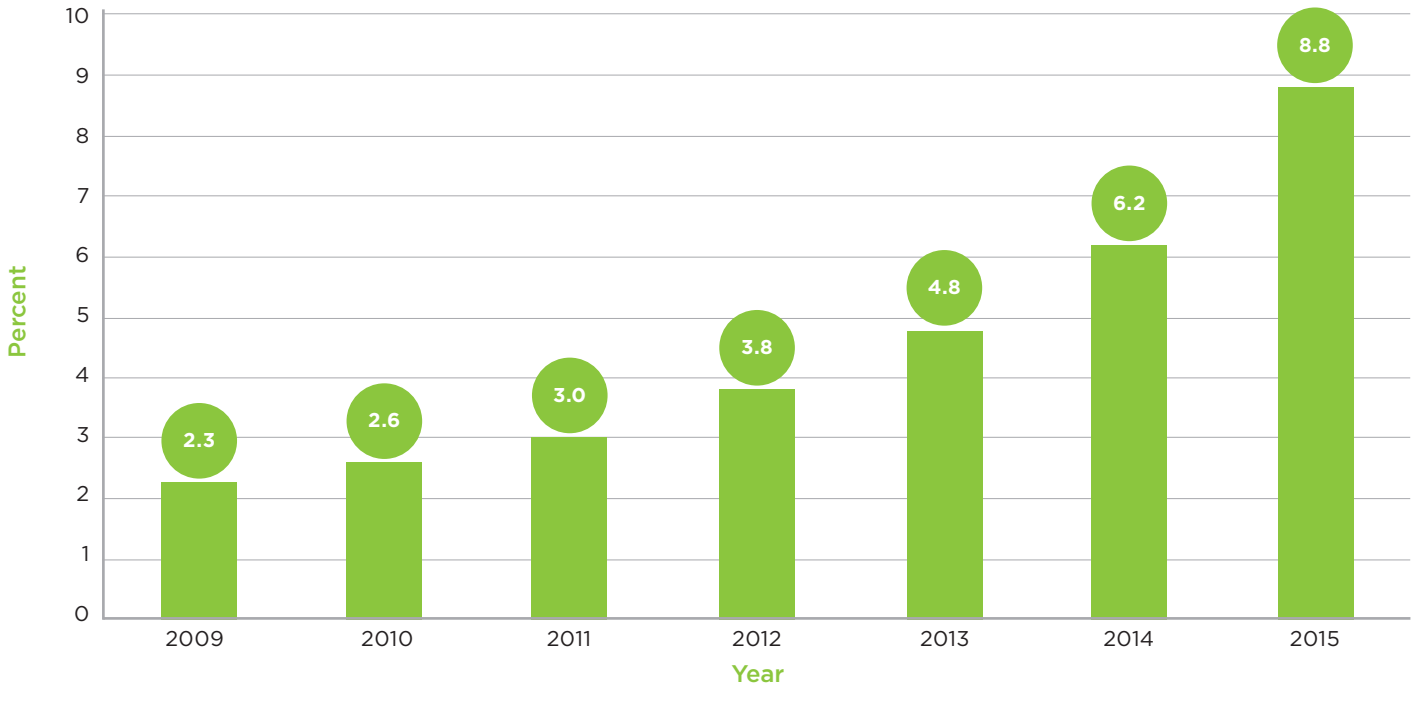
Overall the number of participants who identified as being from an Aboriginal and/or Torres Strait Islander community has increased since 2009; from 2.3% (66) participants in 2009 to 8.8% (345) participants in 2015. For the period February 2009-December 2015 4.5% (1,462) of participants were from an Aboriginal and/or Torres Strait Islander community (Table 4 and Figure 2).

Table 4: Aboriginal and Non-Aboriginal participation over time, 2009-2015

	Aboriginal		Non Aboriginal		All	
	n	%	n	%	n	%
2009	66	2.3	2763	97.7	2829	100
2010	108	2.6	4023	97.4	4131	100
2011	151	3.0	4880	97.0	5031	100
2012	290	3.8	7399	96.2	7689	100
2013	181	4.8	3951	95.2	3772	100
2014	321	6.2	4861	93.8	5182	100
2015	345	8.8	3573	91.2	3918	100
	1462		33380		32552	

Notes: Missing data n=1,659

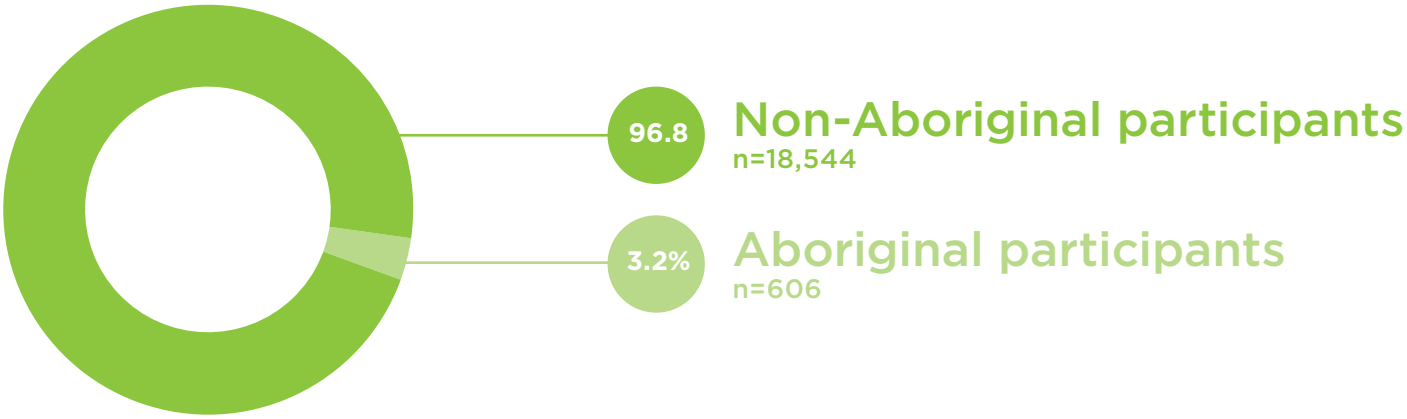
Figure 2: Aboriginal participation over time, 2009-2015



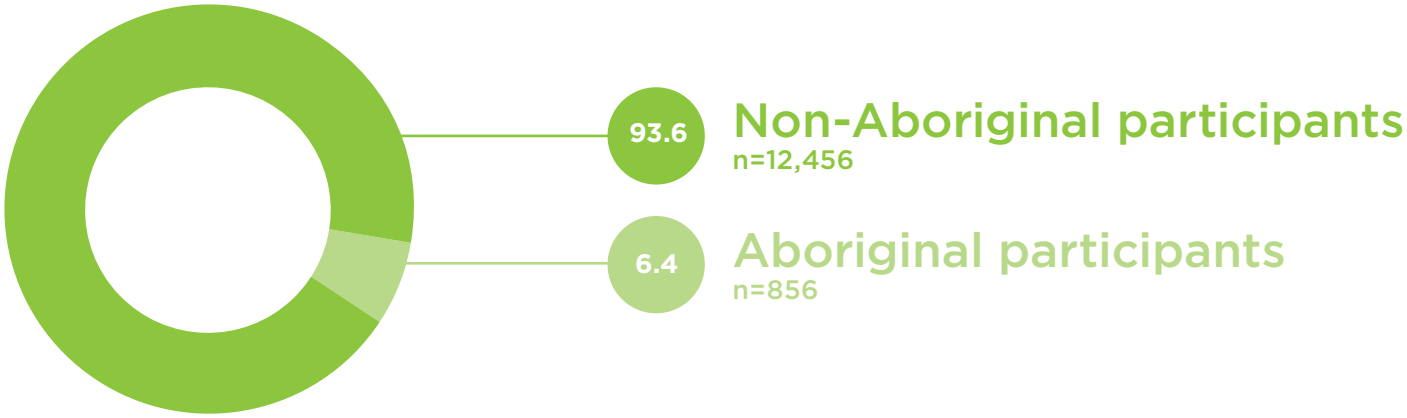
Participation by Aboriginal community members significantly increased as a result of the introduction of the GHS Aboriginal program and associated Aboriginal recruitment strategy. The proportion of Aboriginal participants prior to November 2012 (the time of the introduction of the GHS Aboriginal program) was 3.2% (606), which significantly increased to 6.4% (856) for the period after November 2012 (p-value<0.0001) (Figures 3A and 3B).

Figures 3A and 3B: Proportion of Aboriginal community participation pre and post GHS Aboriginal program implementation, February 2009-October 2012 and November 2012-December 2015

Pre-Aboriginal program implementation (February 2009 – October 2012)



Post-Aboriginal program implementation (November 2012 – December 2015)



3.2.3 Referral sources

The main referral source for all GHS participants was mass media, with 59.9% (19,104) of participants identifying mass media as the way they heard about the GHS. There were, however significant differences between the main sources of referral for Aboriginal participants compared to non-Aboriginal participants, with Aboriginal participants less likely to cite mass media as their source of GHS referral and more likely to cite health professionals and Aboriginal community health professionals (including the Aboriginal Knockout Health Challenge) compared to non-Aboriginal participants (Table 5).

Table 5: Aboriginal and Non-Aboriginal referral sources, February 2009-December 2015 **(p-value <0.0001)**

	Aboriginal		Non Aboriginal		All	
	n	%	n	%	n	%
Mass media	533	37.0	18571	61.0	19104	59.9
Health professionals	217	15.1	2963	9.7	3180	10.0
General practice	66	4.6	1404	4.6	1470	4.6
Workplace	50	3.5	1214	4.0	1264	4.0
Family and friends	61	4.2	1818	6.0	1879	5.9
Aboriginal community health professionals	122	8.5	1	0.0	123	0.4
Knockout health challenge	264	18.3	4	0.0	268	0.8
Other	127	8.9	4459	14.6	4586	14.3
	1440		30434		31874	

Notes: Missing data n=2337

Mass media includes radio, TV, press, web, Facebook, twitter and mailout advertising; health professionals includes pharmacy, Boden Institute and other health professionals; other includes proactive marketing, Get Healthy after breast cancer and other sources

Chi-square tests (linear by linear association) of significance undertaken comparing proportion of referral sources between Aboriginal and non-Aboriginal participants

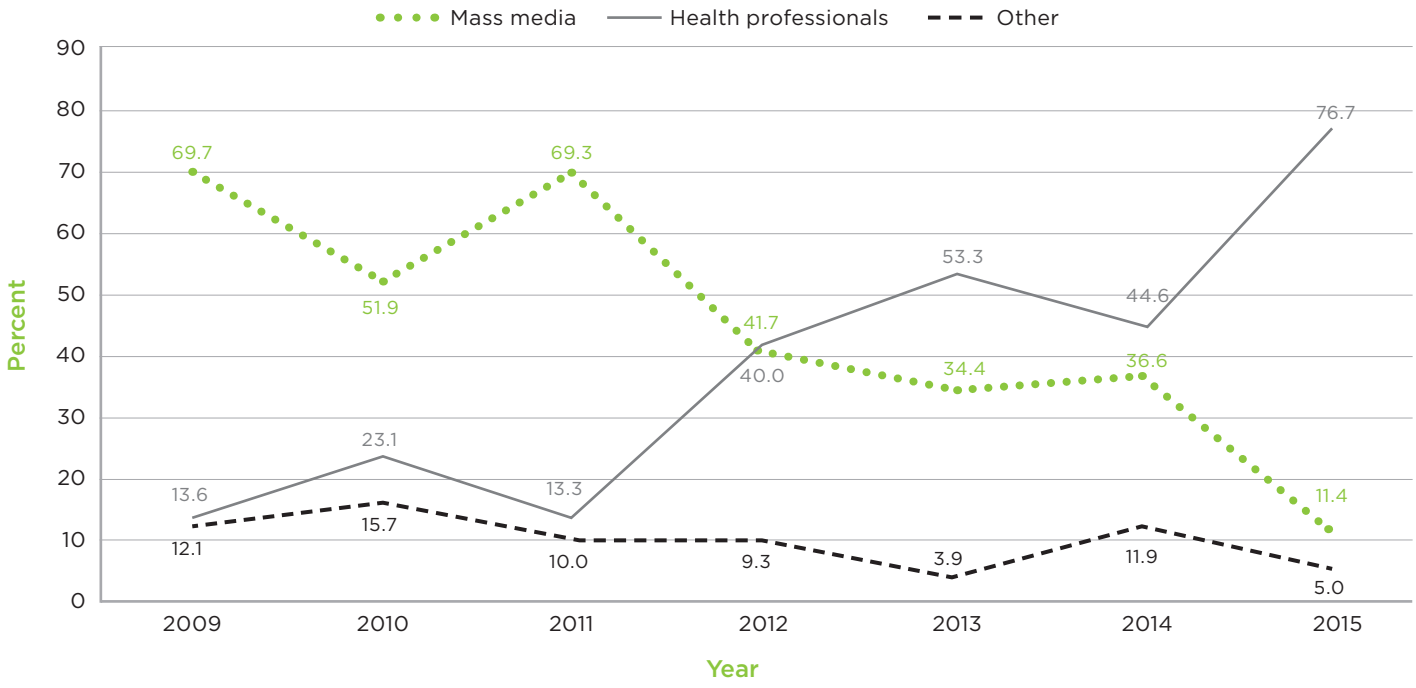
Health professionals have increasingly played an important role in promoting the GHS to Aboriginal participants since the inception of the Service in 2009, with increases in the proportion of Aboriginal community members being referred to the GHS from 13.6% (9) to 76.7 (263) in 2015 (Table 6 and Figure 4) by health professionals.

Table 6: Referral sources over time for Aboriginal participants, 2009-2015

	2009		2010		2011		2012		2013		2014		2015		TOTAL	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Mass media	46	69.7	56	51.9	104	69.3	116	40.0	62	34.4	110	36.3	39	11.4	533	37.0
Health professionals	9	13.6	25	23.1	20	13.3	121	41.7	96	53.3	135	44.6	263	76.7	669	46.5
Workplace	-	-	5	4.6	6	4.0	7	2.4	7	3.9	9	3.0	16	4.7	50	3.5
Family and friends	3	4.5	5	4.6	5	3.3	19	6.6	8	4.4	13	4.3	8	2.3	61	4.2
Other	8	12.1	17	15.7	15	10.0	27	9.3	7	3.9	36	11.9	17	5.0	127	8.8
	66		108		150		290		180		303		343		1440	

Notes: Mass media includes radio, TV, press, web, Facebook, twitter and mailout advertising; health professionals includes General Practice, Aboriginal Community Controlled Health Services, NSW Aboriginal Knockout Health Challenge, pharmacy, Boden Institute and other health professionals; other includes proactive marketing, Get Healthy after breast cancer and other sources

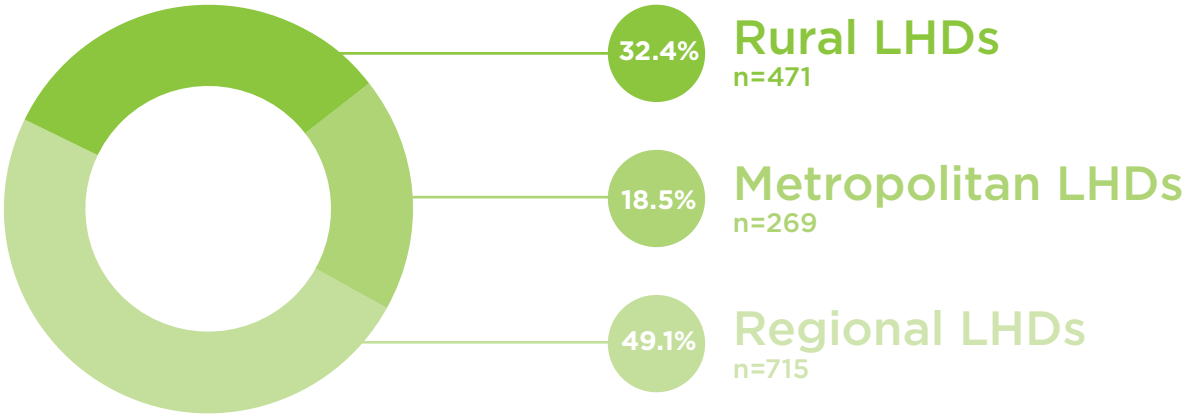
Figure 4: Mass media, health professionals and other referral sources over time for Aboriginal participants, 2009-2015



3.2.4 Local Health Districts and Aboriginal community participation

Local Health Districts (LHDs) play an important role in promoting participation in the GHS by Aboriginal community members. For the period February 2009-December 2015, 49.1% (715) of Aboriginal community participants were from Regional LHDs, 32.4% (471) were from Rural LHDs and 18.5% (269) were from Metropolitan LHDs (Figure 5).

Figure 5: Aboriginal community participants by Local Health District classification



3.3 Impact of GHS

3.3.1 Risk factor profile of GHS coaching participants

The majority of participants enrolled in the coaching component of the GHS were overweight or obese (89.8%; 17,976) and had a waist circumference that placed them at an increased or greatly increased risk of chronic disease (91.2%; 14,493). In regard to behavioural risk factors, 65.4% of coaching participants (12,798) did not undertake sufficient physical activity, 88.2% (17,618) consumed less than the recommended serves of vegetables and 52.5% (10,476) consumed less than the recommended daily serves of fruit (Table 7).

Table 7: Risk factor profile of Aboriginal and non-Aboriginal GHS coaching participants at baseline, February 2009-December 2015

	Aboriginal		Non-Aboriginal		ALL	
	n	%	n	%	n	%
Body Mass Index (BMI)						
Under or acceptable weight	32	3.8	2016	10.5	2048	10.2
Overweight	125	14.7	5115	26.7	5240	26.2
Obese	694	81.6	12042	62.8	12736	63.6
Waist Circumference						
No risk	26	3.7	1358	9.0	1384	8.7
Increased risk	61	8.6	2280	15.0	2341	14.7
Greatly increased risk	622	87.7	11530	76.0	12152	76.5
Fruit and Vegetable consumption						
Less than 2 serves of fruit per day	499	61.1	9977	52.1	10476	52.5
Two or more serves of fruit per day	318	38.9	9168	47.9	9486	47.5
Less than 5 serves of vegetables per day	732	89.6	16886	88.2	17618	88.2
5 or more serves of vegetables per day	85	10.4	2265	11.8	2350	11.8
Physical activity						
Insufficient physical activity	500	62.0	12298	65.6	12798	65.4
Sufficient physical activity	307	38.0	6455	34.4	6762	34.6

Notes: Waist circumference risk was computed differently for males and females. For males: increased risk ≥94cm and <102cm, greatly increased risk ≥102cm; for females: increased risk ≥80cm and <88cm, greatly increased risk ≥88cm.[35]
Insufficient physical activity is defined as not engaging in ≥5 sessions per week of walking, or ≥5 sessions per week of moderate activity, or 3-4 sessions per week of walking and ≥1-2 sessions per week of moderate activity, or ≥1-2 sessions per week of walking and 3-4 sessions per week of moderate activity.[36]

3.3.2 Risk factor profile of GHS Aboriginal coaching participants

There were some significant differences between the risk factor profile of Aboriginal community participants and non-Aboriginal participants as detailed below:

Aboriginal participants were significantly more likely to be overweight or obese compared to non-Aboriginal participants (96.3% compared to 89.5%; p-value <0.0001).

Aboriginal participants were significantly more likely to have a waist circumference measurement that placed them at an increased or greatly increased risk of chronic disease than non-Aboriginal participants (96.4% compared to 91.0%; p-value <0.0001).

Aboriginal participants were significantly more likely to consume less than the recommended daily serves of fruit (61.1% compared to 52.1%; p-value <0.0001).

Aboriginal participants were significantly more likely to not be undertaking the recommended levels of physical activity (62.0% compared to 65.6%; p-value =0.03).

3.3.3 Outcomes of the coaching program for all coaching participants

GHS participants who completed the 6-month coaching program made significant improvements to their (Table 8):

weight: with an average weight loss of 3.6kg;

waist circumference: with an average decrease in waist circumference of 4.8cm;

BMI: with an average decrease in BMI of 1.3 units;

physical activity levels: increases in the number of walking and moderate physical activity sessions; and

healthy eating behaviours: increases in fruit and vegetable consumption and decreases in the consumption of sweetened drinks and takeaway meals.

Table 8: Anthropometric and behavioural risk factor changes from baseline to 6-months for all GHS coaching participants, February 2009 – December 2015

	N	Baseline	6-months	Change	p-value
Weight (kg)¥	5391	86.6	83.0	-3.6	<0.0001
BMI (kg/m²)¥	5301	31.3	30.0	-1.3	<0.0001
Waist circumference (cm)¥	4417	102.0	97.1	-4.8	<0.0001
Fruit (daily serves)€	5552	1.6	2.0	0.4	<0.0001
Vegetables (daily serves)€	5572	2.7	3.8	1.1	<0.0001
Sweetened drinks (daily serves)€	5387	0.4	0.1	-0.3	<0.0001
Takeaway meals (weekly serves)€	5404	0.8	0.4	-0.4	<0.0001
Walking (no. 30min sessions per week)€	5573	2.5	3.6	1.1	<0.0001
Moderate Physical activity (no. 30min sessions per week)€	5453	1.0	1.7	0.7	<0.0001
Vigorous physical activity (no. of 20min sessions per week)€	5399	0.4	0.7	0.4	<0.0001

Notes: Matched pair analysis; ¥ T-test undertaken for matched paired samples for significant mean difference; €Non parametric test undertaken for related samples for significant median difference

CASE STUDY: Joe

Joe joined the Get Healthy Service to change his lifestyle and get fitter.

Before starting the program, Joe spent his down time in front of the TV rather than being active, and wasn't giving much thought to healthy eating.

Now, Joe is focused on eating more fruit and vegetables and reducing his intake of alcohol.

" Being able to make positive life changes, and being able to do that in front of friends and family has been important."

3.3.4 Outcomes of the coaching program for Aboriginal coaching participants

Aboriginal participants also made significant improvements to their lifestyle risk factors as evident in improvements at both three and six months (Table 9). At three months Aboriginal participants had made the following significant improvements:

At three months:

weight: with an average weight loss of 2.1kg;

waist circumference: with an average decrease in waist circumference of 3.4cm;

Body Mass Index: with an average decrease in BMI of 0.8 units;

physical activity levels: with increases in the number of walking and moderate physical activity sessions; and

healthy eating behaviours: with increases in fruit and vegetable consumption and decreases in the consumption of sweetened drinks and takeaway meals.

At six months Aboriginal participants had also made the following significant improvements (Table 10):

At six months:

weight: with an average weight loss of 3.3kg;

waist circumference: with an average decrease in waist circumference of 6.2cm;

Body Mass Index: with an average decrease in BMI of 1.2 units;

physical activity levels: with increases in the number of moderate physical activity sessions; and

healthy eating behaviours: with increases in fruit and vegetable consumption and decreases in the consumption of takeaway meals.

Table 9: Anthropometric and behavioural risk factor changes from baseline to 6-months for Aboriginal GHS coaching participants, February 2009 – December 2015

	N	Baseline	6-months	Change	p-value
Weight (kg)¥	103	97.3	94.1	-3.3	=0.001
BMI (kg/m²)¥	101	35.7	34.4	-1.2	=0.001
Waist circumference (cm)¥	74	111.3	105.1	-6.2	<0.0001
Fruit (daily serves)€	108	1.3	1.8	0.5	<0.0001
Vegetables (daily serves)€	108	2.6	3.5	0.9	<0.0001
Sweetened drinks (daily serves)€	106	0.5	0.2	-0.2	NS
Takeaway meals (weekly serves)€	105	0.8	0.5	-0.3	=0.001
Walking (no. 30min sessions per week)€	111	2.5	3.0	0.5	NS
Moderate Physical activity (no. 30min sessions per week)€	108	1.1	1.8	0.8	=0.001
Vigorous physical activity (no. of 20min sessions per week)€	104	0.4	0.8	0.4	=0.007

Notes: NS: Not significant; matched pair analysis; ¥ T-test undertaken for matched paired samples for significant mean difference; €Non parametric test undertaken for related samples for significant median difference

Many coaching participants who completed the 6-month coaching program made considerable improvements to their risk of chronic disease with 60.7% (3,269) of all participants losing more than 2.5% of their initial baseline body weight. Aboriginal participants who completed the 6-month coaching program made similar improvements to their chronic disease risk profile, with 60.8% (62) of participants losing more than 2.5% of their initial baseline body weight.

There were also significant improvements from baseline to three and six months in the proportion of Aboriginal participants who were classified as being obese and overweight (Figure 6) and similar improvements in the proportion of participants who were classified at risk of chronic disease due to their waist circumference (Figure 7). There were also significant improvements in the proportion of participants meeting recommended levels of physical activity and fruit and vegetable consumption from baseline to six months (Table 10).

At three months, Aboriginal coaching participants had on average lost 2.1kg in weight and had decreased their waist circumference by 3.4cm.

At six months, Aboriginal coaching participants had on average lost 3.3kg in weight and had decreased their waist circumference by 6.2 cm.

Figure 6: Proportion of Aboriginal participants classified as overweight and obese at baseline, 3-months and 6-months, February 2009-December 2015

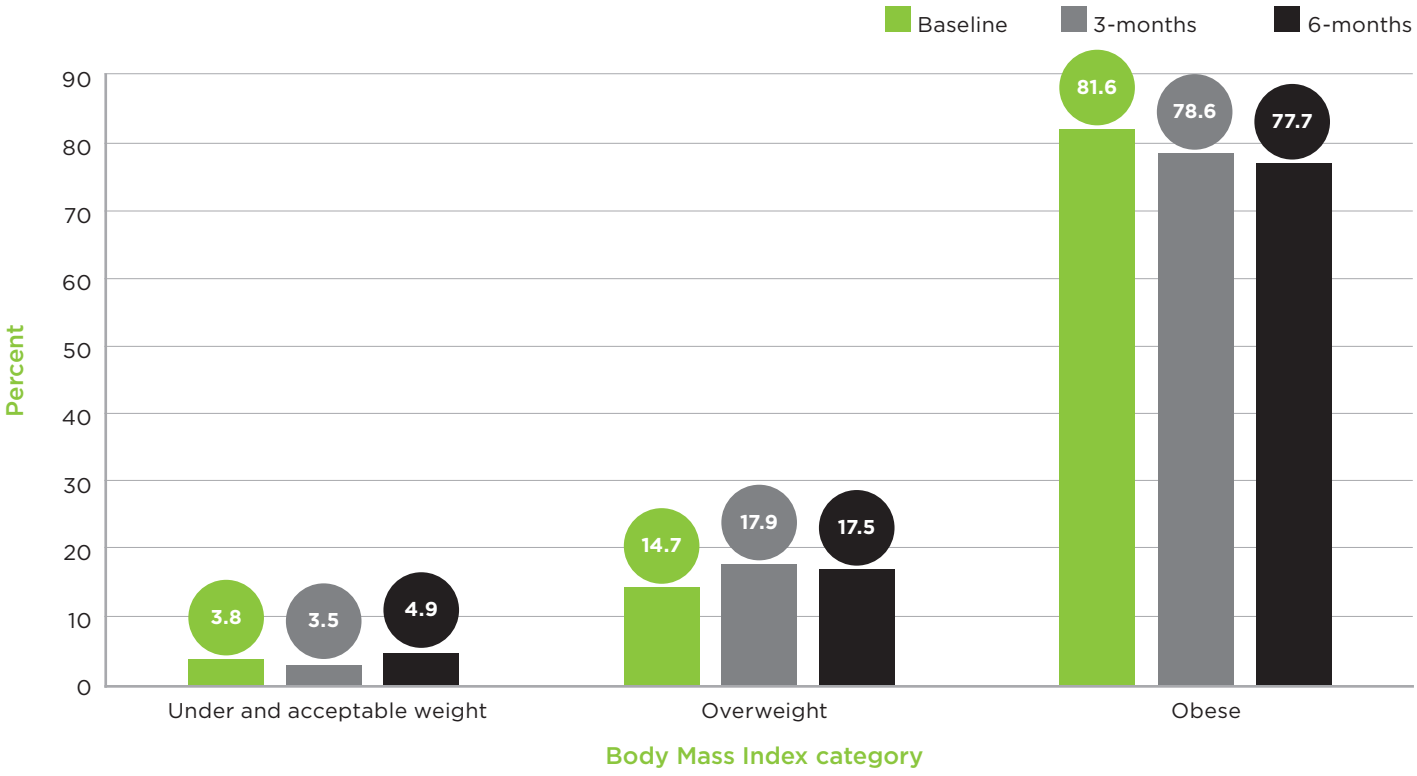


Figure7: Proportion of Aboriginal participants classified at risk due to waist circumference measurements at baseline, 3-months and 6-months, February 2009-December 2015

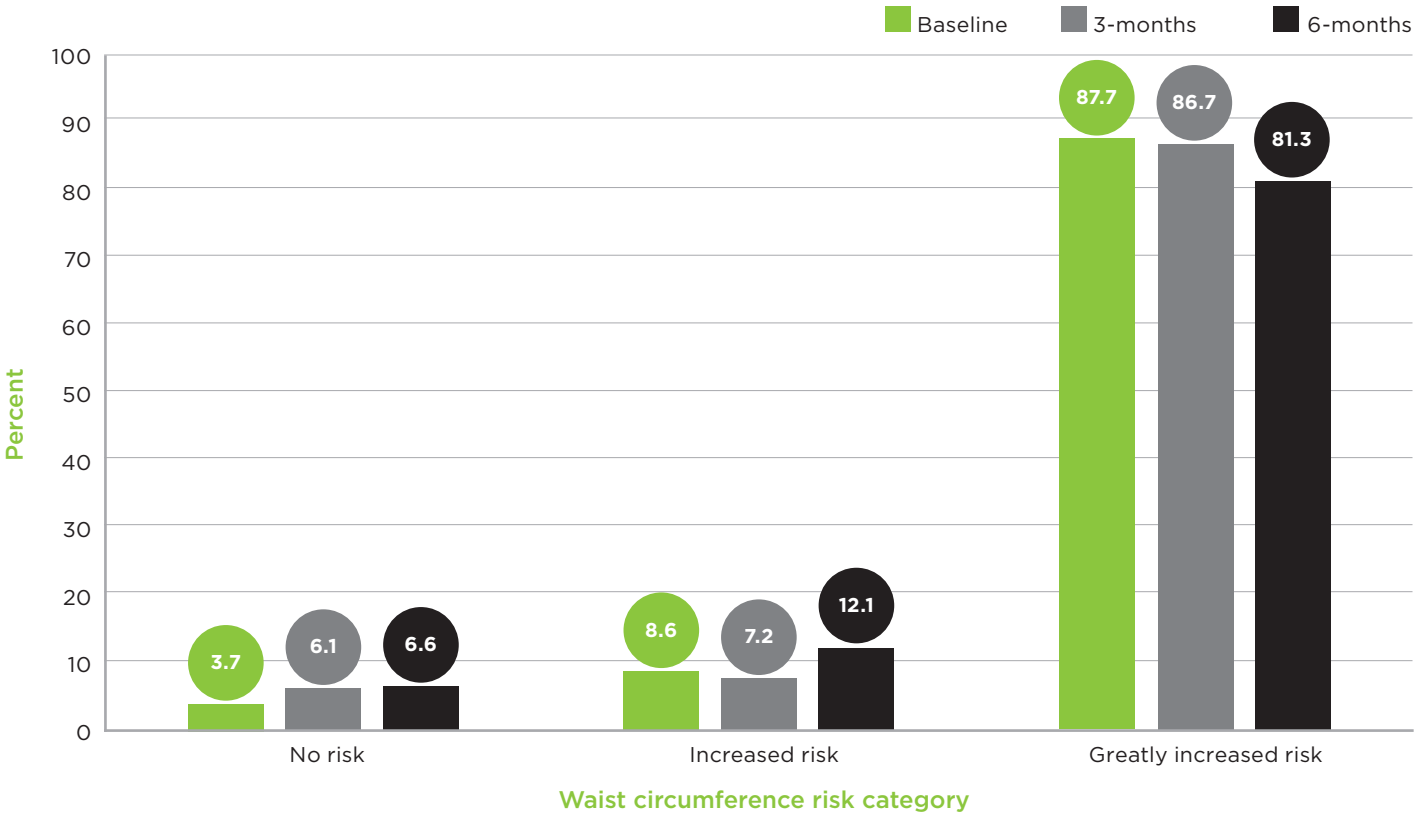


Table 10: Proportion of Aboriginal GHS participants meeting recommended amounts of fruit and vegetables and levels of physical activity from baseline to 6-months, February 2009-December 2015.

	Baseline		6-months		p-value
	n	%	n	%	p-value
Less than 2 serves of fruit per day	499	61.1	33	29.2	<0.001
2 or more serves of fruit per day	318	38.9	80	70.8	
Less than 5 serves of vegetables	732	89.6	82	72.6	<0.001
5 or more serves of vegetables per day	85	10.4	31	27.4	
Insufficient weekly activity	500	62.0	56	50.0	=0.015
Sufficient weekly activity	307	38.0	56	50.0	

Notes: Pearson chi-square of significance undertaken comparing proportion meeting recommendations between baseline and 6-months

3.3.5 Comparisons between the outcomes of Aboriginal and Non-Aboriginal coaching participants and outcomes of Aboriginal participants based on program enrolment

There were no significant differences between the anthropometric and behavioural risk factor improvements (between baseline and 6-months) made by Aboriginal and non-Aboriginal participants who had completed the coaching program. In relation to whether Aboriginal participants who completed the Aboriginal specific coaching program had better outcomes compared to Aboriginal participants who completed the standard GHS program, the results suggest that there were no significant differences between the anthropometric and behavioural risk factor improvements (between baseline and 6-months).

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