

Give It Up For Baby: A Smoking Cessation Intervention for Pregnant Women in Scotlandⁱ

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ⁱ Note to readers:

In the UK, Nicotine Replacement Therapy is available for pregnant women, in line with advice from their doctor,
midwife or pharmacist. See the 'NHS Choices – Pregnancy Planner', available at: www.nhs.uk/Planners/pregnancy-careplanner/pages/Alcoholanddrugs.aspx. Accessed 12 May 2009.

Abstract

Tayside is a large region in Scotland (population 400,000), which has significant areas of deprivation concentrated mainly in Dundee (the fourth largest city in Scotland). Throughout Dundee there is a strong correlation between deprivation and smoking.

‘Give It Up For Baby’ uses financial incentives (grocery vouchers) to encourage pregnant smokers from socially deprived communities to quit smoking. Women who are eligible for the program are identified by midwives, local pharmacists and health visitors, and are recruited if they express a wish to give up smoking. A ‘Give It Up For Baby’ Development Worker makes personal contact with all women wishing to take part and supports them through the whole process. As well as receiving an incentive of £12.50 (\$17.60 US) a week for every week a pregnant woman demonstrates (through carbon monoxide testing) that she is smoke-free, additional support is also provided, including free Nicotine Replacement Therapy and one-to-one support from a ‘Give It Up For Baby’ Development Worker, who makes personal contact with all women wishing to take part and supports them through the whole process (including after their babies’ birth).

Initial data indicate that ‘Give It Up For Baby’ has been more successful than previous approaches. By the end of the first year alone, 55 mothers had quit using the program in Dundee, and a total of 140 had quit across the Tayside region. For women who fully engaged with the program, an average payment of about £210 (\$306 US) was made. These women attended pharmacies on 322 occasions during the year; 314 carbon monoxide tests showed that they were smoke-free (97.5%). Expenditure indicates a cost per quitter figure of about £1,700 (\$2,478 US).

Project Overview

'Give It Up For Baby' is a partnership incentive program, which supports smoking cessation in pregnant smokers. Women from socially deprived communities are offered support and grocery vouchers in exchange for giving up smoking. An incentive of £12.50 (\$17.60 US) per week is paid for every week a pregnant woman demonstrates (through carbon monoxide testing) that she

is smoke-free.

Support for smoking cessation during pregnancy, and help to remain smoke-free after the baby's birth, are also provided through community pharmacies and local support groups. The financial incentive is redeemed via a National Entitlement Card at a local chain of supermarkets called ASDA.

Figure 1. Give It Up For Baby logo



Results Overview

By the end of the first year, 55 mothers had quit under the program in Dundee—Scot-

land's fourth largest city—and a total of 140 had quit across the Tayside region.

Background and Context

The National Health Service in Tayside (NHS Tayside) is responsible for meeting the health needs of more than 388,780 people living in Tayside, Scotland, a region comprised of the city of Dundee and other communities bordering the Firth of Tay, which feeds into the North Sea. It employs around 14,000 staff and provides a comprehensive range of primary, community-based and acute hospital services for Dundee City, Angus and Perth & Kinross.

A review in the Cochrane Database of Systematic Reviews^{ii 1} found that a smoking cessation intervention combining social support, provision of incentives and Nicotine Replacement Therapy (NRT) would be more effective than previous interventions. Therefore a pilot incentive program ('Give It Up For Baby') was implemented in partnership with Dundee City Council and the leading supermarket chain ASDA (part of the Wal-Mart group).

In 2006, only six pregnant women made contact with smoking cessation services

across Tayside, with none of these women remaining in contact with services after four weeks². In 2006, an improvement program commenced, which increased awareness of smoking during pregnancy among front-line practitioners. This program put in place a Patient Group Direction (PGD) to enable the provision of NRT through community pharmacies. Work was also undertaken to publicize the issue of smoking in pregnancy through the local and national media. This program led to the development 'Give It Up For Baby.'

Initial data indicates that 'Give It Up For Baby' has been more successful than previous approaches—both locally and nationally. 'Give It Up For Baby' has demonstrated that holistic, community-focused incentive programs, using social marketing principles, can be successfully deployed to reward health-promoting behaviors in line with national priorities.

ⁱⁱ The Cochrane Collaboration is an international not-for-profit organization providing systematic reviews and other information about the effects of health care. Available at: www.cochrane.org. Accessed 12 May 2009.

The Social Marketing Benchmark Criteria

Benchmark 1: Customer Orientation

Maintains a strong focus on the customer at all times, seeking to understand as much as possible about the presenting issue and the target audience, by using a mix of quantitative and qualitative research.

In partnership with a major Community Development Project in Dundee, Dundee Healthy Living Initiative (DHLI³), work was undertaken with local community groups to explore their views about smoking during pregnancy. Customer insight was gathered through three focus groups, as well as community consultation in disadvantaged areas of Dundee in October 2006. These groups were made up from the community development networks of the Dundee Healthy Living Initiative. This

work revealed that previous attempts to engage with pregnant women smokers were relatively unsuccessful, and more innovative approaches, which looked at the reality of these women's lives and addressed their true life circumstances, were required. The project was thus driven by the same commitment, which underpins the success of commercial retailers: to understand the world from the consumer's viewpoint and to develop services and products accordingly.

Benchmark 2: Insight

Uses the research phase to identify 'actionable insights': key pieces of understanding that will be used to underpin program development.

'Give It Up For Baby' was insight-driven, based on information collected from local target communities via the community development networks of the DHLI. Focus groups revealed one key piece of insight: *that using rewards gave mothers an excuse to opt out of the social norm of smoking within their peer group, but, crucially, did not isolate them from that group.*

The role of local pharmacists in supporting the program was also identified as being

critically important for the project's reputation. In the UK, pharmacists are making full use of their professional skills and expertise to take an increasingly bigger role in the health of their communities. Pharmacists can now prescribe a wide range of over the counter medicines as well as medicines previously restricted by law to traditional prescribers, such as doctors and dentists.

Community pharmacy stores offer invaluable access to advice and services due to

their position on the high street and their hours of operation. Almost all community pharmacies now also have their own private areas for patient consultations⁴. Pharma-

cists were pivotal in delivering the ‘Give It Up For Baby’ intervention as they provided accessible support, NRT provision and conducted smoking cessation testing.

Benchmark 3: Behavioral Goals

Focuses on changing people’s actual behavior: identifies baselines and sets clear behavioral goals, which, where possible, are specific, measurable and time-bound.

The ‘Give It Up For Baby’ initiative was designed to enable NHS Tayside to meet the National Smoking in Pregnancy target of 20% reduction in the number of women smoking during pregnancy by 2010.

In order to achieve this, NHS Tayside needed to recruit approximately 50 additional pregnant women per annum, and to guar-

antee their smokefree status at 12 months post quit date. The target was calculated from existing quit rate data⁵.

The baseline measure was a mere six pregnant women who made contact with smoking cessation services across Tayside in 2006, with none of these women remaining in contact with services after four weeks⁶.

Benchmark 4: Segmentation

Avoids a ‘one size fits all’ approach: identifies audience ‘segments’, which have common characteristics (e.g. socioeconomic; geographic; demographic; attitudinal; behavioral), then tailors interventions appropriately.

‘Give It Up For Baby’ segmented participants according to socio-economic criteria, aiming to reach areas of high social disadvantage.

While commercial companies sometimes nurture customers with the highest levels of disposable income, public sector programs should nurture customers with the greatest need for support or intervention (i.e. segmentation according to need).

The most deprived communities also have the poorest health, and the reasons for this are directly related to life circumstances.

NHS Tayside has invested considerable resources in trying to improve the health of these communities in an effort to close the health gap between Tayside and the more affluent communities.

Despite these efforts however, the health gap remains. It is now recognized that the answer to the problem does not lie simply in increasing investment, but in doing this in tandem with a methodology that directly addresses the key influences in the health behavior within these deprived communities.

The National Entitlement Card provided NHS Tayside with a vehicle to promote healthy behaviors within the hardest-to-reach communities. Deprivation Category 6 and 7 areas were targeted specificallyⁱⁱⁱ. The National Entitlement Card is a “smart-card” which can be used to access a wide range of services such as transport, education, libraries, leisure, school meals, concessions, and proof of age for young people⁷. The card was available to the entire target group; when pregnant women joined the ‘Give It Up For Baby’ program at their local Pharmacist (after a carbon monoxide test to determine their smoking status) they were registered, and then received their entitle-

ment card from Dundee City Council.

The implementation of ‘Give It Up For Baby’ via the National Entitlement Card thus allowed close monitoring of the uptake of activities and services by residents from disadvantaged areas.

As Councillor Peter Barrett commented in February 2008, “*women who continue to smoke during their pregnancy are one of the most difficult groups to influence through health improvement initiatives. This scheme will provide them with the vital support and incentives to quit for the health of themselves and their baby.*”⁸

Benchmark 5: Exchange

Considers both the benefits and the costs of adopting a new behavior, aiming to maximize the benefits and minimize the costs to create an attractive exchange.

‘Give It Up For Baby’ successfully used financial incentives to reward sustained positive behavior among its target audience. However, it also addressed a more holistic range of exchange mechanisms in order to support pregnant smokers through the whole cessation process, from initial enrollment in the program, to behavioral maintenance.

Overcoming key barriers through the exchange process:

- **Lack of awareness and access to support:** ‘Give It Up For Baby’ uses active recruitment of quitters via a care pathway, in which health professionals signpost women to their local community pharmacist for support.

ⁱⁱⁱ Carstairs deprivation categories have been used (category 1 being the least deprived and category 7 being the most deprived) which are based on a categorisation of the 1991 census-derived deprivation score for Scottish postcode sectors. A score is calculated for each postcode sector, using four census variables: proportion of persons in households without a car; proportion of economically active males who are unemployed; proportion of persons in private households with a density of more than one person per room; and proportion of persons in households with an economically active head of household in social class 4 or 5.

- **Lack of support to help successful quit attempt:** The community pharmacist provides 12 weeks (or longer if required) of one-to-one support and nicotine replacement therapy (NRT) if required.
- **Cost of quit treatments and products:** free NRT is prescribed to pregnant women.
- **Lack of incentive for making a quit attempt:** The pharmacist undertakes weekly monitoring of the women. If the woman provides a clear result from a carbon monoxide breath test, a credit of £12.50 (approximately \$17.60 US per week) is provided to enable the woman to obtain groceries and fresh fruit and vegetables from a local ASDA store.
- **Insufficient follow-on support once a quit attempt has been made:** The incentive program uses the National Entitlement card as a vehicle to enable the credit to be administered. The women are then contacted by the Dundee Healthy Living Initiative (DHLI) once their quit attempt begins, and invited to participate in further support activities (DHLI has a wide range of community groups which engage in healthy activities, such as walking).
- **Left unsupported once quit attempt completed:** The reward continues throughout pregnancy and for three months after birth. This enables a sustained approach to smoking cessation.

Incentives

‘Give It Up For Baby’ was not the first in-

centive program to be implemented in NHS Scotland – it was preceded by a program to promote good nutrition and breastfeeding among women from a Social Inclusion Partnership Area in the Lanarkshire district near Glasgow. ‘Best Fed Babies’ utilized shopping vouchers in a commercial partnership with a supermarket chain and engaged with 176 women in the first year of operation. The program enabled 93% of babies from the project to be born at or above normal birth weight; 36% of mothers chose breast-feeding as their feeding choice⁹.

The commercial sector has used customer loyalty programs for many years as a strategy to develop customer loyalty in a competitive market. Over 40 million customer loyalty cards are thought to be circulating in the UK and there is abundant evidence that successful initiatives improve customer loyalty and allow companies to develop more profitable relationships. Indeed the costs of acquiring new customers are calculated to be five times the cost of retaining existing customers¹⁰.

Furthermore, consumer research demonstrates that the spending behaviors of retained customers can be developed to yield greater profitability through targeting of specific services that match perceived customer preferences¹¹. All of these factors have been used to inform the development and further roll-out of the ‘Give It Up For Baby’ program.

Benchmark 6: Competition

Aims to understand what competes for people's time, attention, and inclination to change, and to work with or learn from the competition.

ASDA is a valued local supermarket chain which was ready to support the program. In this way, the local store, which could potentially have competed for participants' time and intention to quit, became integral to the project's success.

A further source of competition was identified in the purchasing priorities of program

participants. However, this was limited through the nature of incentives, whereby beneficiaries could only access fresh food and groceries through the program, and not alcohol or cigarettes. The use of the National Entitlement Card to redeem at the ASDA stores also avoided fraud and other pitfalls of handing out money or vouchers.

Benchmark 7: Methods Mix

Uses a mix of methods to prompt and facilitate behavior change, including education, support, control and design techniques. Does not rely solely on raising awareness.

Previous research indicated that a marketing mix including social support, provision of incentives and free NRT would be more effective than other smoking cessation interventions. This mix informed the development of the 'Give It Up For Baby' product offer, which included:

Moms-to-be who are eligible for the program are identified by health professionals, including midwives and health visitors, and are recruited if they express a wish to give up smoking. Women are also recruited via a 'Give It Up For Baby' Development Worker, who makes personal contact with all women wishing to take part and supports them through the whole process. Alternatively, women can refer themselves to the program by going to their local pharmacy or by contacting the development worker.

NRT will be provided either from a family doctor or from a local pharmacy, and social support is also given to women taking part through community-based groups for expectant mothers such as 'Baby Bumps'. Community groups involved in the program have received training in supporting women wishing to stop smoking. Support for other family members who may wish to stop smoking is also available. Social support is also provided by the Dundee Healthy Living Initiative. For instance, by working closely with some members of the group who have engaged with the stop smoking program, DHLI has been able to encourage regular use of local swimming facilities, to help with literacy and numeracy development, and to offer support in areas such as debt management.

Participants are tested weekly at designated local pharmacies to confirm through carbon monoxide testing their smokefree status, and if they manage to stay off cigarettes then their National Entitlement Card is credited with cash amounts (£12.50, approximately \$17.60 US, a week maximum) which can be redeemed with participating supermarkets for fresh food and groceries but not for tobacco or alcohol. The support is sustained, continuing throughout pregnancy and for three months after birth. The program is accompanied by a major PR and recruitment campaign, including leaflets

and extensive advertising in the press and on the side of buses.

Helen Wright of the Dundee City Council's social work and health committee said: *"There is a lot of evidence that giving smokers a reward for quitting, along with social support is more successful than just giving them the usual community help. We decided to partner with ASDA because they were the first big store to come forward and offer, and when we asked a sample of potential customers, they nominated ASDA."*

Benchmark 8: Theory

Uses behavioral theories to understand human behavior, and to develop programs around this understanding.

'Give It Up For Baby' is structured around the principles of Reinforcement Theory¹². This theory looks at the process of shaping behavior by controlling the consequences of that behavior, either by rewarding good behavior, or by punishing bad.

'Give It Up For Baby' uses positive reinforcement, or reward. Fixed interval schedules of reinforcement are carried out, so that the desired behavior (smoking cessation) is reinforced once a week, following

the carbon monoxide test. In this way, the target group learns that there is a direct relationship between doing something and getting a reward.

Importantly, this reward focus means that mothers can adopt a no-smoking behavior which, though potentially different than her social group, does not isolate her because her group accepts that changing behavior for a financial reward is quite legitimate.

Evaluation and Results

The project has been running since March 2007, and is already being expanded to other areas of Tayside.

The program has been identified as an area of best practice by the Scottish Government. Full evaluation is ongoing (conducted by Stirling University on behalf of Health Scotland) and qualitative and quantitative data will be available in 2009.

However, an initial analysis of the first outcome data for the Dundee program has been undertaken, demonstrating that:

- In Dundee, 55 women signed up and attended their local pharmacy to complete the paperwork to enable payment of the incentive
- In Dundee, 11 women registered but did not attend again
- An additional 10 women attended once or twice then dropped out
- Twenty-seven women fully engaged with the program with some of this group still attending pharmacies to claim their

incentive payment (an estimated outcome of 50% successful quits)

- As of March 2008, 20 babies had been born to women who had successfully given up smoking with the program.

In 2008, 170 women across Tayside were also recruited to the project. These women attended a pharmacy on between 5 and 21 occasions and received payments totalling £6,025 (\$8,787 US). For women who fully engaged with the program, an average payment of about £210 (\$306 US) was made. These women attended pharmacies on 322 occasions during the year; 314 carbon monoxide tests showed that they were smoke-free (97.5%). Expenditure indicates a cost per quitter figure of about £1,700 (\$2,478 US).

These first outcome data provided a good basis from which to project how Tayside will meet the Scottish Government target for 20% of women smoking during pregnancy by 2010.

Lessons Learned

Based on feedback from participants and from practitioners operating the program, work has been undertaken to streamline the enrollment process and to make the systems that were put in place more ‘user friendly’.

A program of higher profile publicity for the project was also put in place using community festivals over the summer and publicizing the experiences of women who have managed to give up smoking during the program.

A series of actions have also been identified that are required to improve the effectiveness of the program and its evaluation.

These include streamlining the electronic administration of the program and increasing the analytical capability of the dataset. Meanwhile efforts will continue to increase the number of women becoming involved with the Healthy Living Initiative, and in ‘Give It Up For Baby’ through direct mailing.

Future Directions

As a result of the ‘Give It Up For Baby’ project, the Scottish Government commissioned NHS Tayside and its partner organizations to use a social marketing approach

to increase quit smoking rates in Dundee’s disadvantaged population groups – a total of 36,000 smokers. The project was due to commence in March 2009.

References

1. Lumley J, Oliver SS, Chamberlain C, Oakley L. Interventions for promoting smoking cessation during pregnancy. *Cochrane Database of Systematic Reviews* 2004, Issue 4.
2. National Smoking Cessation Database. Available at: <http://www.scotpho.org.uk/smokingcessationstats2006/>. Accessed 12 May 2009.
3. Dundee Healthy Living Initiative website. Available at: <http://www.dundeehealth.co.uk/>. Accessed 12 May 2009.
4. NHS Scotland website – history of community pharmacies. Available at: www.60yearsofnhsscotland.co.uk/history/an-evolving-nhs/primary-care/pharmacy.html. Accessed 12 May 2009.
5. National Smoking Cessation Database. Available at: <http://www.scotpho.org.uk/smokingcessationstats2006/>. Accessed 12 May 2009.
6. National Smoking Cessation Database. Available at: <http://www.scotpho.org.uk/smokingcessationstats2006/>. Accessed 12 May 2009.
7. National Entitlement Card Programme website. Available at: <http://www.entitlementcard.org.uk/>. Accessed 12 May 2009.
8. ‘Pregnant women get smoking advice’, 27 February 2008. Available at: http://news.bbc.co.uk/1/hi/scotland/tayside_and_central/7266615.stm. Accessed 12 May 2009.
9. Information about the ‘Best Fed Babies’ scheme. Available at: www.lc.comunitiesscotland.gov.uk/stellent/groups/public/documents/webpages/cs_005430.hcsp. Accessed 12 May 2009.
10. ‘Making Existing Customers More Profitable’. Available at: http://www.bnet.com/2410-13237_23-168351.html. Accessed 12 May 2009.
11. ‘Making Existing Customers More Profitable’. Available at: http://www.bnet.com/2410-13237_23-168351.html. Accessed 12 May 2009. Also see Reichheld, F. *The Loyalty Effect: The Hidden Force Behind Growth, Profits, and Lasting Value*. Harvard Business School Press, 2001.
12. Helms M (ed). ‘Reinforcement Theory’. *Encyclopedia of Management*. Gale Cengage, 2006. Available online at: www.enotes.com/management-encyclopedia. Accessed 12 May 2009.

Author Information

Since commencing his NHS career in Scotland in 1980, Paul Ballard has held NHS Director positions in Sunderland and Cambridge Health Authorities before returning to Scotland in 1993. Between 1997 and 1999 he worked as a policy advisor to the Scottish Executive and contributed to the production of several national policy documents on health improvement and health inequalities. He is currently Deputy Director of Public Health for NHS Tayside. He also has a major course management and teaching role with Dundee University Medical School and was appointed as an Honorary Senior Lecturer in 2005. He is a member of a number of Scottish Government Policy Groups including one on Social Marketing. Within the last year he has been developing the use of social marketing to address a number of health priorities including 'Quit4U' (which is a partnership project with the Scottish Government) which will target 36,000 smokers in Dundee and was launched on 23 March this year. Also he is leading pilot projects to apply social marketing to tackle hand hygiene compliance among clinicians and the development of a social marketing toolkit for Scotland. He is also exploring the application of social marketing methods to increase flu immunization uptake by NHS staff.

Andrew Radley joined NHS Tayside in 1994, working as part of the Tayside Pharmacy Management Team, based at Perth Royal Infirmary, and took on the role of Trust Chief Pharmacist for the Perth and Kinross Healthcare NHS Trust. In 2005, after completing training in public health, he took up a 12-month secondment to the Directorate of Public Health to develop and take forward the implementation of the NHS Tayside Smoking Cessation and Prevention Plan. As part of this work, he led the design and implementation of "Give It Up for Baby", an innovative smoking cessation incentive scheme for pregnant women. In 2006, he was appointed as Consultant in Pharmaceutical Public Health and provides a leadership role for tobacco issues at the Board. Current areas of interest include pandemic flu planning, sexual health services and developing the public health role of pharmacies. Andrew has continued to explore the use of incentives as a way of engaging with disadvantaged populations.