



## **Evaluation of 'Keep Well' programme in NHS Greater Glasgow & Clyde**



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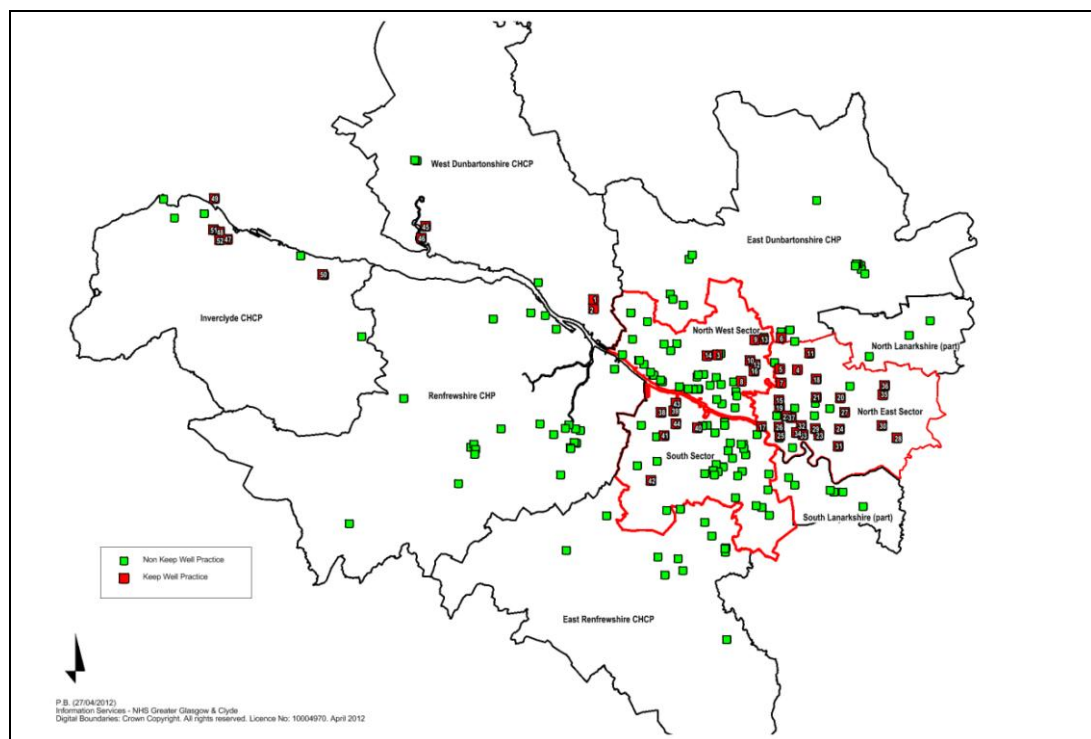
**May 2012**

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## Foreword

In this report on the evaluation of 'Keep Well' Waves 1-4 in NHS Greater Glasgow & Clyde, I have endeavoured to do three things; firstly, to provide an analysis of the original policy context and intended purpose of 'Keep Well'; secondly, to set out clearly the evaluation findings from Keep Well's many distinctive constituent components as the programme evolved towards a mainstreamed model; and, thirdly, to identify wider transferable lessons for delivery of preventive anticipatory care in NHS GG&C.

This report covers the first five years (2006-2010) of the Keep Well programme in NHS GG&C. Over this period, Keep Well has progressively extended its coverage of our Health Board's most deprived communities, always maintaining a commitment to supporting general practice in their central role at the heart of anticipatory care. By 2010, the Keep Well programme was operational across 52 primary prevention practices (map), which has now expanded to 100 Practices.



However, engaging clinicians in public health means much more than delivering anticipatory care health checks; the many innovative and highly creative interventions delivered over Keep Well's first five years, as presented in this report, demonstrate the power of collective leadership and collaboration for health improvement, which hold the key to transforming the health profile of GG&C's most disadvantaged populations.

By reflecting and debating the findings contained in this report, we can ensure that all of this creativity and energy is used to plan the best possible future models of prevention-focused healthcare in the years to come, maximising the very real potential of anticipatory care delivered by clinicians, operating in close partnership with health improvement agencies.

*Anne Scoular, 21 May 2012*

## Executive summary

**Background:** Keep Well was launched in 2006 to pilot anticipatory care on a large scale in disadvantaged areas across Scotland, with the aim of reducing cardiovascular disease and its risk factors among 45-64 year olds.

**Methods:** An integrated evaluation framework was designed in mid-2008 to underpin planning and evaluation of Keep Well in NHS GG&C. This has been applied to planning and reporting of all local evaluation activity since that time. The framework was intended to deliver two types of outputs:

1. A summative judgment on the extent to which the programme achieved its stated aims, in order that future policy at local and national levels can be refined. This is broadly achieved by summative evaluation methods.
2. A structured understanding of how the observed outcomes were achieved, in order that the programme can be mainstreamed and sustained, broadly achieved by process level evaluation.

**Results:** Impact evaluation of the Keep Well programme, derived by national analyses of routine data on hospitalisations and CVD mortality has, to date, failed to demonstrate the effectiveness or efficiency of Keep Well as a cardiovascular intervention. This is entirely consistent with the existing evidence on the impact of programmes similar to Keep Well for primary prevention of CVD. The most prominent feature across all the evaluation findings summarised in this report is extensive variation, observed at three levels:

- **engaging** the population subgroups at highest risk
- **changing** the health literacy, risk factors and behaviour of those who engage
- **sustaining** adherence to any changes after the Keep Well consultation

Much more positively, however, evaluation of Keep Well in NHS GG&C has generated promising process indicators which demonstrate the programme's capacity to engage and work constructively with patients on their individual health improvement needs within small, defined projects. Local evaluation of Keep Well has demonstrated many valuable lessons on how we should consolidate and improve these activities to deliver wider health gain that goes well beyond CVD prevention.

**Conclusions:** Although Keep Well has not delivered, to date, sizeable cardiovascular mortality reduction, this should not necessarily be interpreted as 'failure', because the interventions within Keep Well have great potential for preventing the health impact of long term conditions, if systematically applied across the organisation. Variation in performance at all levels should be tackled, in partnership, and the achievements of the best parts of the system shared as exemplars. There is a need to improve strategic linkage at all levels and provide more coherent programme support to local health improvement systems. Community Oriented Primary Care (COPC) clusters may offer opportunities to do this effectively, generating wider indirect benefits to all partners. Development of improved consultation support packages building on the learning from consultation development research described in this report are also needed. Finally, more customised models of anticipatory care are likely to be required for defined subpopulations, building on the successes of the South Asian Anticipatory Care (SAAC) and Carers' pilots.

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## 1 Policy Context

### 1.1 National Policy Context

Keep Well was launched in 2006 to pilot anticipatory care on a large scale in disadvantaged areas across Scotland, with a primary focus on cardiovascular disease. Its core element, the Keep Well health check, was intended to identify individuals at particular risk of preventable serious ill-health (including those with undetected chronic disease), offering appropriate interventions and initiate monitoring and follow-up.

Its underpinning policy originated from 'Delivering for Health', the Scottish Executive's 2005 Action Plan for the NHS in Scotland, which contained a strong focus on individual level health improvement delivered primarily by health services; this represented a significant step change from the social inclusion and community development focus of the preceding eight years (Figure 1).<sup>1-5</sup> Health inequalities are increasingly promoted as core business for healthcare services, with anticipatory care targeting those at greatest risk promoted as a key strategy for addressing them.<sup>6,7</sup>

Over the ensuing two years, several incremental extensions to the programme followed:

<b>Wave 1, 2006-2008*:</b>	GG&C sites = N&E Glasgow
<b>Wave 2, 2007-2009:</b>	GG&C sites = SW Glasgow, Inverclyde & West Dun
<b>Well North, 2008-2010:</b>	Western Isles, Orkney, Shetland, Highland & Grampian
<b>Wave 3, 2009-2011:</b>	Borders, Forth Valley, Dumfries & Galloway
<b>Wave 4, 2009-2011:</b>	New populations within Wave 1 Board areas

*[\*in March 2008, programme extended to 2010]*

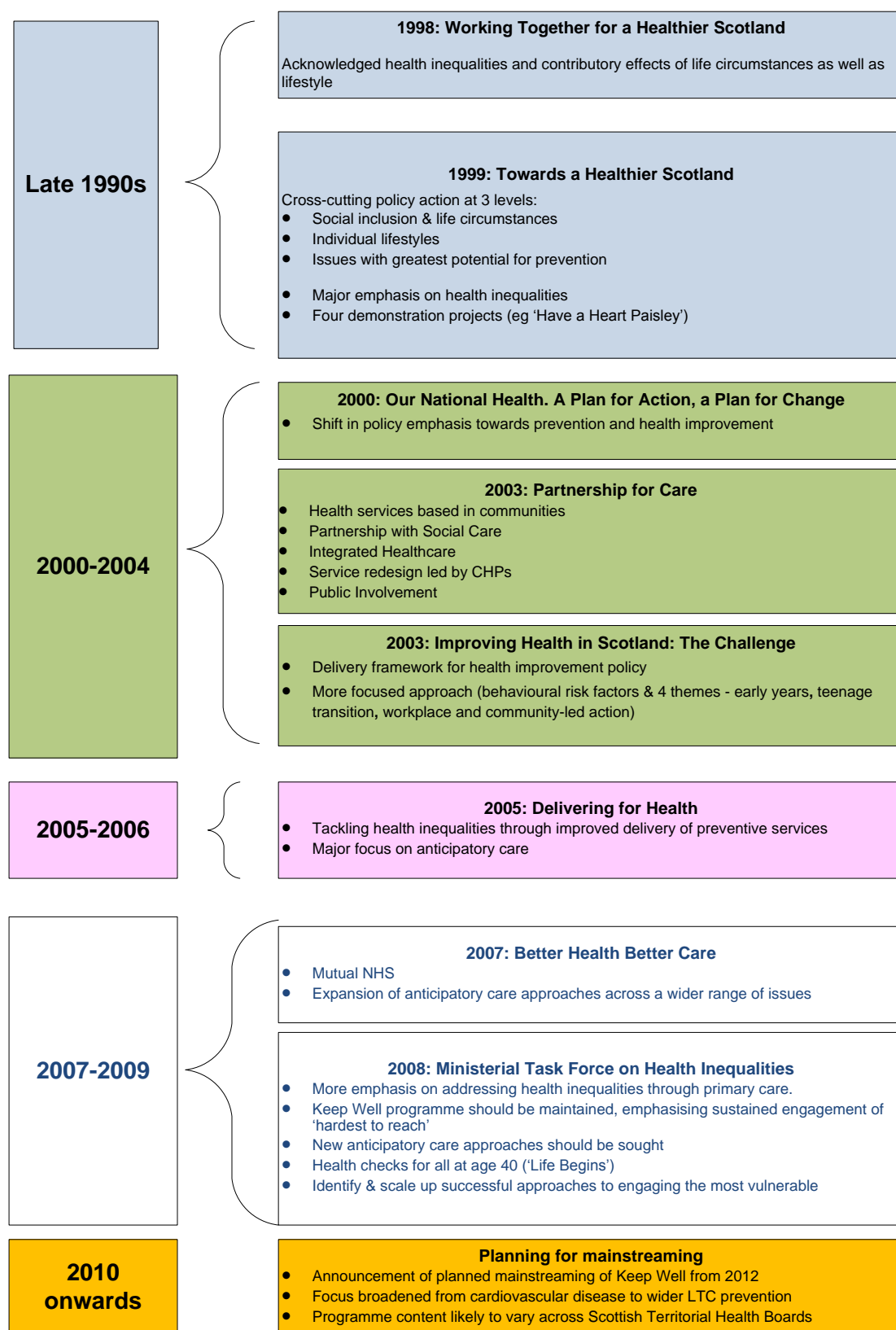
In March 2010, in advance of the final outcome evaluation of Keep Well and Well North, the Scottish Government announced its intention to mainstream the programme across NHS Scotland from April 2012. Shortly afterwards, it announced that the target age range for Keep Well would be extended to 40-64 years.

In March 2011, the Scottish Government issued implementation guidance which stated that the intended focus of the programme should broaden, beyond cardiovascular disease prevention, to the wider range of modifiable factors that contribute to health inequalities in adult life. The target population was also widened, including the following population subgroups: individuals aged between 40 and 64 not already included in practice stroke, diabetes or CVD disease registers and living in the most deprived geographical localities; South Asian, Black and Afro-Caribbean ethnic subgroups; offenders; gypsy/travellers; homeless individuals; and those affected by substance misuse.

It is currently understood that the mainstreamed Keep Well/Well North programmes will be augmented by two universal CVD prevention programmes; 'Life Begins', a web-based self assessment covering a range of issues, including lifestyle choices, for those over 40, which is currently being piloted by NHS Grampian; and a trial of face-to-face universal health checks for all individuals aged 40 to 74.



**Figure 1: Evolution of health policy underpinning 'Keep Well'**

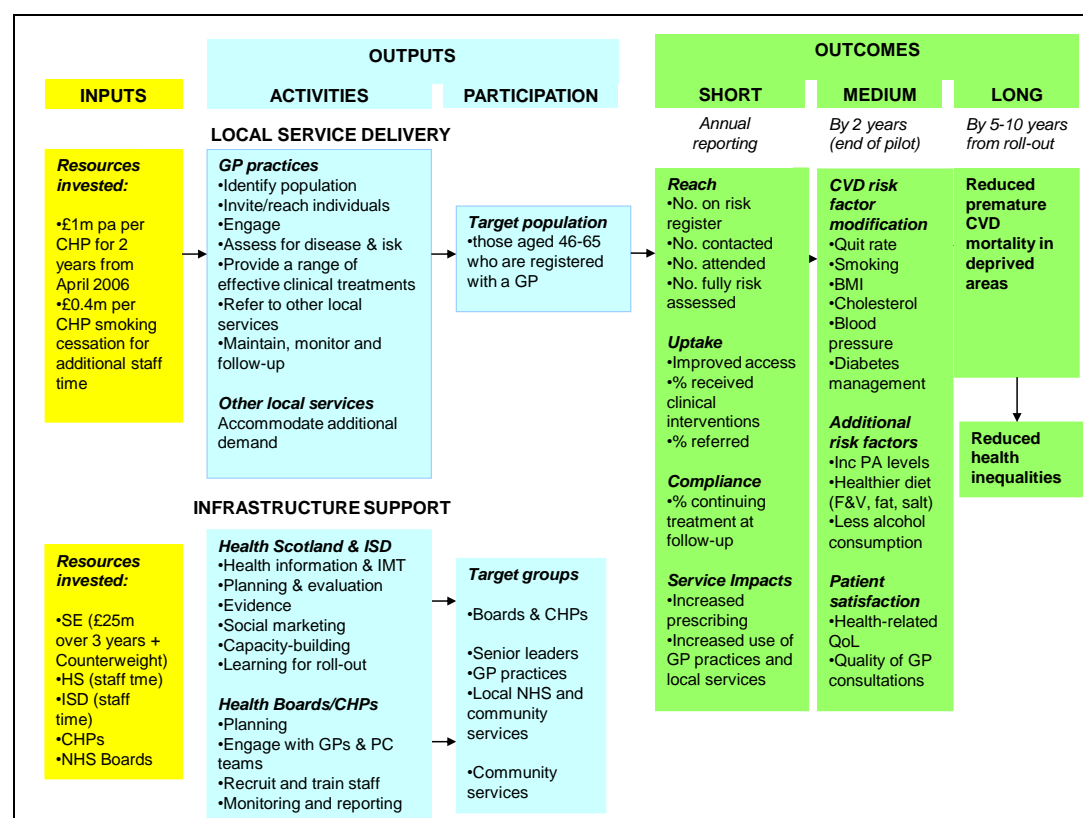


## 1.2 Rationale for Keep Well

### 1.2.1 Original hypothesis for Keep Well

Keep Well was designed around the hypothesis that enhancing primary care capacity in the least advantaged localities of Scotland would reduce cardiovascular disease (CVD) risk factors, morbidity and mortality within 5-10 years. The original logic model produced by NHS Health Scotland describes this rationale in more detail (Figure 2).<sup>8</sup>

**Figure 2: Original logic model describing rationale for Keep Well**



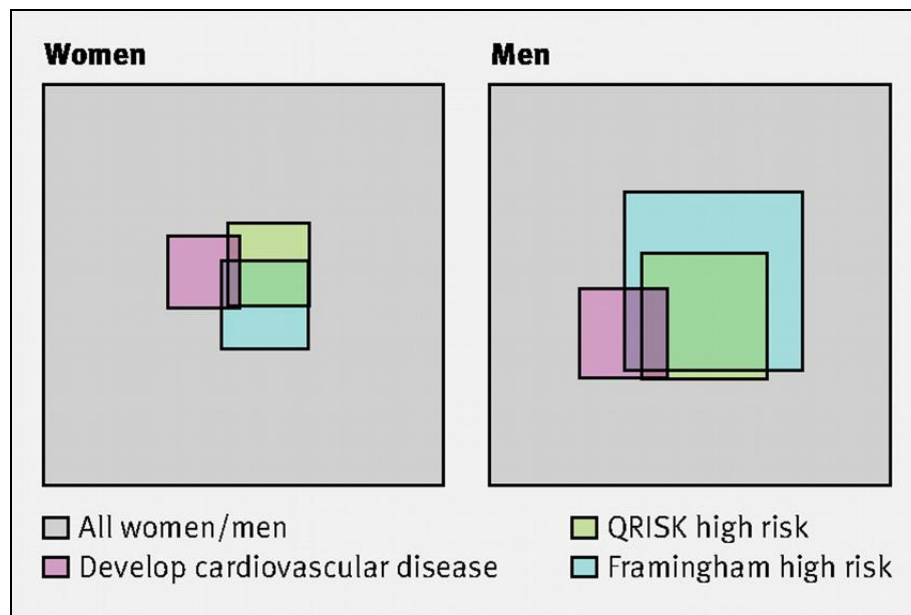
### 1.2.2 Evidence for 'Healthy Heart Programmes'

Keep Well is the latest of many 'Healthy Heart Programmes' which have aimed to reduce multiple CVD risk factors at a population level. A Cochrane Review published in 1999 (updated in 2006) synthesised effectiveness evidence from 39 trials of such programmes over the course of three decades, concluding that they achieved only small reductions in blood pressure, cholesterol, salt intake, and BMI, with little or no impact on CVD incidence or death.<sup>9</sup> The authors discouraged more research on the topic, recommending that national fiscal and legislative changes aimed at reducing smoking, dietary consumption of fats, 'hidden' salt and calories; and increasing facilities and opportunities for physical activity should have a higher priority than individual level health promotion interventions.

The central element of programmes such as Keep Well is assessment and modification of cardiovascular risk in individual attendees using a validated risk scoring tool. However, the predictive capacity of all CVD risk prediction scores is modest; many more cardiovascular events occur in individuals characterised as 'low risk' than those designated 'high risk'. More than 50% of CVD events in the next ten

years in the UK will occur in asymptomatic adults below the current drug treatment threshold (Figure 3).<sup>10</sup> This is partly because the major drivers of CVD risk are age and sex; younger people typically have a low predicted 5- or 10-year CVD risk even with multiple abnormal individual risk factors. In contrast, whatever their CVD risk factor profiles, most people over 75–80 years meet recommended risk-based treatment thresholds.

**Figure 3: Proportions of men and women classified as high risk by QRISK and Framingham who had a subsequent cardiovascular event<sup>10</sup>**



Furthermore, the clinical impact of CVD risk scoring as an activity is unproven; a systematic review published in 2008 identified eleven studies, including five randomised controlled trials (RCTs) of adequate methodological quality, evaluating the clinical benefits and harms of applying Framingham based risk scores to the care of asymptomatic people. None of the five RCTs showed a significant overall change in either clinical care or risk factors, although no harmful effects were seen.<sup>11</sup>

Finally, ASSIGN has recently been adopted as the cardiovascular risk score of choice within Scottish health improvement policy.<sup>12</sup> This departs from the original policy intention of evaluating ASSIGN within Keep Well; in August 2009, the ASSIGN website stated: “Testing of ASSIGN is taking place within the Scottish Government programme of targeted high risk primary prevention, initially established in the Keep Well initiative, for people aged 45-64 in the 15% most socially deprived areas in Scotland....” Adequate validation of new CVD risk scoring systems is an essential step in all risk score development, allowing them to be applied with confidence on populations other than the derivation cohort before rolling out to the entire population. The Keep Well programme in NHS GG&C has therefore continued to evaluate the health services impact of both JBS2 and ASSIGN within Keep Well; preliminary findings of this research are presented in ***‘Delivering health checks 4: Evaluation of ASSIGN in a real world population’*** later in this document.

### 1.2.3 Evidence from Have a Heart Paisley

In Scotland, Keep Well’s immediate predecessor (not yet fully evaluated at the time of the implementation of Keep Well) was ‘Have a Heart Paisley’ (HaHP), a national demonstration project launched in 2000 by the Scottish Executive, the primary aim of

which was also to reduce CVD risk and associated health inequality in Paisley. It had three distinct phases:

Phase 1 (2000-2003): A population wide approach that aimed to deliver interventions involving individuals at high risk, complemented by interventions intended to change the risk profile of the whole population. Its 15 separate work strands involved over 6000 participants from mainly disadvantaged areas, yet there was no evidence that the intervention achieved any of its desired effects of saturating the town of Paisley with improved and new services, projects and opportunities; changing behaviours, either at a population level or in the targeted subgroups; or shifting CVD incidence or mortality.<sup>13</sup>

Phase 2 (2003-2006): A targeted programme for the working age population (aged 45 to 60) and for those of all ages with existing heart disease. All eligible individuals living in Paisley and enrolled with a Paisley GP were sent a personal invitation to attend a 'heart health check.' Engagement was inversely related to individual level deprivation and men were also less likely than women to engage. Although there was some evidence of change in risk status within individuals who participated in the programme, there was no evidence that the intervention achieved a shift in total CVD risk or changed behaviours at a population level.<sup>14</sup>

Unmet needs pilot (2007-08): The unmet needs project targeted eligible residents of Ferguslie Park who did not engage in HaHP. It set out to determine whether intensive outreach and support encouraged people from deprived communities to access primary prevention services and/or health checks for CHD risk. The unmet needs team included community development officers and used a variety of community engagement techniques, including on-street interviewing, attendance at local social activities, post office queues during benefit collection times and opportunistic recruitment on local buses. Those who were approached were given a leaflet highlighting the service offered and encouraged to have a heart health check. The project set out to screen 133 clients. By May 2008, the number of actual screenings was 247 (159 women and 88 men). A second screening six months after the initial screening was also implemented and achieved a 75% success rate. The overall conclusion of its evaluation was that rather than considering groups as being 'hard to engage', flexibility in approaches to engagement appear to be required, with a particular focus on community engagement techniques.<sup>15</sup>

The primary aims of HaHP were very similar to those of Keep Well, with a considerable amount of overlap in the methodology of the two projects. Consequently, these evaluation findings have important planning implications for Keep Well in NHS GG&C (Table 1).

**Table 1: Key transferable learning points from 'Have a Heart Paisley'**

Learning from HaHP	Implications for planning of Keep Well
No evidence that HaHP changed CVD risk, incidence or mortality at a population level.	<ul style="list-style-type: none"> <li>i) Consistent with established research.</li> <li>ii) Aspirations of KW should be defined accordingly.</li> <li>iii) Potential factors explaining failure to deliver change in CVD outcome measures actively captured in future evaluation</li> </ul>
Little evidence that HaHP impacted on health inequalities; the pattern of results was consistent with the possibility that HaHP might have potentially exacerbated these. Those who engaged (vs those who did not) were more	<ul style="list-style-type: none"> <li>i) Ongoing equity monitoring essential.</li> <li>ii) Continue to improve consultation quality through training, clinical templates &amp; audit programme</li> </ul>

Learning from HaHP	Implications for planning of Keep Well
motivated and driven by a stronger desire to improve their health.	
Engagement inversely related to individual level deprivation. 1 in 5 individuals living in the most deprived SIMD range (80-90) did not receive their invitation letter. Younger individuals and men were both less likely than women to engage with the intervention. Detailed individual life circumstances, constraints and views of those who did not respond were unknown (only information on council tax band, age, gender and area of residence was available)	Ensure appropriate targeting approaches to engage those who are most at risk of chronic disease
Health coaches felt that the recruitment strategy resulted in an overrepresentation of the 'worried well.'	As above
Credibility and alignment was important for engagement in HaHP. However, but what is seen as 'credible' depends on the characteristics of those being targeted – some sectors view local community organisations as more credible than medicalised settings.	Develop & evaluate KW delivery in innovative settings, informed by local intelligence
A community development approach would have been more effective in reaching the target population, and had they been allowed a more direct service delivery role, this would have improved support offered to those with the most complex needs.	Further develop, integrate & evaluate community development approaches within Keep Well.
Heterogeneity of client needs at multiple points of the primary prevention intervention chain. The importance of flexible, tailored, and individualised support is critical.	<p>i) Need for client led support throughout KW pathway, from first contact to engagement and ultimately behaviour change.</p> <p>ii) Extreme variations in input (both intensity and type) will be required to deliver this flexibility of approach, with important health economic dimensions.</p>
Clients frequently had unresolved issues, such as physical or mental abuse, mental health or alcohol related problems, which sometimes needed to be addressed as a pre-requisite to being able to work on the three topic areas of exercise, diet, and smoking.	As above
The need for a better network of support agencies was highlighted by staff.	<p>i) Further develop and improve connections between health improvement services and primary care.</p> <p>ii) Ensure that referral activity is captured and fed back in real time.</p>
Although clients reported benefits from receiving health screening information, most considered that the advice and ongoing support from their health coach had a greater influence on their attitudes and behaviour; individuals who engaged with the intervention at greater levels had more favourable changes in diet and exercise levels. The main defining feature for clients was that the health coach had time for engagement, which contrasted with their	Maintain & continue to evaluate Live Active

Learning from HaHP	Implications for planning of Keep Well
perception of other health professionals, especially doctors.	
HaHP's unmet needs project used a wide range of innovative methods to engage with local people in the most deprived areas of Paisley, including on-street interviewing, door-to-door calling, attendance at local social activities and events, visiting school parents' rooms, community radio slots, post office queues on key benefits days, bookmakers and public house premises, sunshine gardens (people generally sit out in their gardens on sunny days), opportunistic recruitment on local buses and discussions with local employers, refuse collectors and home helps.	Further develop, integrate & evaluate community development approaches within Keep Well.
Five key characteristics facilitated service uptake Tayside's 'unmet needs' pilots in deprived areas; proximity, responsiveness, convenience, timing and continuity. Guidelines developed from this evaluation recommended; shape and adapt services to fit need; deliver services at appropriate times; deliver services in the community; integrate with other services; provide patient pathway support; use a personal approach; be persistent; provide services that users value	Develop & evaluate KW delivery in innovative settings for individuals in the target population who have not yet engaged, informed by local intelligence
Informality, genuine interest and equal power balance between worker and potential participants were seen as important features of community outreach workers involved in the HaHP unmet needs project	Maintain & continue to evaluate community outreach worker role and community development approaches

### 1.3 Local context

The population of NHS Greater Glasgow & Clyde (GG&C) endures the most extreme health inequalities in Scotland and has developed a number of local policies and frameworks, including the Primary Care Planning Framework, for embedding prevention and inequalities at the core of NHS services.<sup>16</sup> During development of the Primary Care Planning Framework, a one day event was held in June 2008, to discuss how the work of the primary care team can be used to best effect in addressing health inequalities. The full report of the event is embedded in this paper at Appendix 1. In summary, however, the conclusions of the event were that engagement of general practice at the centre of the NHS effort to tackle health inequalities would require more critical thinking about the role of practices and consideration of where other parts of the system need to change to support this. A fundamental shift in approach will be needed to harness the strengths of general practice with the wider skills and functions in Health Boards, CH(C)Ps and key partner organisations as a coherent system, each with unique strengths.

There are some fundamental barriers to moving forward. Foremost among these is the absence of a widely shared understanding about the origins and drivers of health inequalities; prevailing discourse in the wider population remains focused on lifestyle and behaviour, with professionals not being immune to this. Efforts must be made to change this culture in public services to enable a whole system response to health inequalities. Even within primary care itself, it is evident that not all practitioners share a common conviction that health inequalities are their 'core business'. This is



partly externally driven; despite their many advantages, targets (eg QOF and HEAT) may create a real tension between flexible, individualised, patient-centred care and target-driven values and activities, with unintended adverse consequences that are likely to differentially affect the most vulnerable in society. Performance indicators that are truly inequalities sensitive should be developed as part of a systematic approach to tackling health inequalities.

## **2. Keep Well in NHS GG&C**

A brief description of the development of Keep Well in NHS GG&C is provided below.

### **2.1 Wave 1 (North and East Glasgow)**

Wave 1 was developed during 2006, in close collaboration with the North and East CHCPs. Within each area, practices with the highest percentage of the target population living in the 15% most deprived data zones were invited to participate. Eighteen practices (nine from North and nine from East Glasgow) began delivering the intervention in late 2006/early 2007. Enhanced primary care capacity was used for increased GP time to accommodate longer appointments, practice nurse and/or healthcare assistant time was provided for health assessments and lifestyle counselling and administrative time to invite patients and follow up of those who do not attend. A variety of patient engagement methods were developed, including letters, telephone invitations and opportunistic discussions in various combinations. The programme encouraged flexibility of approach, dependent on practices' current systems, staffing levels and skillmix.

Outreach workers were employed to visit the homes of individuals who had proved difficult to engage through other methods, although the role was not universally adopted by all practices. Keep Well was intended to encourage more proactive management of patients (including communication about non-attendance at referral agencies) and to facilitate joint working between health improvement services and practices. Additional community pharmacy input was established for clinical medication reviews and concordance support. Existing health improvement support services were enhanced, with additional smoking cessation capacity, stress management services, alcohol counselling, healthy eating and exercise classes (including outdoor gardening gym), literacy support, money and employability advice.

### **2.2 Wave 2 (SW Glasgow)**

Keep Well in SW Glasgow was established in April 2008, focusing on six practices where 50% or more of total patient list reside in the 15% most deprived datazones. The SW programme differed slightly from Wave 1; firstly, only the individual patients aged 45-64 years who actually resided in the bottom 15% SIMD data zones within participating practices were offered Keep Well Health checks; secondly, outreach workers were established from the outset, working alongside practices to encourage patients to attend for screening and to access the range of health improvement interventions on offer; and thirdly, for patients with more complex needs, a Health Case Manager role was established to provide more intensive support.

### **2.3 Wave 2 (Inverclyde and West Dunbartonshire)**

The Wave 2 programme in Inverclyde and West Dunbartonshire allowed establishment of a secondary prevention programme in patients with existing CHD, analogous to the CHD LES model in the Greater Glasgow area. In addition to the

clinical content of the standard CHD LES, supplementary questions were incorporated addressing employability, financial and literacy issues.

## 2.4 Wave 4 (All Keep Well sites)

In December 2008, the Scottish Government announced its decision to pilot anticipatory care approaches in new geographical areas and/or populations, as summarised in Table 2.

**Table 2: Overview of Keep Well Wave 4 in NHS GG&C**

Site	Main strategic focus
North Glasgow	<b>New populations</b>
	Criminal Justice: Identify 35-64 year old individuals within the criminal justice network and facilitate access to Keep Well, health care and relevant community services (See Care Pathway, Appendix 2).
	Community Addiction Team (CAT) service users: As above Carers: As above
East Glasgow	<b>New approaches to unengaged patients within Wave 1</b>
	Action research programme to identify & address factors associated with non-engagement
	Keep Well Health Shop in Parkhead Forge
South West Glasgow	Extended primary prevention to <b>all</b> 45-64 year olds in existing Wave 2 practices
Inverclyde	Structured, systematic primary prevention in selected pilot practices
West Dunbartonshire	
Pan-GG&C	Dedicated post to lead inequalities-sensitive engagement, interaction and referral pathways
	Information and referral network

### 3 Evaluation of Keep Well

#### 3.1 General principles underpinning evaluation of Keep Well

Most interventions seeking to change health status at a population level are inherently complex, presenting challenges for planning, delivery and evaluation. Their complexity arises from the number of constituent components and interactions, multiple groups or organisational levels, number and variability of desired outcomes, variations in delivery model, complex causal chains between inputs and outcomes and marked sensitivity to local context.<sup>17</sup> Keep Well has many of these features; it is a large scale, national initiative, conceptualised and led by central government, yet delivered at local level through many thousands of unique patient encounters. The evaluation of Keep Well in GG&C has therefore adopted the principles developed by the MRC and others for assessing complex interventions in development of an appropriate framework intended to elicit an understanding, not only of **what** outcomes are achieved, but also **why** and **how**.

#### 3.2 Evaluation framework

An evaluation framework was designed in 2008 to support internal review of GG&C's evaluation of Keep Well and has been applied to planning and reporting of all subsequent evaluation activity since that time. The framework was intended to deliver two types of outputs:

3. A summative judgment on the extent to which the programme achieved its stated aims, in order that future policy at local and national levels can be refined. This is broadly achieved by summative evaluation methods.
4. A structured understanding of how the observed outcomes were achieved, in order that the programme can be mainstreamed and sustained. This is broadly achieved by process level evaluation.

Although there is some overlap between the approaches used for summative and process evaluation, it is helpful to distinguish them for the purposes of clarity at the outset, because they each have distinct purposes (Box 1):

#### Box 1

**1. Summative level evaluation** can be viewed in four key dimensions:

Effectiveness: what is the extent to which KW does more good than harm?

Efficiency: what is the benefit of KW for a given input of resources?

Acceptability: to what extent is KW socially, psychologically and ethically acceptable to the population intended to receive it?

Equity: to what extent does KW provide equality of opportunity, provision, uptake and outcome among groups or individuals?

**2. At a process level**, the principal purpose of evaluation is to generate a rich understanding about the extent, quality and nature of the intervention. This can be considered in five key dimensions:

Context: what is the organisational and community context within which KW is operating

Reach: to what extent does the intended target group participate in KW?

Adoption: how is KW conceptualised and adopted at local level?

Implementation: how consistently is KW delivered?

Maintenance: what barriers & facilitators of sustainability?

### 3.3 National external evaluation

The National Evaluation of Keep Well was commissioned in 2007 by NHS Health Scotland and funded from April 2007 until September 2010. It was conducted in two phases:

- Phase 1 used documentary analysis, semi structured interviews and the analyses of routinely collected quantitative data in the wave 1 pilots
- Phase 2 used case studies to explore key aspects of Keep Well in greater depths.

At an early stage, however, the external evaluators identified a number of challenges, essentially because Keep Well so highly variable in both form and function across and within pilot sites and over time, which they attributed to the reality of implementing national policy across different sites.<sup>18</sup> There were also major differences between stakeholders in their understanding of key theoretical concepts, with some arguing that anticipatory care was synonymous with health promotion and should be undertaken at a population level by health improvement practitioners, whereas others argued that its defining features were the empowering and therapeutic relationship between patient and general practitioner. Over the period of its evaluation, Keep Well expanded across additional geographical areas, new settings and increasingly diverse target populations selected because of their perceived vulnerability to CVD. Nevertheless, the evaluation team published 7 policy and practice papers, 3 working papers and a summary paper. Where relevant, these outputs are referenced in this document. The full set of reports from the national external evaluation is available at:

<http://www.healthscotland.com/scotlands-health/evaluation/programme/evaluation-%20KeepWell.aspx>

## 4 Evaluation findings

This section synthesises all evaluation relevant to the Keep Well programme in NHS Greater Glasgow & Clyde up to and including Wave 4, leading to commissioning of activities during the transition year 2011-12 and subsequent planning for mainstreaming of the programme for April 2012.

### 4.1 Summative evaluation

#### 4.1.1 Effectiveness

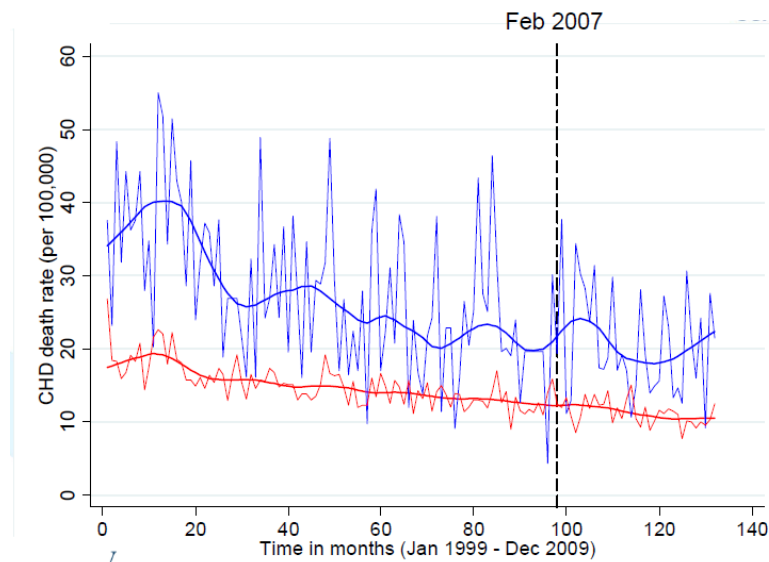
##### *Effectiveness 1: Population level impact on CVD outcomes*

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**Methodology:** Policymakers had decided at the outset against empirically testing the effect of Keep Well on healthy life expectancy. As a proxy, Lewsey and Fischbacher have used routine data to estimate the impact of Keep Well on morbidity and mortality outcomes across Scotland.<sup>19</sup> They obtained GRO data on coronary heart disease (CHD) and stroke deaths for the period January 1999 to December 2009. Monthly rates were estimated using population estimates for each year from the Community Health Index (CHI). Descriptive time series analysis of observed mortality rates in Keep Well were compared with all other Scottish practices, adjusted for seasonality and deprivation, over an extended time period before and after implementation of Keep Well Wave 1 in February 2007.

**Results:** Although these preliminary data do not allow definitive statements about the effectiveness of Keep well at a population level, CHD mortality is declining at a similar rate in Keep Well and non-Keep Well practices. There has been no evidence of a step change in the slope of this decline occurring at the time of Keep Well introduction.

**Figure 4: CHD mortality in Keep Well and non Keep Well practices in Scotland<sup>19</sup>**



**Implications:** Further refinements of this work are planned as part of the ongoing evaluation of the mainstreamed Keep Well model, including a more refined definition of the denominator and identification of a quasi-control group of practices with similar demographic and socio-economic features. However, given the increasing diversity of target populations, interventions and delivery settings across Scotland, the appropriateness of evaluating Keep Well as a single, Scotland-wide programme is increasingly questionable.

## ***Effectiveness 2: Effectiveness of Keep Well on intermediate outcomes***

### **a) Second reviews**

**Methodology:** In August 2008, Wave 1 practices were commissioned to undertake second reviews of patients who had originally attended a Keep Well health check at least 12 months previously. The main aim of this process was to evaluate the extent of any changes in risk factors and risk score between reviews. A total of 4,282 patients attended second reviews (2,184 in East Glasgow and 2,098 in North Glasgow). Data collected at first and second reviews were compared, with respect to:

- Completeness of data recording
- 3 biological measures
  - systolic pressure (SBP)
  - plasma total cholesterol
  - body mass index (BMI)
- Readiness to change body weight
- Current smoking status and readiness to change behaviour

**Results: i) Patient characteristics:** The subgroup who attended second reviews were significantly older than Wave 1 attendees as a whole, even taking into account the fact that the second reviews were conducted on average 18 months after the initial attendance (Table 3). Women and residents of more deprived neighbourhoods also accounted for a higher proportion of the second review subgroup, compared with Wave 1 attendees as a whole.

**Table 3: Characteristics of patients who underwent second reviews compared with all Keep Well Wave 1 attendees**

	All Wave 1 attendees	2 <sup>nd</sup> Review attendees
<b>Gender</b>		
Male	6,606 (47.9%)	1,959 (45.7%)
Female	7,178 (52.1%)	2,323 (54.3%)
<b>Median age at review (Interquartile range)</b>	52 yrs (11)	57 yrs (10)
<b>Age group</b>		
<50	2,967 (21.5%)	544 (12.7%)
50-54	3,666 (26.6%)	1,127 (26.3%)
55-59	2,875 (20.9%)	1,042 (24.3%)
60+	4,276 (31.0%)	1,569 (37.0%)
<b>Median SIMD Score (Interquartile range)</b>	535 (1157)	401 (926)
<b>SIMD Quintile</b>		
SIMD 1 (Most deprived)	10,271 (74.5%)	3,323 (77.6%)
SIMD 2	1,222 (8.9%)	324 (7.6%)
SIMD 3	797 (5.8%)	207 (4.8%)
SIMD 4	846 (6.1%)	279 (6.5%)
SIMD 5 (Least deprived)	553 (4.0%)	123 (2.9%)
Unknown	95 (0.7%)	26 (0.6%)

**ii) Completeness of data recording:** Data completeness improved between the two visits and was higher for biomedical measurements than for health related behaviours (Table 4).

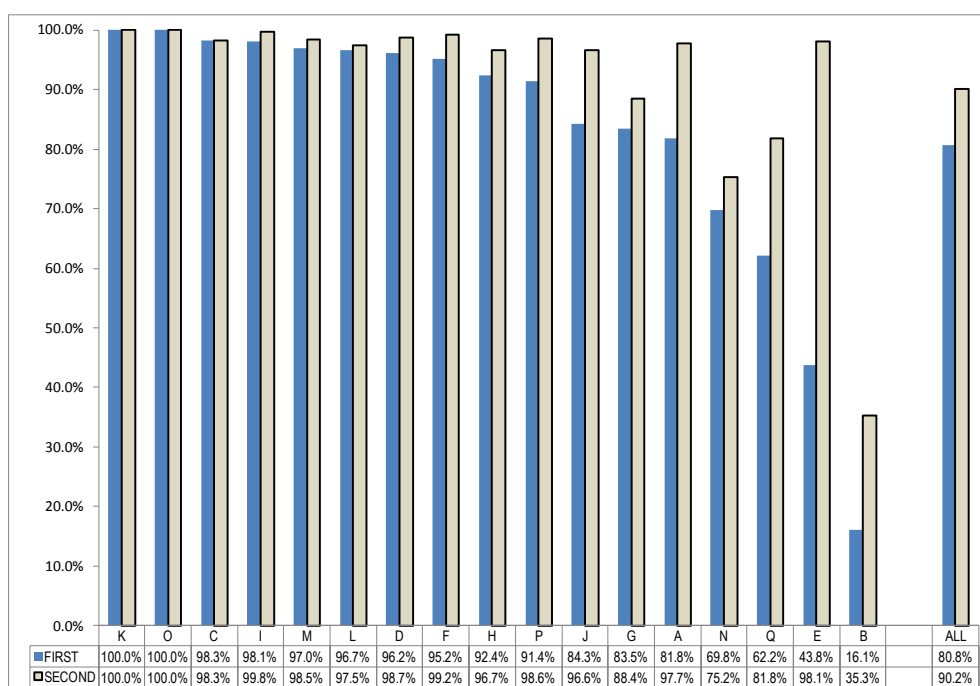
**Table 4: Data recording completeness comparing first and second reviews**

	First review Number of patients in whom recorded (%)	Second review Number of patients in whom recorded (%)
BMI recorded	3458 (80.8%)	3862 (90.2%)
Blood Pressure recorded	4240 (99.1%)	4230 (98.8%)
Cholesterol recorded	4282 (100%)	4215 (98.4%)
Smoking status	4204 (98.2%)	4220 (98.6%)
Smoking stage of change	3981 (93.6%)	4148 (96.9%)
Weight stage of change	3435 (80.2%)	3294 (76.9%)
Physical activity stage of change	3978 (92.9%)	3089 (69.8%)

However, these overall patterns masked considerable variations between individual practices, as exemplified by blood pressure measurement (Figure 5).



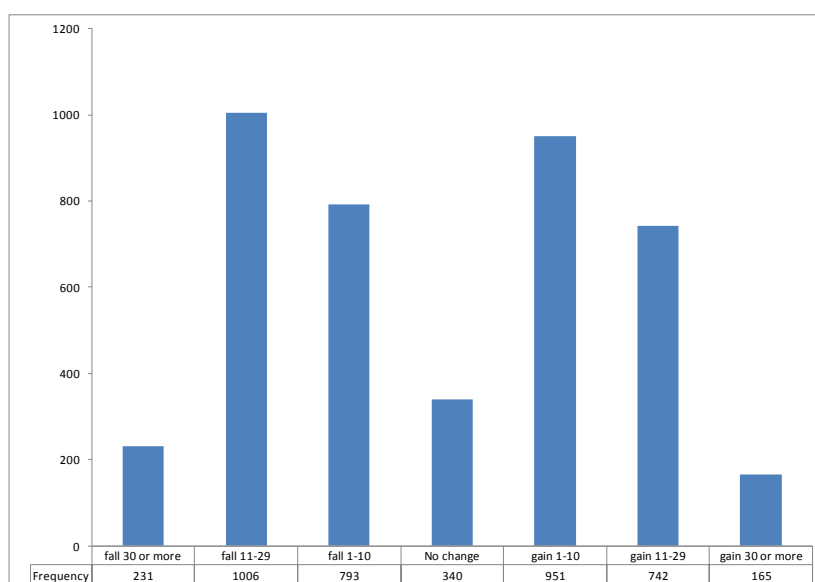
**Figure 5: Completeness of blood pressure recording at baseline and second KW reviews in North and East Glasgow**



**iii) Change from first to second reviews:**

**SBP:** Of the 4,228 patients with valid BP recordings at both baseline and follow up visits, a fall in BP was documented in 2,030 (48%), a rise in 1,858 (44%) and no change in 340 (8%) (Figure 6).

**Figure 6: Change in SBP (mmHg) between 1st and 2nd KW reviews (N=4228)**



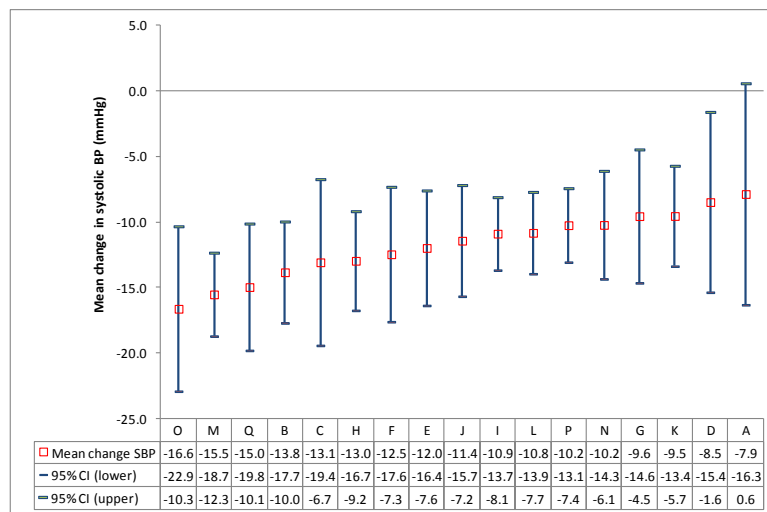
1,256 (29%) patients had baseline systolic BP measurements of 140 mmHg or more. Virtually all (1252; 99.7%) of this subgroup had repeat measurements at their second review, with a mean overall fall in systolic BP measurement of 12.1 mmHg (95% ci - 13.1 to -11.1mmHg), as shown in Table 5.

**Table 5: Systolic BP (SBP) change from baseline review, by baseline status**

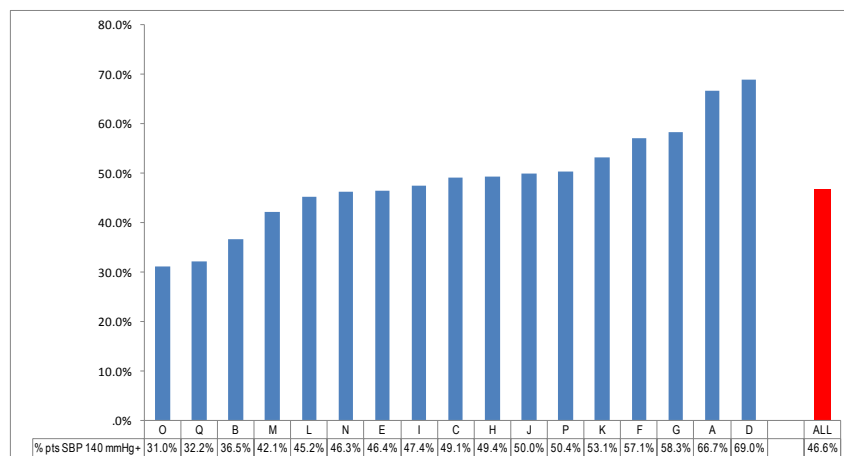
SBP at baseline (mmHg)	N (%)	Number (%) with valid BP measurements at both baseline and review	Mean change in systolic BP (mmHg) (95% CI) from baseline measurement
140 or more	1256 (29.3%)	1252 (99.7%)	-12.1 (-13.1 to -11.1)
<140mmHg	2983 (69.7%)	2975 (99.7%)	+3.6 (+3.1 to +4.1)
Not available	43 (1.0%)	-	-
<b>TOTAL</b>	<b>4282 (100%)</b>	<b>4228 (98.7%)</b>	<b>-1.0 (-1.6 to -0.5)</b>

Although there was a significant decline in systolic BP overall among patients with higher baseline systolic BP measurements (140 mmHg or more), around half of this patient subgroup still had a systolic BP of 140 mmHg or more at review, and there was substantial variability across practices in the magnitude of the observed change (Figure 7) and in the proportion of patients whose systolic BP remained elevated at the second visit (Figure 8).

**Figure 7: Mean change in SBP (mmHg) between 1st and 2nd KW reviews in subgroup with baseline SBP  $\geq$  140mmHg, by practice (N=1252)**



**Figure 8: % pts with baseline SBP  $\geq$  140mmHg SBP at baseline who still have SBP  $\geq$  140mmHg SBP at review (N=1252)**



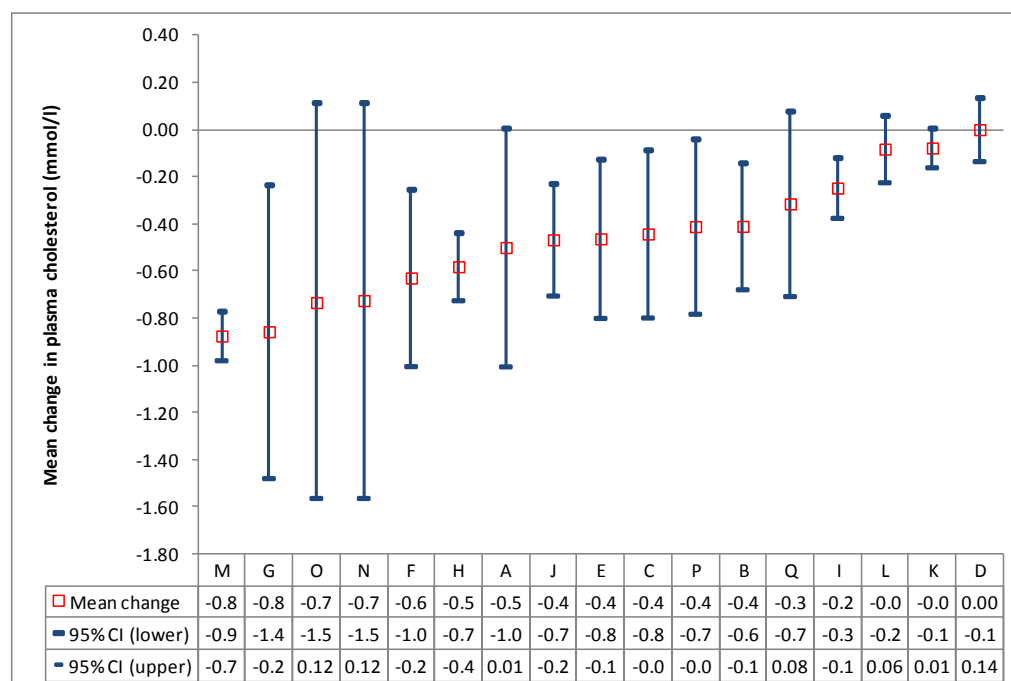
**Plasma total cholesterol:** 4,214 (62%) patients had valid cholesterol values at both baseline and follow-up; in this subgroup, the average change in total plasma cholesterol from the first to second review was -0.07 (-0.10 to -0.04). The greatest change occurred in those at the extreme ends of the range, which may simply represent regression to the mean, a statistical feature of extreme values, which generally tend to move closer to the average on a second measurement, and vice versa (Table 6).

**Table 6: Change in plasma cholesterol from baseline review, by baseline status**

Total cholesterol at baseline (mmol/l)	N (%)	Number (%) with valid plasma cholesterol measurements at both baseline and review	Mean change in plasma cholesterol (95% CI) from baseline measurement
<4	415 (9.7%)	410 (98.8%)	+0.69 (+0.60 to +0.79)
4-5.9	2659 (62.1%)	2611 (98.2%)	+0.05 (+0.01 to +0.09)
>6.0	1208 (28.2%)	1193 (98.8%)	-0.59 (-0.65 to -0.53)
Not available	-	-	-
<b>TOTAL</b>	<b>4282 (100%)</b>	<b>68 (1.59%)</b>	<b>-0.07 (-0.10 to -0.04)</b>

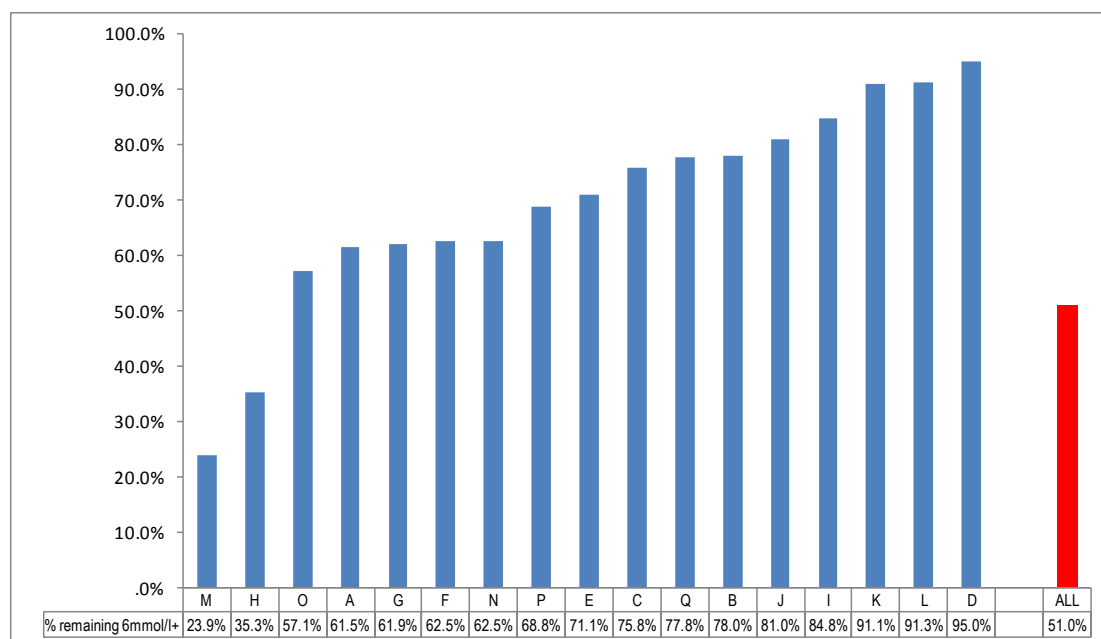
However, the overall decline in plasma cholesterol values among patients with high baseline levels masked extensive heterogeneity across the programme in the extent to which a significant shift occurred in post-baseline values (Figure 9).

**Figure 9: Mean change in plasma cholesterol in patients with high ( $\geq 6$ mmol/l) baseline cholesterol values, by practice (n=1193)**



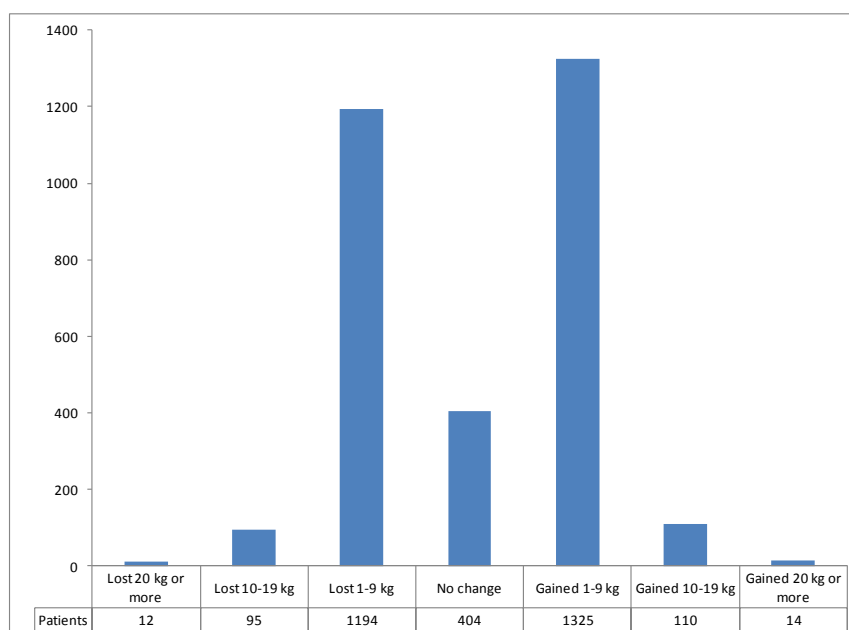
Of the 1208 patients with a baseline plasma cholesterol value greater than 6mmol/l, 609 (51%) remained hypercholesterolaemic at their second review, although there was again considerable variation at practice level (Figure 10)

**Figure 10: % pts with high ( $\geq 6\text{mmol/l}$ ) baseline cholesterol values who still have plasma cholesterol  $\geq 6\text{mmol/l}$  at review (n=1193)**



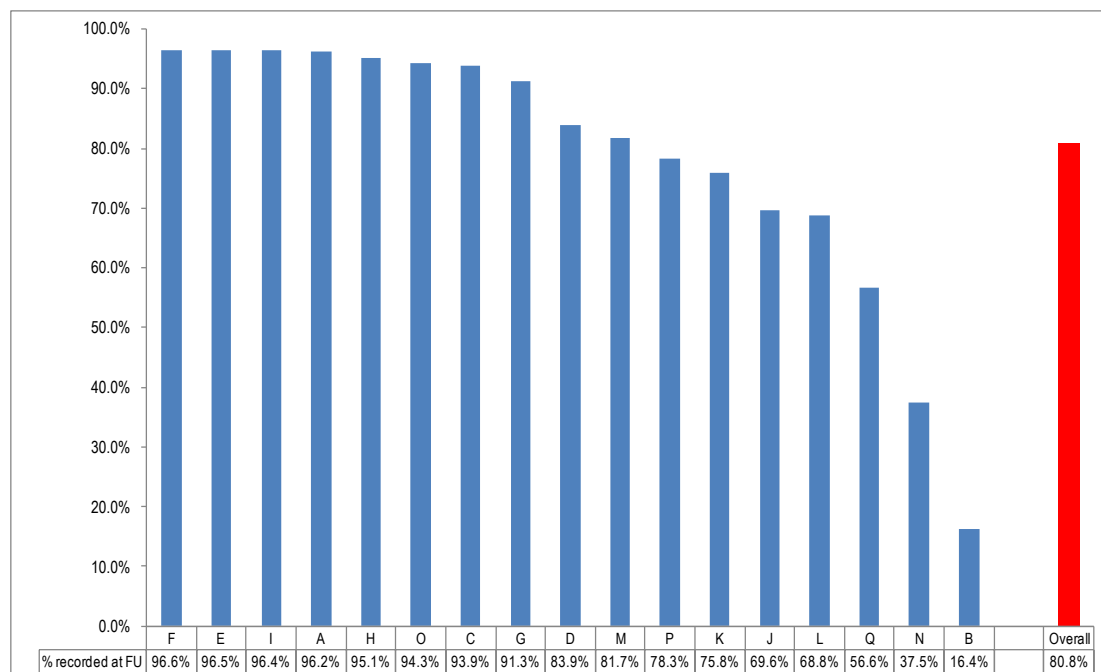
**Body mass index (BMI):** With respect to body weight, 3,154 (73.7%) had valid weight recordings at both baseline and follow-up and were thus evaluable for any change in body weight; in this subgroup, the average weight change from the first to second review was +0.26 kg (95% ci +0.07 to +0.45 kg). However, a substantial minority (1200; 41.2%) of patients did lose weight (Figure 11).

**Figure 11: Change in BMI from baseline review (n=3154)**



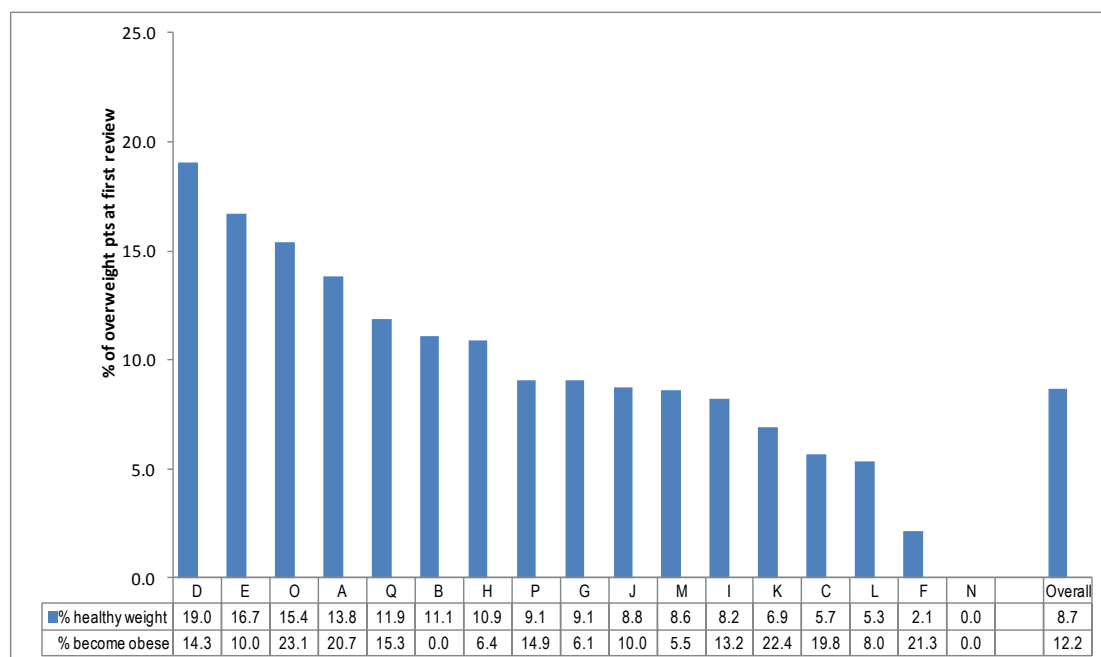
2,642 (61%) individuals were overweight or obese at baseline; 2135 (81%) of these had follow up weights, however this proportion varied from 16% to 97% across the different practices (Figure 12).

**Figure 12: Proportion (%) of overweight or obese patients at baseline who had follow-up weight recordings at review (n=2,642)**



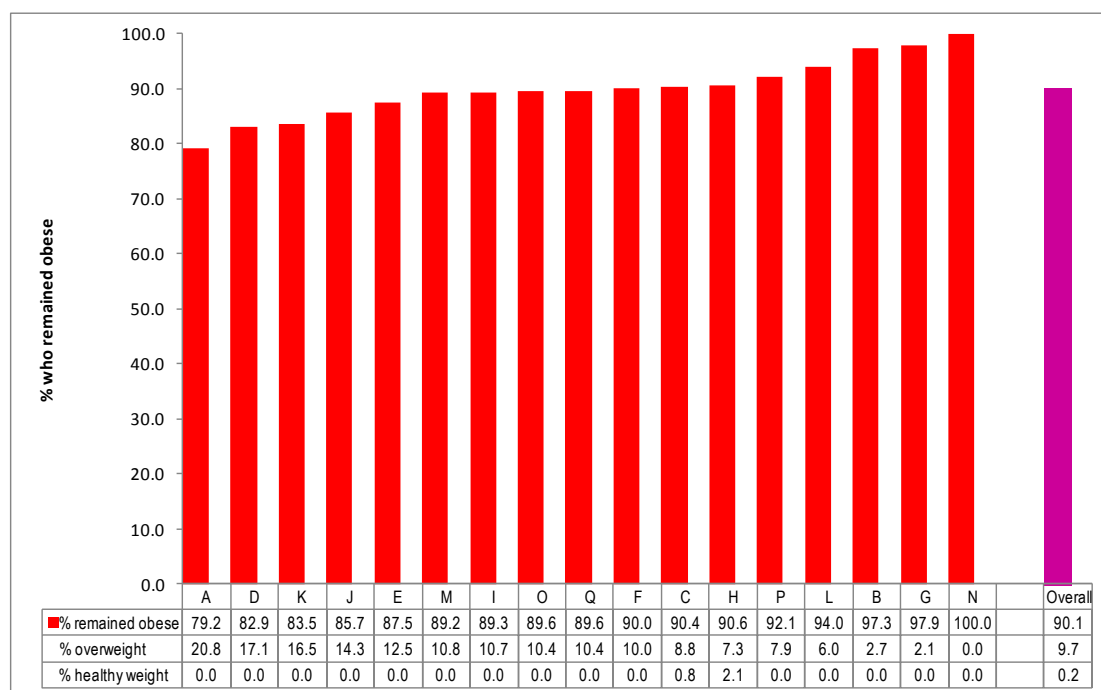
Of the 1,211 patients who were overweight at their first visit and had their weight recorded at follow up, 958 (79.1%) remained overweight and 148 (12.2%) became obese. However, 105 (8.7%) had a healthy body weight at review; the proportion of originally overweight patients who achieved a healthy weight varied substantially across practices, ranging 0 to 19% (Figure 13).

**Figure 13: Proportion (%) of overweight patients who changed BMI status at review, by practice (n=1211)**



Of the 1,430 patients who were obese at baseline with valid weight recordings at review, 1,289 (90.1%) remained obese, with less variation (range 79 to 100%) between practices. Overall, 138 (9.7%) became 'overweight' and three individuals (0.2%) had a healthy body weight at their second review (Figure 14).

**Figure 14: Proportion (%) of obese patients who remained obese at second review, by practice (n=1430)**



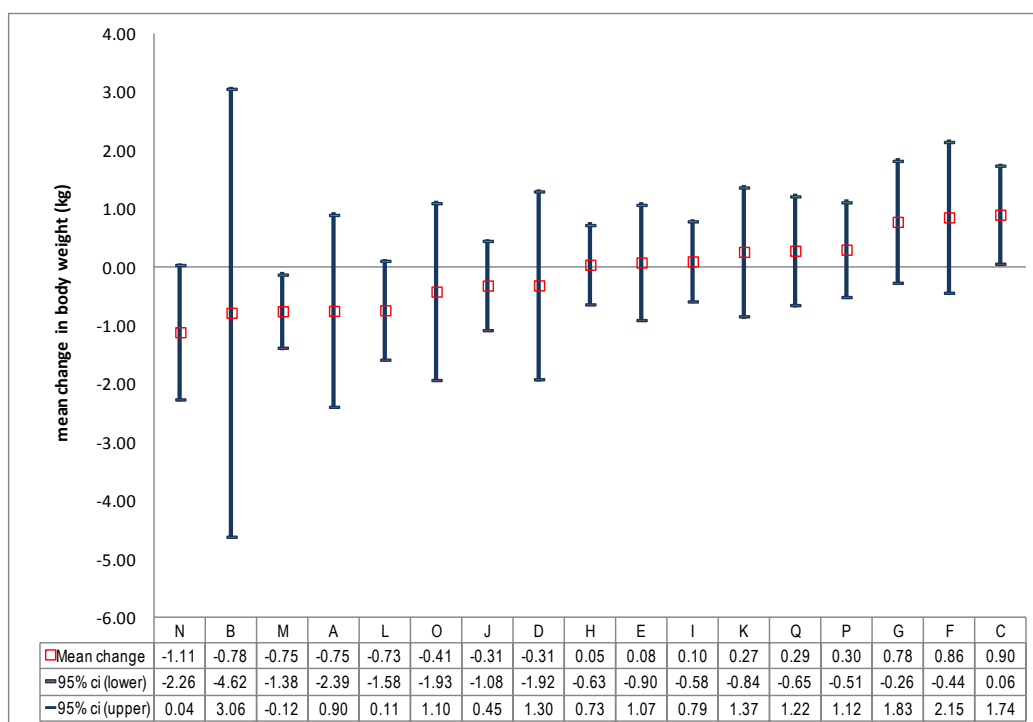
A small significant decline in body weight occurred among the obese subgroup, but an overall increase was documented at follow up in all other groups, including those classified as overweight at their first Keep Well consultation (Table 7).

**Table 7: Mean body weight change from baseline to second review in North and East Glasgow, by baseline BMI status (n=4282)**

Status at baseline	Status	Valid weights recorded at both baseline and review	Mean change in weight (kg) (95% CI)
Underweight	53 (1.2%)	49 (92.5%)	+0.55 (-0.89 to +1.99)
Normal weight	763 (17.8%)	635 (83.2%)	+0.8 (+0.45 to +1.15)
Overweight	1211 (28.3%)	1025 (84.6%)	+0.59 (+0.29 to +0.88)
Obese	1431 (33.4%)	1110 (77.6%)	-0.53 (-0.89 to -0.17)
BMI not available	824 (19.2%)	335 (40.7%)	-
<b>TOTAL</b>	<b>4282 (100%)</b>	<b>3154 (73.7%)</b>	<b>+0.26 kg (+0.07 to +0.45 kg)</b>

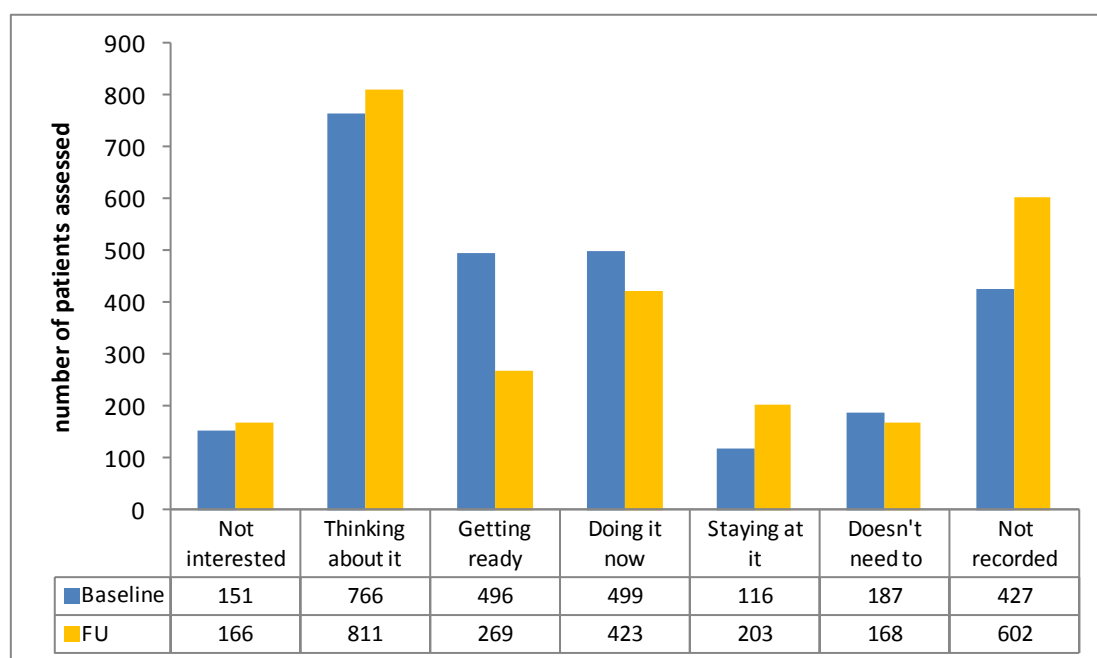


**Figure 15: Mean change in body weight in patients who were overweight or obese at baseline (n=2,642)**



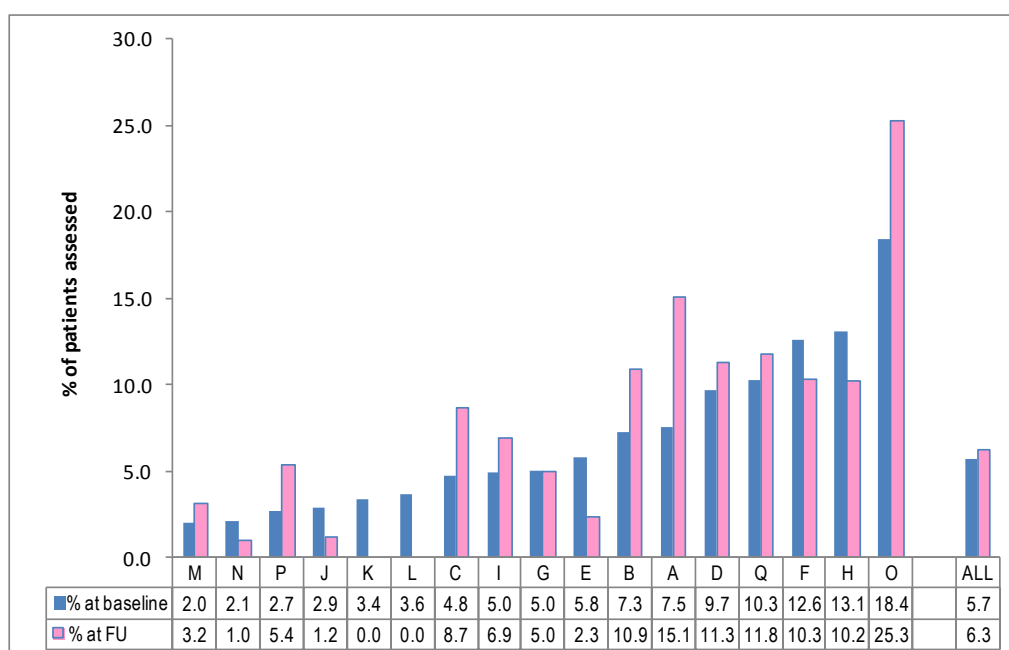
Readiness to change body weight: Stage of change among patients who were overweight or obese at baseline no overall change at the review visit (Figure 14).

**Figure 16: Readiness to change body weight at baseline and follow-up reviews in overweight or obese patients (n=2642)**



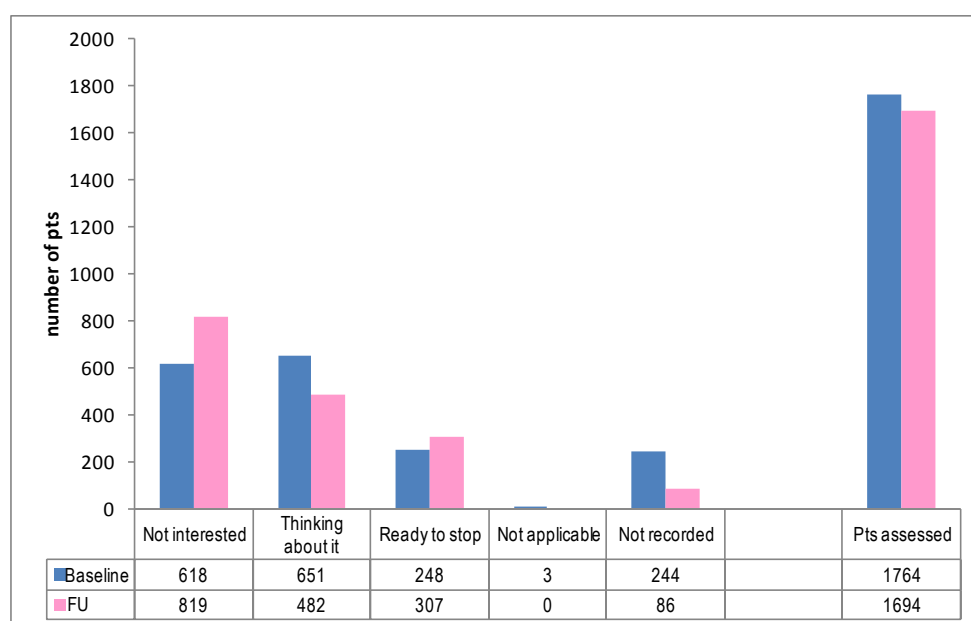
In keeping with the biological measurements, practices varied enormously in the proportion of their patients assessed as 'not interested in change' (Figure 15).

**Figure 17: Proportion of overweight & obese patients assessed as 'not interested in change' with respect to body weight, by practice (n=2533)**



Smoking status and readiness to change: findings with respect to smoking showed a more mixed picture. As baseline, 1,764 (41.2%) patients were current smokers. At the review appointment, this had fallen slightly to 1,694 (39.6%). However, among those who remained smokers at follow up, fewer were actively engaged in trying to stop (Figure 18).

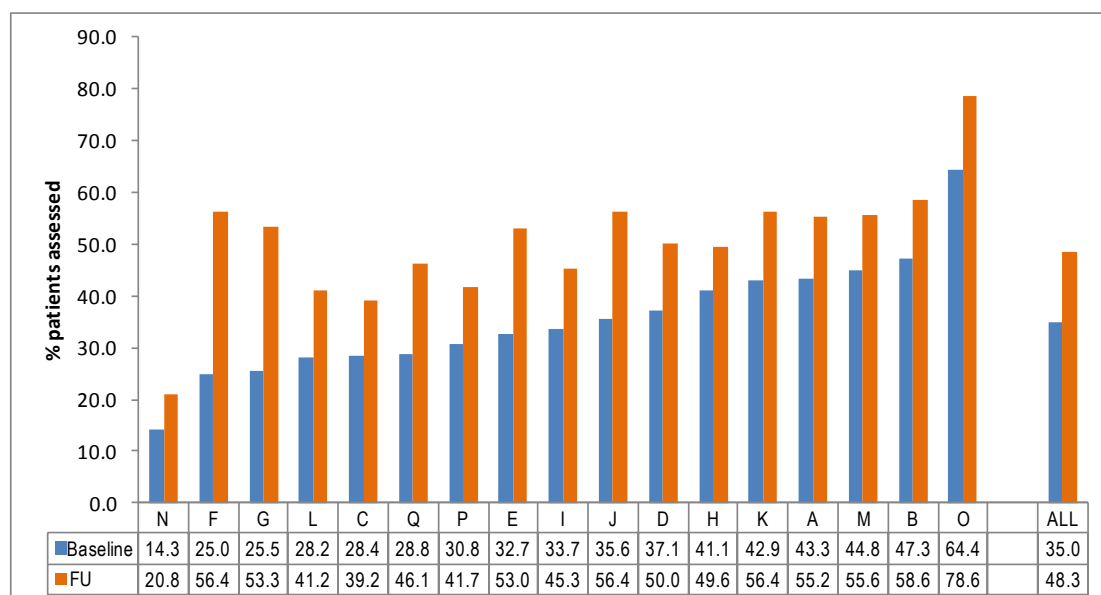
**Figure 18: Readiness to change smoking behaviour at baseline and second reviews in smokers at 1<sup>st</sup> visit (n=1764)**



There was considerable variation between practices in the proportion of current smokers assessed as 'not ready to change' at baseline; this ranged from 14 to 64%,

however in almost all cases this proportion had risen among those who continued to smoke at the time of their follow up review (Figure 19).

**Figure 19: Proportion of current smokers documented as 'not ready to quit' at baseline and second reviews, by practice (n=2642)**



**Implications:** There is evidence of considerable need in the Keep Well population, with a high prevalence of preventable risk factors for future chronic disease. Small but significant declines were observed in systolic blood pressure, total cholesterol and smoking prevalence between the baseline and review appointments, in contrast to BMI, which showed an overall increase. However as some of these observations may be explained by regression to the mean, they should be interpreted with caution in the absence of a control population (ie a comparison group not exposed to Keep Well).

There was evidence of a favourable shift towards readiness to change for some behaviours (eg body weight), but not for others (eg smoking). Finally, there were considerable variations between practices, both in completeness of recording of behavioural indicators and in the proportion of patients assessed as 'not ready to change', which suggests varying levels of engagement with the behavioural change agenda.

#### **b) Case finding for clinical conditions associated with CVD**

Part of the original rationale for Keep Well was its role in detection of previously undiagnosed clinical conditions, including coronary heart disease, diabetes and hypertension, in the target population. In order to estimate the impact of Keep Well on case finding for these conditions, the rate of new 'disease' registrations were compared between Keep Well and non Keep Well practices, spanning a two year period before and after introduction of Keep Well in each of the Wave 1 and 2 primary prevention sites (North, East and Southwest Glasgow), adjusted for the starting date at individual practice level.

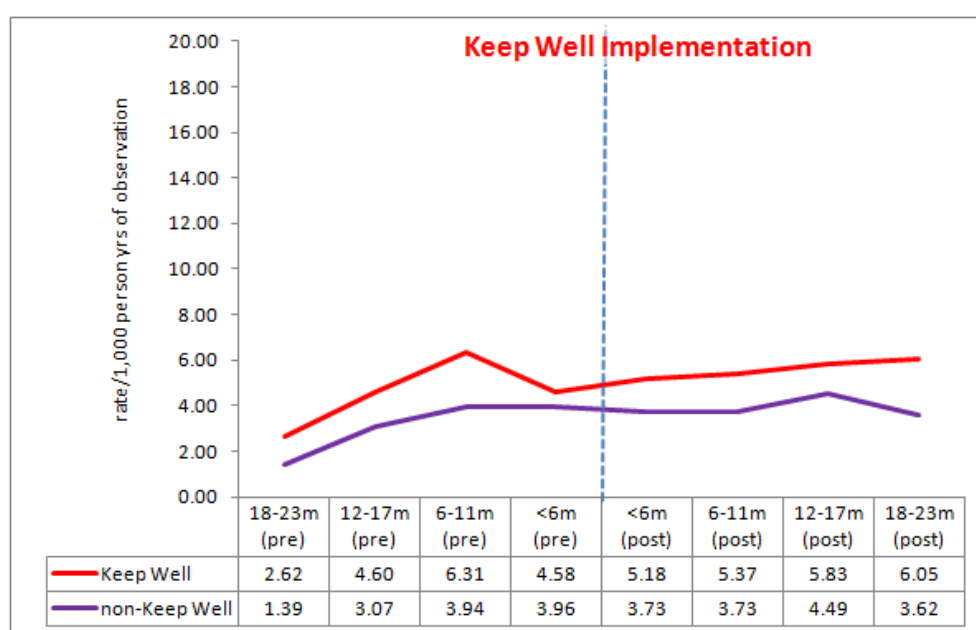
**Methodology:** New diagnoses of coronary heart disease, diabetes and hypertension were obtained from NHS GG&C disease registers and analysed at individual practice level, using the criteria for inclusion in the relevant QOF disease register as a case

definition for each condition. Data were collected over eight consecutive time periods, spanning a total period of four years (two years before and two years after each individual practice's Keep Well start date). ISD records of historical practice population structures were used to estimate age-specific population estimates for each practice for each of these time periods.<sup>19</sup> Incidence estimates were calculated relative to the Keep Well start date in each practice in the Wave 1 and 2 primary prevention sites, thus adjusting for variations in practice start dates. Incidence estimates for non-Keep Well practices in these CH(C)Ps were defined relative to the start point of Keep Well for each host CH(C)P (North, East or Southwest Glasgow). The overall rate of new coronary heart disease, diabetes and hypertension diagnoses per 1,000 patient years of observation was compared in Keep Well vs non Keep Well practices and rate ratios calculated for each timepoint.

**Results:** Results are presented separately for new diagnoses of coronary heart disease, diabetes and hypertension.

New diagnoses of coronary heart disease: There were significantly higher rates of new registrations in Keep Well compared with non Keep Well practices, both in the population as a whole and in those aged 45-64 years, which was sustained over the entire time period of the analysis (Figure 20, Table 8). Trend analysis of the rate ratio between KW and non-KW practices among the 45-64 year old subgroup showed minor fluctuations, but no evidence of a step change associated with introduction of Keep Well (Figure 20).

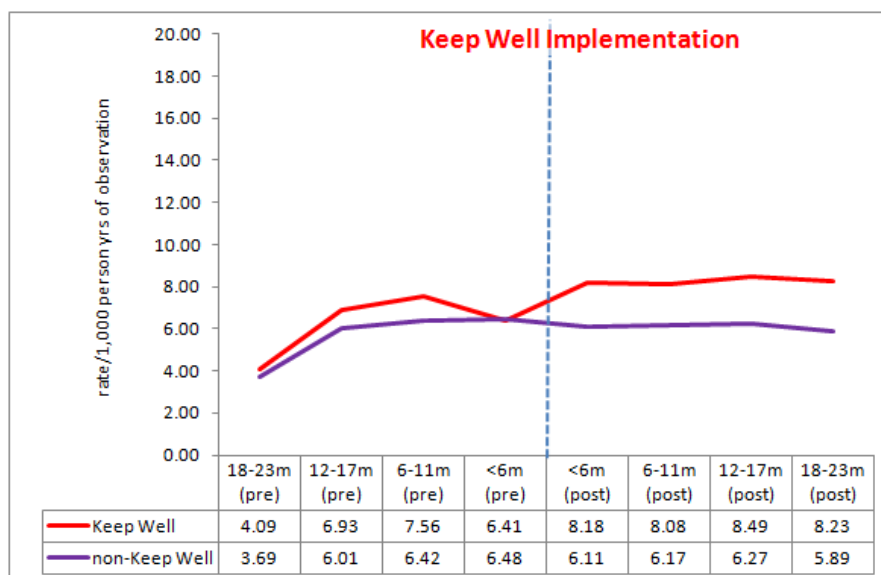
**Figure 20: Temporal trends in new CHD diagnoses in patients aged 45-64 years, adjusting for differential individual practice KW start dates**



New diagnoses of diabetes: The rate of new diabetes registrations was broadly similar in Keep Well and non Keep Well practices prior to Keep Well implementation, both in the population as a whole and in those aged 45-64 years, however there was clearer evidence of a step change in diagnosis rate associated with introduction of Keep Well, as evidenced by the diverging trajectory in Figure 21, a step change in rate ratio between KW and non-KW practices among the 45-64 year old subgroup and non-overlapping 95% confidence intervals for rate estimates in Keep Well

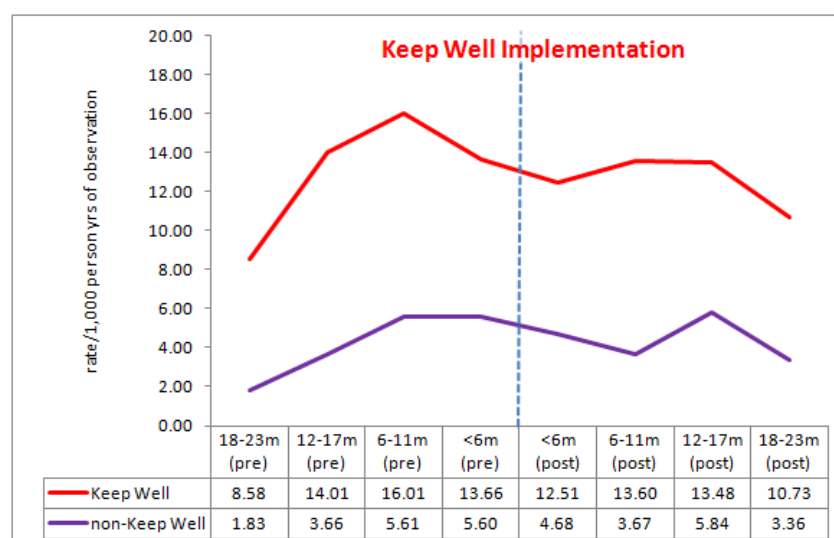
compared both with non-Keep Well practices and also with Keep Well practices pre-implementation of the programme (Figures 21 & 23; Table 8).

**Figure 21: Temporal trends in new diabetes diagnoses in patients aged 45-64 years, adjusting for differential individual practice KW start dates**



New diagnoses of hypertension: Although rates of hypertension diagnoses were consistently higher in Keep Well practices at all timepoints, their trajectory was very similar to non Keep Well practices, both in the population as a whole and in those aged 45-64 years, with evidence of a steep rise in new registrations two years prior to implementation of Keep Well, which may have been the result of increased case ascertainment in relation to QOF implementation, as this period was around 2004/5 for the majority of practices in this study population (Figure 22; Table 8). Trend analysis of the rate ratio between KW and non-KW practices among the 45-64 year old subgroup showed minor fluctuations, but no evidence of a step change associated with introduction of Keep Well (Figure 23).

**Figure 22: Temporal trends in new hypertension diagnoses in patients aged 45-64 years, adjusting for differential individual practice KW start dates**



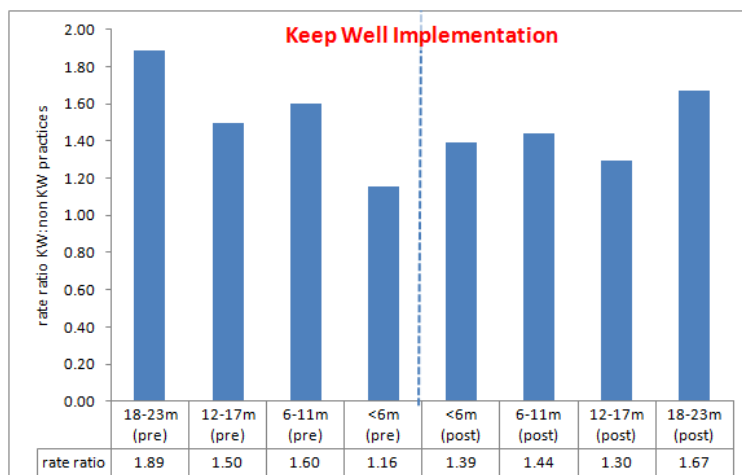
**Table 8: Crude incidence rate of new CHD, diabetes and hypertension diagnoses in Keep Well Wave 1 & 2**

Period	Crude rate of new diagnoses/1,000 person years (95% ci)			
	i) All ages		ii) Age 45-64	
	New registrations of CHD			
	Keep Well	Non-Keep Well	Keep Well	Non-Keep Well
18-23m (pre-implementation)	1.38 (1.17 to 1.63)	0.64 (0.52 to 0.79)	2.62 (2.06 to 3.33)	1.39 (1.03 to 1.86)
12-17m (pre-implementation)	2.07 (1.81 to 2.37)	1.51 (1.32 to 1.72)	4.60 (3.83 to 5.53)	3.07 (2.52 to 3.73)
6-11m (pre-implementation)	2.52 (2.23 to 2.85)	1.92 (1.70 to 2.16)	6.31 (5.39 to 7.38)	3.94 (3.31 to 4.68)
<6m (pre-implementation)	2.28 (2.01 to 2.59)	1.85 (1.64 to 2.09)	4.58 (3.82 to 5.49)	3.96 (3.33 to 4.70)
<6m (post-implementation)	2.40 (2.12 to 2.72)	1.85 (1.63 to 2.09)	5.18 (4.37 to 6.14)	3.73 (3.13 to 4.44)
6-11m (post-implementation)	2.56 (2.24 to 2.93)	1.90 (1.69 to 2.15)	5.37 (4.47 to 6.46)	3.73 (3.13 to 4.44)
12-17m (post-implementation)	2.30 (1.93 to 2.73)	2.09 (1.87 to 2.34)	5.83 (4.70 to 7.22)	4.49 (3.84 to 5.26)
18-23m (post-implementation)	2.74 (2.33 to 3.22)	1.70 (1.49 to 1.92)	6.05 (4.83 to 7.58)	3.62 (3.04 to 4.31)
	New registrations of diabetes			
	Keep Well	Non-Keep Well	Keep Well	Non-Keep Well
18-23m (pre-implementation)	2.53 (2.24 to 2.85)	1.56 (1.37 to 1.79)	4.09 (3.37 to 4.96)	3.69 (3.08 to 4.42)
12-17m (pre-implementation)	3.64 (3.29 to 4.03)	3.18 (2.90 to 3.50)	6.93 (5.96 to 8.05)	6.01 (5.23 to 6.92)
6-11m (pre-implementation)	3.80 (3.45 to 4.20)	3.31 (3.03 to 3.63)	7.56 (6.55 to 8.72)	6.42 (5.60 to 7.35)
<6m (pre-implementation)	3.16 (2.84 to 3.52)	3.04 (2.76 to 3.34)	6.41 (5.49 to 7.48)	6.48 (5.67 to 7.41)
<6m (post-implementation)	3.85 (3.49 to 4.25)	3.19 (2.91 to 3.50)	8.18 (7.15 to 9.36)	6.11 (5.33 to 7.01)
6-11m (post-implementation)	3.69 (3.30 to 4.13)	3.06 (2.78 to 3.36)	8.08 (6.96 to 9.39)	6.17 (5.39 to 7.07)
12-17m (post-implementation)	4.67 (4.14 to 5.27)	3.24 (2.95 to 3.55)	8.49 (7.11 to 10.14)	6.27 (5.49 to 7.17)
18-23m (post-implementation)	4.05 (3.54 to 4.62)	2.81 (2.55 to 3.10)	8.23 (6.78 to 9.99)	5.89 (5.14 to 6.76)
	New registrations of hypertension			
	Keep Well	Non-Keep Well	Keep Well	Non-Keep Well
18-23m (pre-implementation)	3.09 (2.76 to 3.45)	0.99 (0.84 to 1.17)	8.58 (7.51 to 9.80)	1.83 (1.42 to 2.36)
12-17m (pre-implementation)	4.68 (4.28 to 5.12)	1.87 (1.65 to 2.11)	14.01 (12.61 to 15.57)	3.66 (3.05 to 4.38)
6-11m (pre-implementation)	5.42 (4.99 to 5.89)	2.28 (2.04 to 2.54)	16.01 (14.52 to 17.66)	5.61 (4.85 to 6.49)
<6m (pre-implementation)	4.97 (4.55 to 5.42)	2.56 (2.31 to 2.84)	13.66 (12.29 to 15.17)	5.60 (4.85 to 6.47)
<6m (post-implementation)	4.30 (3.92 to 4.72)	2.27 (2.04 to 2.54)	12.51 (11.21 to 13.95)	4.68 (4.00 to 5.47)
6-11m (post-implementation)	4.43 (3.99 to 4.90)	1.87 (1.66 to 2.12)	13.60 (12.11 to 15.26)	3.67 (3.07 to 4.37)
12-17m (post-implementation)	4.47 (3.95 to 5.06)	3.02 (2.75 to 3.32)	13.48 (11.70 to 15.51)	5.84 (5.08 to 6.70)
18-23m (post-implementation)	3.88 (3.39 to 4.44)	1.67 (1.47 to 1.90)	10.73 (9.06 to 12.71)	3.36 (2.80 to 4.03)

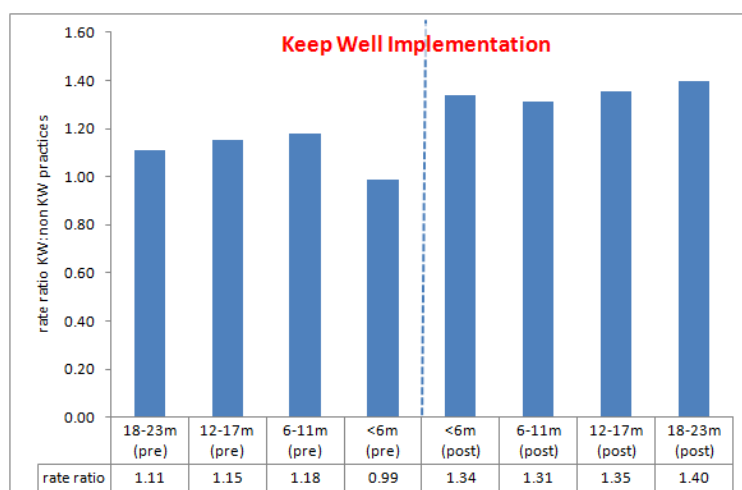


**Figure 23: Rate ratio (KW:non-KW practices) pre & post KW implementation**

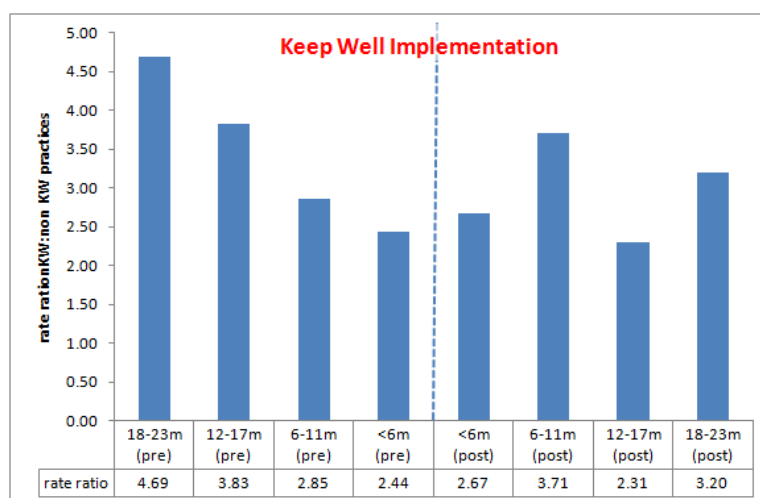
**i) Coronary Heart Disease (patients aged 45-64 years)**



**ii) Diabetes (patients aged 45-64 years)**

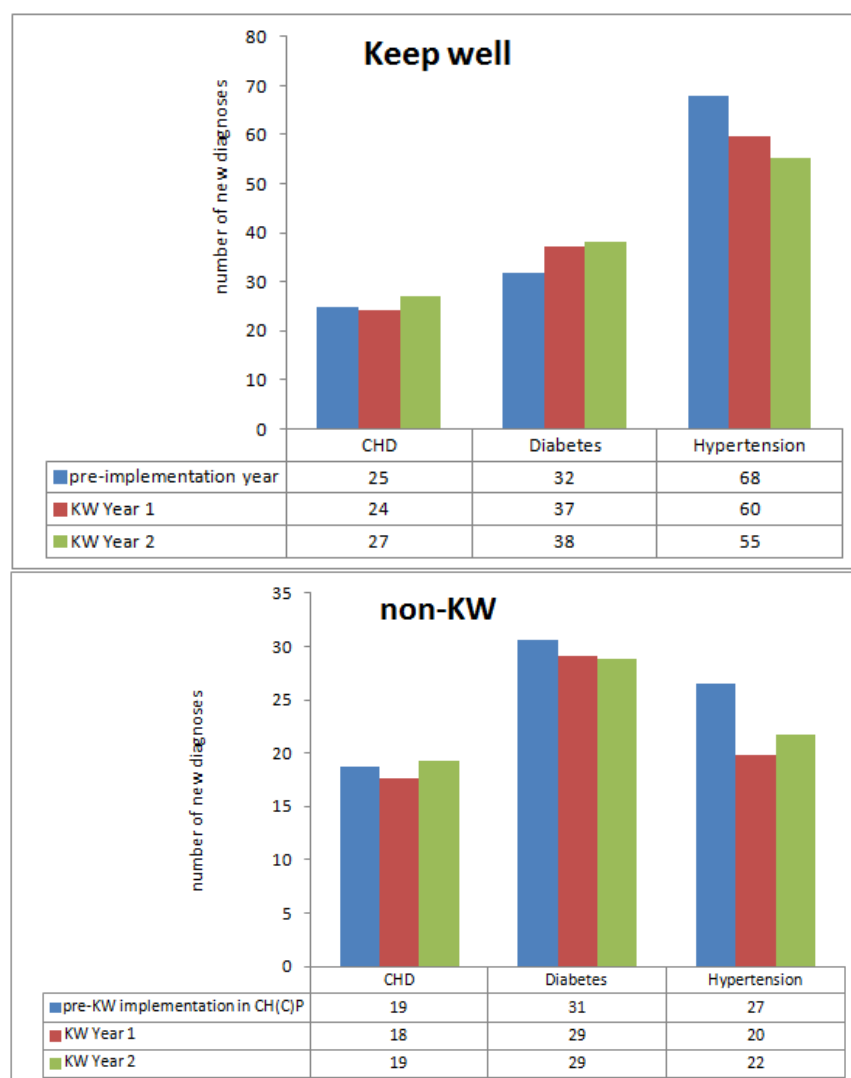


**ii) Hypertension (patients aged 45-64 years)**



**Implications:** This analysis uses routine data collected retrospectively from disease registers and therefore is subject to a number of potential biases. In particular, the date of first recording of CHD, diabetes or hypertension may not equate directly to the date of diagnosis, particularly in the earlier years of this time series, when practices were actively case finding for the purposes of QOF contracting. Nevertheless, this analysis suggests that the rate of new 'disease' registrations arising directly from Keep Well is likely to be modest in scale. Translated into a 'real world' context, using the respective average list size of 4,576 and 4,737 for Keep Well and non-Keep Well practices observed in this study population, around two additional CHD and six additional diabetic patients would be expected per year in typical Keep Well practices following programme implementation (Figure 24). The public health implications of these findings depend critically on the quality and clinical outcomes of subsequent chronic disease management. It is proposed that further longitudinal studies of patients diagnosed within the Keep Well programme and subsequently managed within the GMS Enhanced Services CDM programme are established as an evaluation priority.

**Figure 24: Modelled estimates of additional cases of CHD, diabetes and hypertension diagnosed in i) Keep Well and ii) non Keep Well practices**

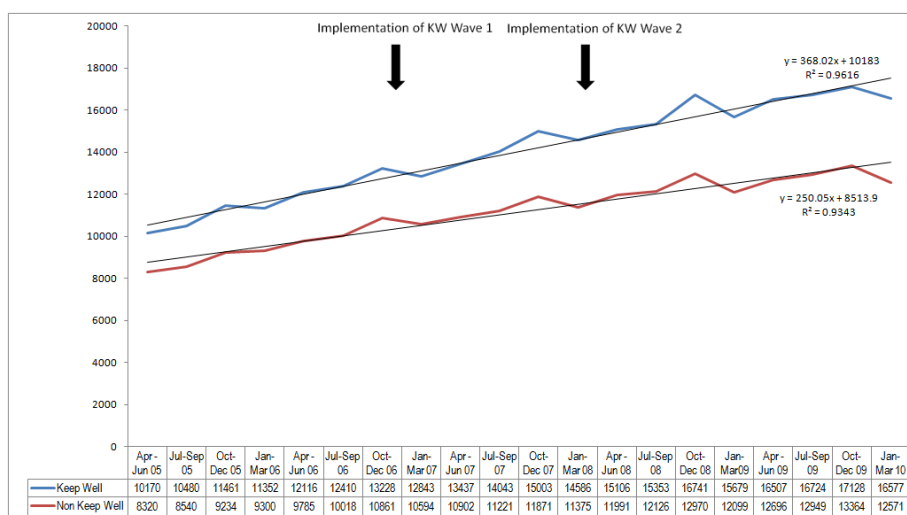


### c) Statin prescribing

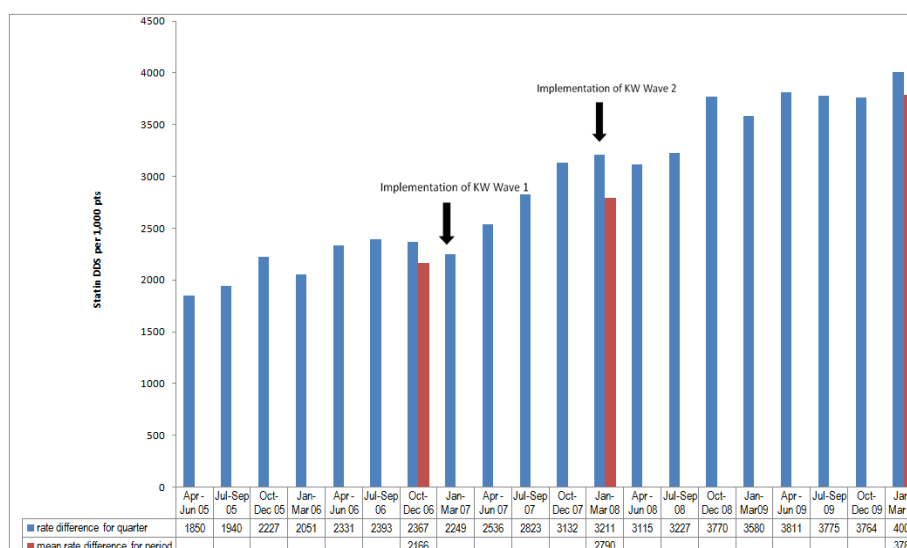
**Methodology:** Defined daily doses of all dispensed statin prescriptions were analysed over a five year period before and after introduction of Keep Well in each of the Wave 1 and 2 primary prevention sites and in West Glasgow CHCP, which contained one Keep Well practice, a branch surgery from one of North Glasgow's Keep Well practices.

**Results:** Statin prescribing increased progressively in all areas over the five year period 2005 to 2010. Practices destined to become Keep Well practices had higher rates of statin prescribing from the outset, reflecting their patient composition (Figure 25). However, this increase was steeper in Keep Well practices, with evidence of a 'step change' after implementation of Keep Well (Figure 26; Table 9). However, this was modest in scale, not universal and most pronounced in East Glasgow CHCP.

**Figure 25: Statin prescribing rate (DDDs/1,000 pts/quarter) in Wave 1 and 2 sites, Keep Well primary prevention vs non-Keep Well practices, 2005-2010**



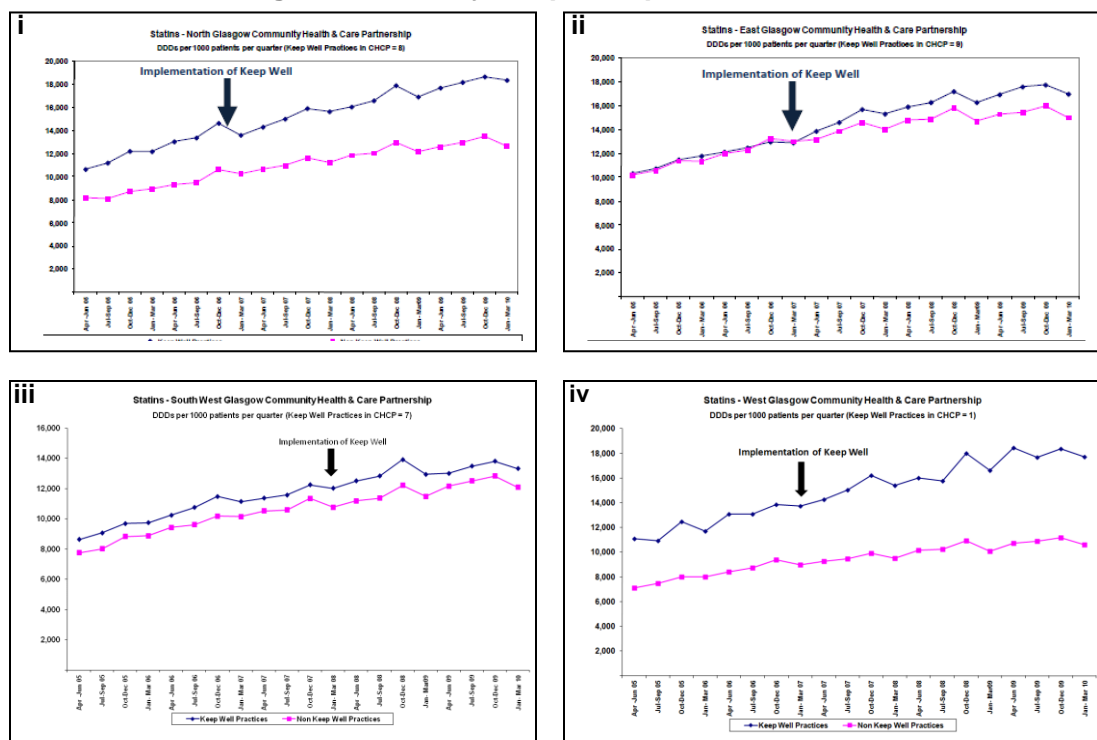
**Figure 26: Statin prescribing rate difference, KW vs non-KW practices**



**Table 9: Average statin prescribing increase (DDD) per quarter, by CHCP**

Rate of prescribing increase (DDDs) per quarter			
CHCP	Pre-Keep Well	EARLY KEEP WELL	LATE KEEP WELL
N, E & W Glasgow	April 2005-December 2006	January 2007-September 2008	October 2008-March 2010
North Glasgow (Keep Well practices)	+611.28	+466.23	+227.85
North Glasgow (non-KW practices)	+383.14	+284.57	+80.98
East Glasgow (Keep Well practices)	+431.58	+531.87	+113.16
East Glasgow (non-KW practices)	+466.77	+321.90	-0.0006
West Glasgow (Keep Well practice)	+468.87	+353.32	+85.07
West Glasgow (non-KW practices)	+346.01	+198.83	+48.29
SW Glasgow	April 2005-December 2007	January 2008-March 2010	N/A
SW Glasgow (Keep Well practices)	+337.26	+111.09	-
SW Glasgow (non-KW practices)	+332.61	+179.60	-

**Figure 27: Temporal trends in statin prescribing in i) North; ii) East; iii) SW and iv) West Glasgow CHCPs, by Keep Well practice status, 2005-2010.**



**Implications:** Keep Well Wave 1 was associated with a modest increase in statin prescribing, although differential patterns were dependent on context. In East Glasgow CHCP, characterised by extensive 'blanket' patterns of deprivation (and attendant cardiovascular risk), there was clearer evidence of a modest 'step change' in the rate of statin prescribing following introduction of the Keep Well programme.

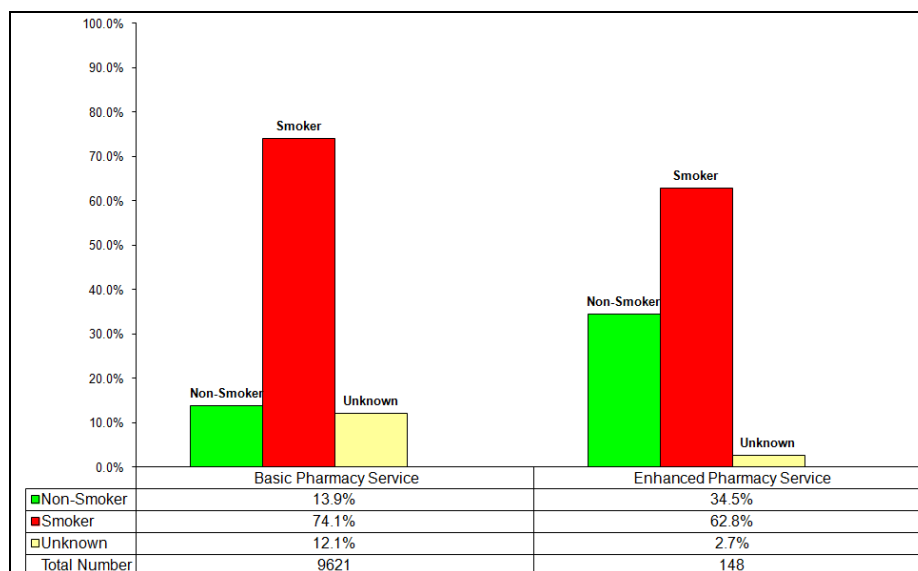
### Effectiveness 3: Effectiveness of Smoke Free Enhanced Services (SFES)

**Methodology:** A detailed evaluation of Keep Well's SFES was conducted in early 2010, on behalf of NHS GG&C's Smoking Planning & Implementation Group. The evaluation used mixed quantitative and qualitative methodology to characterise subpopulations eligible for SFES in NHS GG&C, determine whether the service needs of those subgroups differed between Keep Well and non Keep Well areas, evaluate the effectiveness of the SFES on smoking cessation outcomes and capture patient and professional perspectives of how the SFES achieved these outcomes.

**Results:** The characteristics of smokers eligible for SFES were similar in Keep Well and non-Keep Well CHCPs. In SIMD Quintile 1 (the most deprived) areas alone, there were almost twice as many non-Keep Well patients eligible for SFES services as Keep Well patients, with high overall levels of dependency (Table 10; overleaf).

The SFES achieved Week 4 quit rates of 34%, compared with 14% for the basic pharmacy model, an estimated increase in quit rate of 20.0% (95% ci 13.8 to 27.1%) (Figure 28).

**Figure 28: Smoking status at 4 weeks: SFES vs standard pharmacy service**



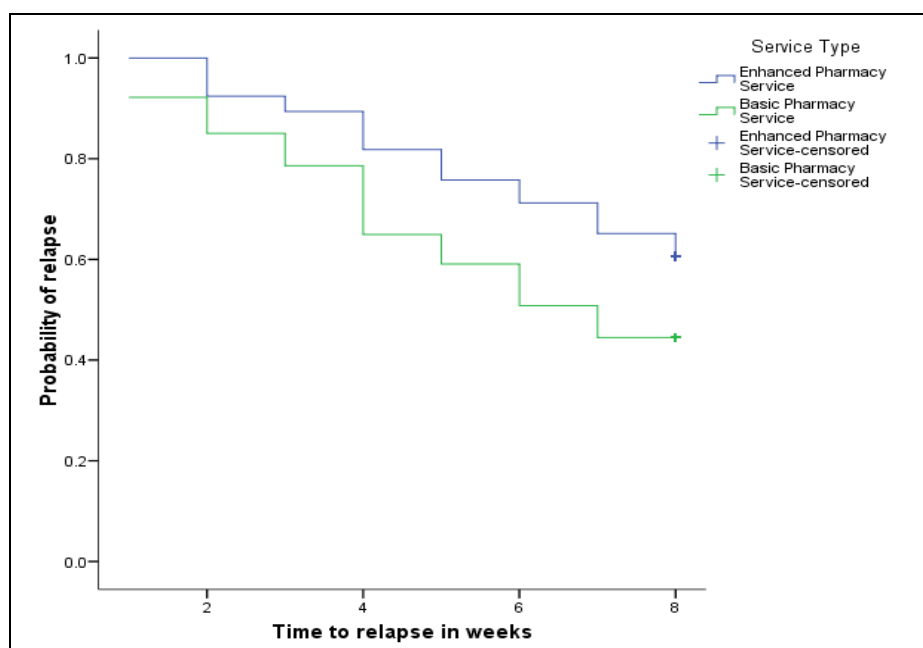
**Table 10: Patients aged 45-64 eligible for SFES in North, East & SW CHCPs, by Keep Well status (n=3522)**

	Keep Well target population (n=1054)	Other CHCP residents aged 45-64 (n=2468)	X <sup>2</sup> (p value)
<b>Gender</b>			
Male	378 (35.9%)	922 (37.4%)	0.40
Female	676 (64.1%)	1546 (62.6%)	
<b>Ethnicity</b>			
White	915 (86.8%)	2206 (89.4%)	0.03
Other	1 (0.1%)	7 (0.3%)	
Unknown	138 (13.1%)	255 (10.3%)	
<b>SIMD Quintile</b>			
1	919 (87.2%)	1601 (64.9%)	<0.005
2	36 (3.4%)	429 (17.4%)	
3	31 (2.9%)	183 (7.4%)	
4	30 (2.8%)	130 (5.3%)	
5	3 (0.3%)	25 (1.0%)	
Unknown	35 (3.3%)	100 (4.1%)	
<b>Employment Status</b>			
Paid Employment	292 (27.7%)	730 (29.6%)	<0.005
Unemployed	274 (26.0%)	434 (17.6%)	
Retired	37 (3.5%)	117 (4.7%)	
Other <sup>1</sup>	118 (31.6%)	250 (10.1%)	
Unknown	333 (31.6%)	937 (38.0%)	
<b>Total no of years as smoker</b>			
<10	9 (0.9%)	40 (1.6%)	0.30
10-19	59 (5.6%)	124 (5.0%)	
20+	940 (89.2%)	2191 (88.9%)	
Unknown	46 (4.4%)	113 (4.6%)	
<b>Average no of cigarettes smoked per day</b>			
20-29	563 (53.4%)	1404 (56.9%)	0.13
30-49	449 (42.6%)	992 (40.2%)	
50+	40 (3.8%)	70 (2.8%)	
Unknown	2 (0.2%)	2 (0.1%)	
<b>Nicotine Dependence</b>			
Low – Moderate	85 (8.1%)	231 (9.4%)	0.02
High	538 (51.0%)	1135 (46.0%)	
Unknown	431 (40.9%)	1102 (44.7%)	

<sup>1</sup> Other – Full-time student, Homemaker (parent or carer), Sick or Disabled.

Survival analysis in patients who remained non-smokers at Week 4 compared subsequent patterns of relapse in the SFES with basic pharmacy services, using withdrawal from SFES after Week 4 as a proxy for relapse. Of 1,295 non-smokers at Week 4 in the basic pharmacy service, only 576 (44.5%) were smoke free at eight weeks (Figure 29). A much higher proportion of SFES participants (40 of 66; 60.6%) remained abstinent at Week 12, with a highly significant difference in survival distribution between the two services (Log rank Chi-square 7.278, p=0.007).

**Figure 29: Estimated relapse probability: SFES vs standard pharmacy service**



The SFES was highly cost effective, with an estimated cost per quitter at £2008.76, compared with £2,588.64 for the standard pharmacy model (Table 11).

**Table 11: Costs per quitter at 12 weeks**

	Basic service	SFES
<b>Average cost/participant</b>	£152.73	£421.84
<b>Probability of remaining relapse free at 12 weeks</b>	0.059	0.21
<b>Cost per quitter</b>	£2,588.64	£2,008.76

Patients and professionals reported very positive experiences of SFES, with patients especially valuing the availability of combination therapy, enhanced personal support offered by the service and availability of weekly CO monitoring. Pharmacists were also able to apply their new motivational interviewing skills to other areas of their practice. Despite very busy working environments, SFES was viewed as relatively easy to assimilate into the current pharmacy workload.

**Implications:** The SFES model introduced by Keep Well was highly cost effective and generated many wider benefits for patients and staff. On the basis of this evaluation, the service was extended to support all NHS GG&C smokers who have relapsed during past NHS quit attempts.



## 4.1.2 Efficiency

### *Efficiency 1: Economic evaluation of Keep Well Wave 1*

**Methodology:** An economic evaluation of Keep Well was undertaken at an early stage in the Wave 1 pilot, based on the first 23 months of the programme. The evaluation was led by Kenny Lawson, a health economist based at Glasgow University, who developed a prognostic model to extrapolate short term changes in risk factors to life time impacts.<sup>20</sup> Benefits were defined as extended (quality adjusted) gains in life expectancy from the reduction of CVD risk factors. Costs were based on the original project costs of the early Wave 1 pilot.

**Results:** The estimated cost per QALY for the Keep Well intervention, as operated within Glasgow North and East within the first 23 months, was £31,135. However, this estimate was critically dependent on a number of key assumptions around achievable long term effectiveness of biomedical interventions and behaviour change that underpin the ultimate cost effectiveness of Keep Well as a primary prevention programme (Table 12).

**Table 12: Base case assumptions used in Wave 1 cost effectiveness model**

Intervention/Service	Risk reduction <sup>1</sup>	Long term compliance	Attribution <sup>6</sup>	Adjusted risk reduction
Statins	24%	18% <sub>2</sub>	50%	2%
Hypertensives	24%	18% <sub>2</sub>	24%	1%
Aspirin	14%	18% <sub>2</sub>	24%	1%
Smoking	36%	6% <sub>3</sub>	51%	0%
Alcohol	20%	24% <sub>4</sub>	51%	2%
Health Counsellor	30%	18% <sub>2</sub>	55%	3%

1. SIGN Guidelines(2007), 2. Richard Lowrie, Community Pharmacy Clinical Services Lead, 3. Bauld (2009), 4. Whitlock (2004), 5. Heather Jarvie, Live Active lead, 6. Department of Health (2009)

The components of the base case assumptions underpinning cost effectiveness comprised maximum achievable risk reduction with 100% compliance; expected long term compliance rates; and the proportion of individuals referred to these interventions who would not have otherwise attended (or been prescribed) the relevant intervention. Multiplication of these estimates provides an adjusted estimate of risk reduction for each intervention. This was the base case scenario, defined using actual completed referral and cost information, and the most plausible assumptions regarding programme impact. Re-running the model substituting the most optimistic assumptions under a best case scenario, by employing the most optimistic assumptions reduced the cost per QALY to £7,762; however under a worst case scenario the cost per QALY was £72,762.

Finally, it should be noted that there were major uncertainties and assumptions around the estimated project costs provided to the evaluators to populate the model.

**Implications:** Keep Well in its early Wave 1 form was not assessed as cost effective, using the conventional NICE threshold of £20,000 - £30,000 as the upper limit of cost effectiveness. However, Keep Well is now a much more efficient and consistently managed programme compared with its early Wave 1 pilot phase, so it is likely that its per capita costs would now be substantially lower. The economic analysis powerfully demonstrates the pivotal importance of achieving sustained behavioural change and effective long term biomedical management of CVD risk factors when they are found, including optimal adherence with prescribed medication. Finally, further refinements of

this work are being discussed, utilising data from the second reviews, improved intermediate outcome data from Smokefree and Live Active services and more accurate contemporary programme costs.

### ***Efficiency 2: Analysis of Keep Well engagement effort at individual patient level***

**Methodology:** In September 2009, towards the end of the programme's third year, we conducted a retrospective analysis of cumulative resource invested in attempted engagement of the Wave 1 target population over its first 34 months of operation, from 1 November 2006 to 1 September 2009. Data on the dates, methods and outcome of each invitation were extracted from the Wave 1 Keep Well tracking tool and linked with individual patient identifiers to create a longitudinal record of successive engagement attempts. Univariate and multivariable analyses were conducted of both individual patient demographic characteristics (such as gender, age group, ethnicity and residential deprivation indicators) and organisational characteristics (CHCP, practice and time period (as indicator of programme maturity) on engagement outcomes. Multivariable analysis was limited to patients with no missing demographic data. Cumulative engagement by number and type of invitation methods was explored and described.

**Results:** Over the evaluation period, a total of 19,452 patients were invited to Keep Well consultations, of whom 12,900 (66.3%) ultimately attended a Keep Well consultation. Older age group, female gender, white ethnic group and residence in less deprived areas were all associated with successful engagement and completion of a Keep Well health check on univariate analysis (Table 13). The multivariable analysis indicated that three patient factors, older age, female gender and residence in less deprived areas, remained independently predictive of attendance at a Keep Well health check, with gender having the greatest effect size (Table 14). However, ethnicity was no longer a significant predictor of Keep Well engagement, after controlling for the effects of other patient characteristics.

**Table 13: Univariate analysis of patient factors associated with KW engagement, Wave 1 2006-2009 (n=19,446)**

Patient characteristic	Attended (%)	Remain unengaged	Total	Chi square test
<b>Age group</b>				
<45	58 (31.7%)	125	183	$\chi^2 = 520.5$ df 5 p < 0.0005
45-49	2,984 (56.1%)	2,330	5,314	
50-54	3,433 (67.7%)	1640	5,073	
55-59	2,728 (69.6%)	1191	3,919	
60-64	2,952 (75.0%)	983	3,935	
65 and over	745 (72.7%)	277	1,022	
<b>Gender</b>				
Male	6,133 (61.5%)	2,714	9,965	$\chi^2 = 210.2$ df 1 p < 0.0005
Female	6,767 (71.4%)	3,832	9,481	
<b>Ethnic group</b>				
White	12,003 (86.9%)	1,811	13,814	$\chi^2 = 9444.2$ df 6 p < 0.0005
Asian	40 (81.6%)	9	49	
Chinese	40 (87.0%)	6	46	
Black	31 (75.6%)	10	41	
Other	52 (89.7%)	6	58	
Declined	2 (50.0%)	2	4	
Unknown	732 (13.5%)	4,702	5,434	
<b>SIMD quintile</b>				
SIMD 1 (most deprived)	10,002 (66.1%)	5,134	15,136	$\chi^2 = 13.5$ df 4 p < 0.009
SIMD 2	990 (67.6%)	475	1,465	
SIMD 3	626 (65.4%)	331	957	
SIMD 4	761 (68.0%)	358	1,119	
SIMD 5 (least deprived)	400 (72.9%)	149	549	

**Table 14: Multivariable analysis of patient factors associated with engagement (n= 13,875)**

Patient characteristic	Adjusted Odds Ratio	95% ci
<b>Age group</b>	1.18	1.13 to 1.23
<b>Gender</b>	1.45	1.31 to 1.60
<b>Ethnic group</b>	1.02	0.92 to 1.12
<b>SIMD quintile</b>	1.14	1.08 to 1.21

With respect to organisational characteristics, CHCP, practice and time period (as indicator of programme maturity) were, on univariate analysis, all associated with successful completion of a Keep Well health check (Table 15). However, on multivariable analysis, controlling for the effects of other variables in the model, only practice and year of first invitation remained significant predictors of engagement. As shown in Table 16, there were systematic differences in likelihood of engagement

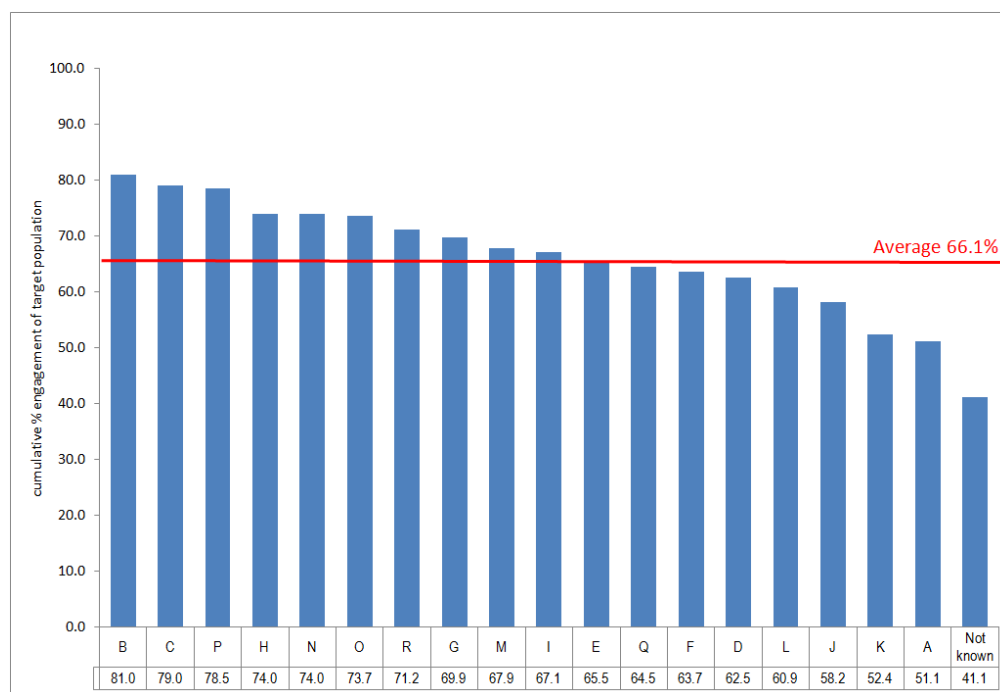
associated with the identity of the patient's registered practice, with some being significantly more likely and others significantly less likely to achieve patient engagement (denoted with an asterisk in Table 16).

**Table 15: Univariate analysis of organisational factors associated with KW engagement, Wave 1 2006-2009 (n=19,446)**

Patient characteristic	Attended (%)	Remain unengaged	Total	Chi square test
<b>CHP</b>				
Glasgow East	6,955 (65.3%)	3,704	10,659	$\chi^2 = 53.888$ df 2 p < 0.0005
Glasgow North	5,892 (68.1%)	2,766	8,658	
Unknown	53 (41.1%)	76	129	
<b>Practice</b>	See Figure 31 and Table 16			$\chi^2 = 566.718$ df 18 p < 0.0005
<b>Year of 1<sup>st</sup> invitation</b>				
2006 or 2007	9,273 (71.2%)	3,749	13,022	$\chi^2 = 730.319$ df 6 p < 0.0005
2008	3,104 (62.0%)	1,903	5,007	
2009	523 (36.9%)	894	1,417	

The cumulative proportion of the target population who received a Keep Well health check varied from 51 to 81% across different practices.

**Figure 30: Cumulative engagement, Wave 1 by 1<sup>st</sup> September 2009, by practice (n=19,446)**



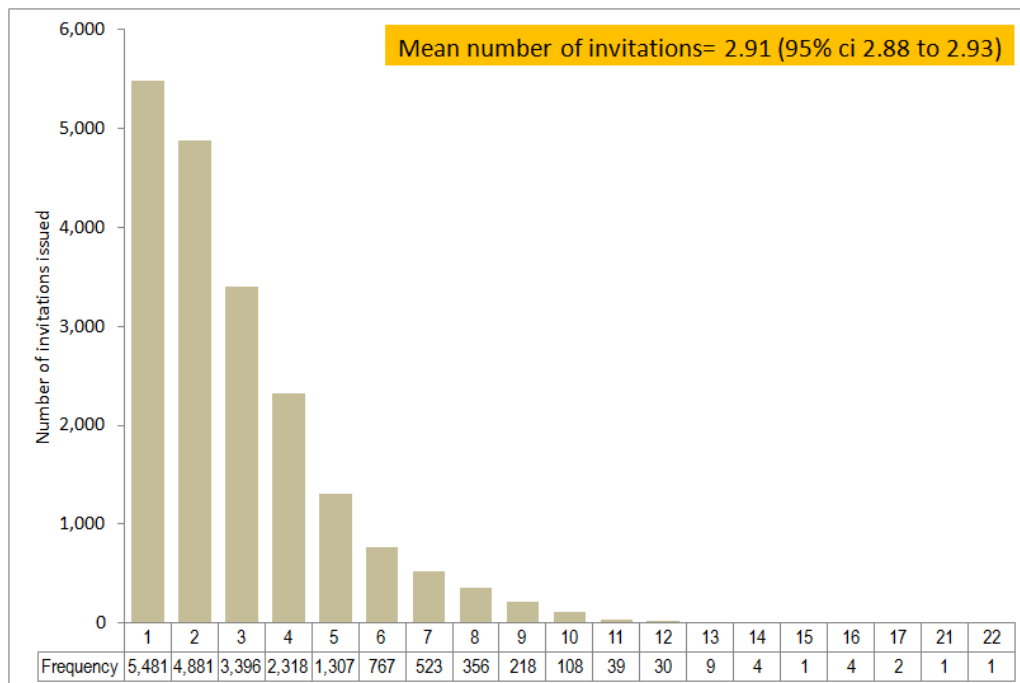
**Table 16: Multivariable analysis of organisational factors predicting engagement (n=19,317)**

Organisational characteristic	Adjusted Odds Ratio	95% ci
<b>CHP</b>		
East (reference category)	1.00	-
North	0.99	0.81 to 1.2
<b>Initial invitation year</b>		
2006/7 (reference category)	1.00	-
Per 1 year increase	0.517	0.491 to 0.544*
<b>Practice alias</b>		
R (reference practice)	1.00	-
A	0.636	0.532 to 0.759*
B	1.776	1.475 to 2.140*
C	1.724	1.405 to 2.117*
D	0.880	0.740 to 1.046
E	1.388	1.176 to 1.638*
F	0.831	0.708 to 0.975*
G	1.368	1.124 to 1.665*
H	1.212	0.985 to 1.491
I	0.985	0.806 to 1.203
J	0.607	0.494 to 0.746*
K	0.431	0.351 to 0.530*
L	0.711	0.581 to 0.871*
M	0.995	0.793 to 1.249
N	1.360	1.106 to 1.672*
O	1.191	0.915 to 1.549
P	1.538	1.186 to 1.995*
Q	0.911	0.751 to 1.105

*\*denotes significant difference from reference category*

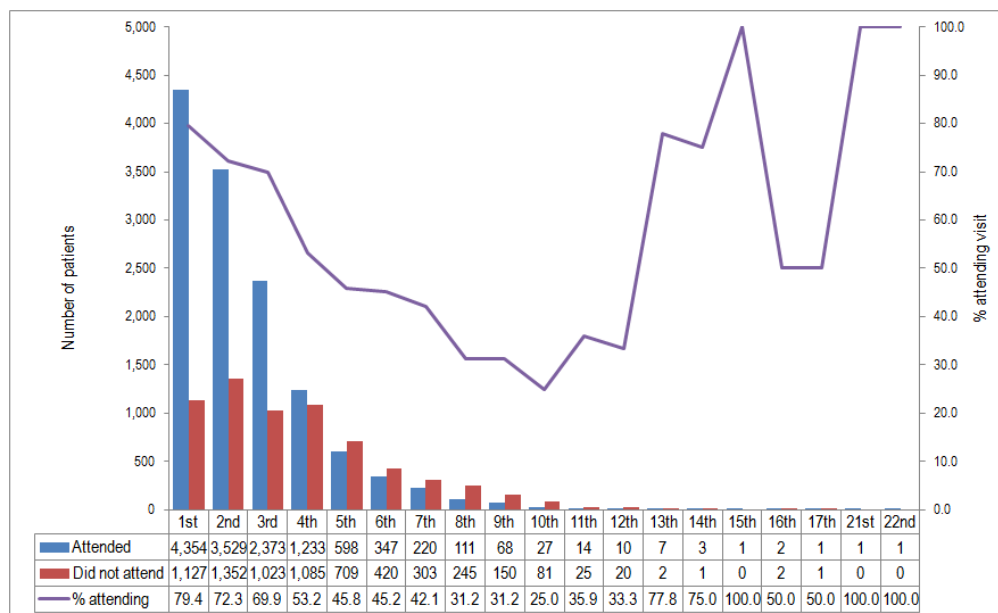
The average number of Keep Well invitations received by each patient was 2.91 (95% ci 2.88 to 2.93), ranging from 1 to 22 (Figure 31;overleaf). Contrary to anecdotal reports (see next section, '*Acceptability 1: Patient and practice experience*'), only a small minority (1,296; 7%) of patients received more than six invitations.

**Figure 31: Cumulative number of Keep Well invitations received by each patient by 1<sup>st</sup> September 2009 (n=19,446)**



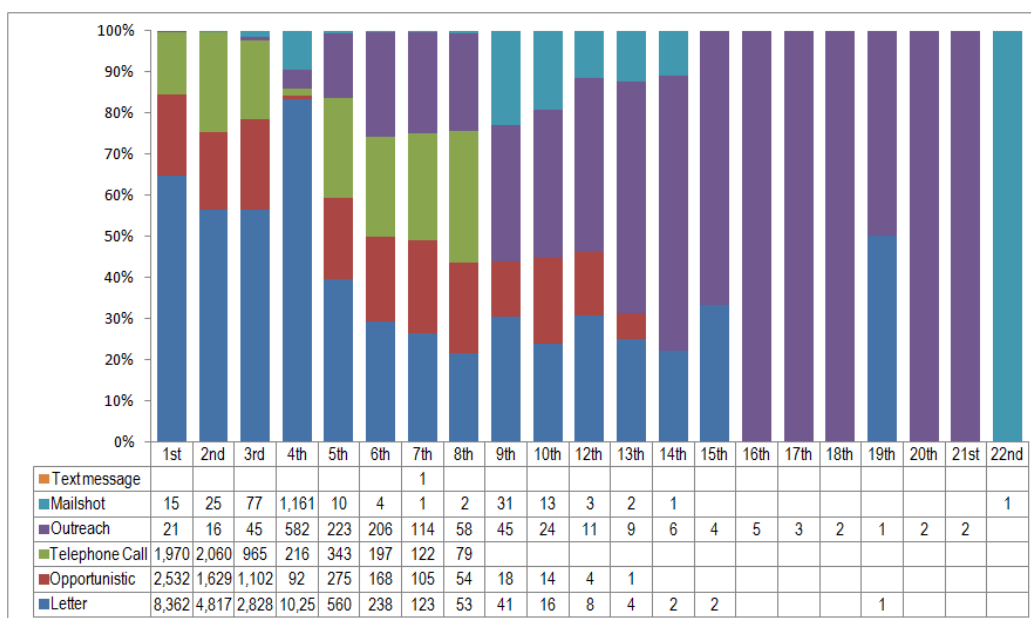
The likelihood of attendance was highest at the first attempt; 79% of those invited for the first time attended (Figure 32).

**Figure 32: Attendance result at successive engagement attempts (n=19,446)**



However, the likelihood of attendance declined at each subsequent invitation, with only a few successful engagement attempts in patients who had received a large number of previous invitations; although few in number, these late engagement successes largely followed outreach contacts and telephone invitations (Figure 33).

**Figure 33: Invitation method at each successive attempt in subgroup who engaged by 1<sup>st</sup> September 2009 (n=12,900)**



After the 6<sup>th</sup> invitation, at which point over 96% of attendees had received a Keep Well consultation, the additional 'yield' from further attempts at engagement was very small (Figure 34).

**Figure 34: Cumulative % of KW attendees engaged, by number of engagement attempts (n=19,446)**

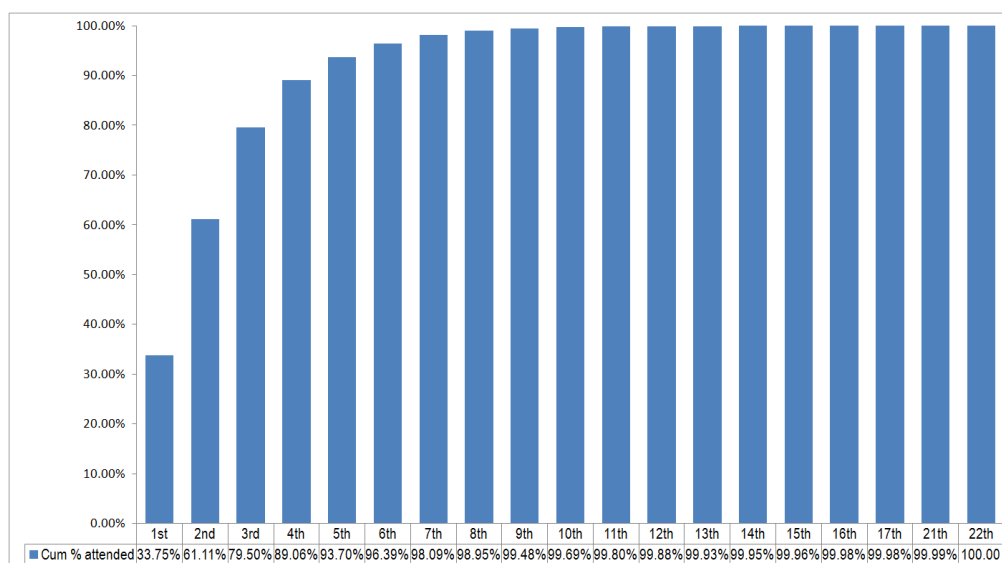




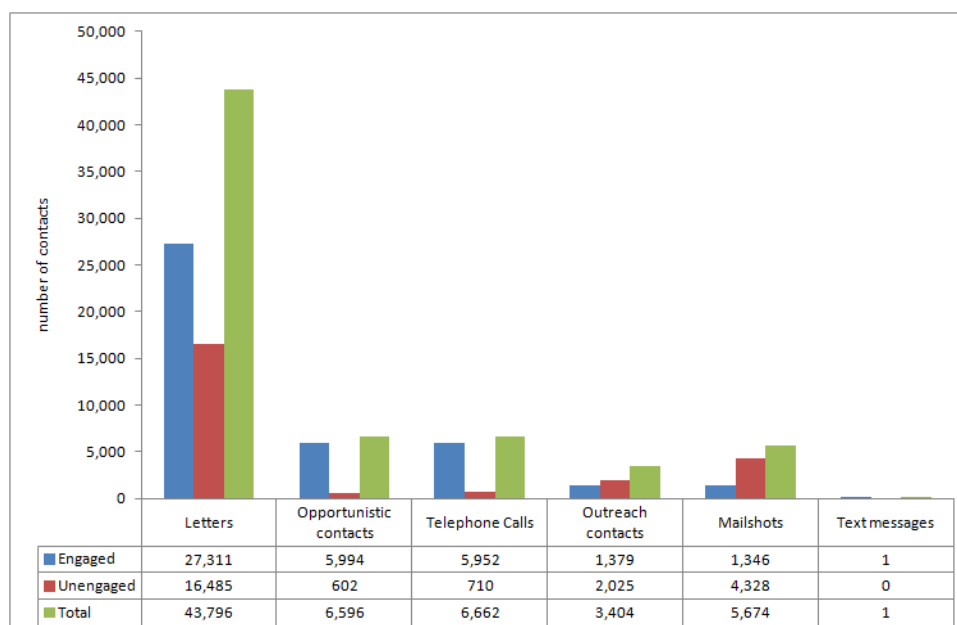
Table 17 shows the engagement methods used in the first six engagement attempts, together with their outcomes. There was very little use of outreach engagement until the fourth and subsequent engagement attempts.

**Table 17: Engagement methods & outcomes at first 6 engagement attempts, Wave 1 2006-2009 (n=19,446)**

Number of engagement attempts	Number of patients who received these	Outcome	Type of engagement effort				
			Letter	Mailshot	Opportunistic	Outreach	Telephone call
1	5,481	4,354 Engaged	2,035	6	1,549	7	757
		1,127 Did not engage	903	0	55	2	167
		<b>Subtotal of engagement attempt</b>	<b>2,035</b>	<b>6</b>	<b>1,549</b>	<b>7</b>	<b>757</b>
2	4,881	3,529 Engaged	1,683	1	1,130	10	705
		1,352 Did not engage	896	41	53	1	361
		<b>Subtotal of engagement attempt</b>	<b>2,579</b>	<b>42</b>	<b>1,183</b>	<b>11</b>	<b>1,066</b>
3	3,396	2,373 Engaged	1,032	17	850	20	454
		1,023 Did not engage	734	13	55	21	200
		<b>Subtotal of engagement attempt</b>	<b>1,766</b>	<b>30</b>	<b>905</b>	<b>41</b>	<b>654</b>
4	2,318	1,233 Engaged	412	20	489	50	262
		1,085 Did not engage	655	42	56	114	218
		<b>Subtotal of engagement attempt</b>	<b>1,067</b>	<b>62</b>	<b>545</b>	<b>164</b>	<b>480</b>
5	1,307	598 Engaged	174	3	221	65	135
		709 Did not engage	444	4	30	108	123
		<b>Subtotal of engagement attempt</b>	<b>618</b>	<b>7</b>	<b>251</b>	<b>173</b>	<b>258</b>
6	767	347 Engaged	90	1	134	46	76
		420 Did not engage	125	4	31	139	121
		<b>Subtotal of engagement attempt</b>	<b>215</b>	<b>5</b>	<b>165</b>	<b>185</b>	<b>197</b>

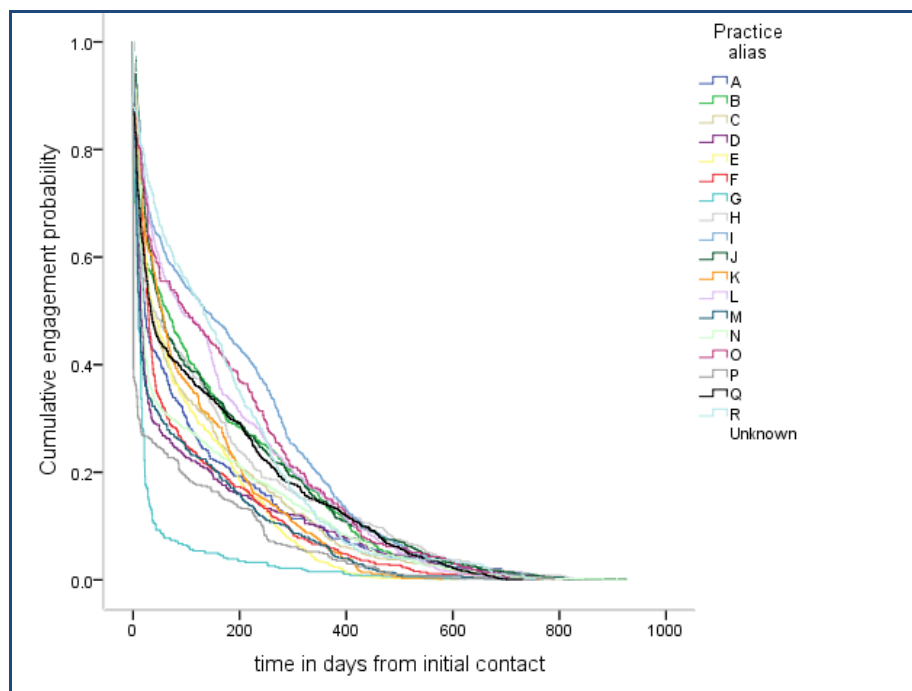
In a period of less than three years, the programme as a whole issued in excess of 43,000 letters, made 6,596 opportunistic contacts, 5,952 telephone calls, 3,404 outreach contacts, 5,674 mailshots... and sent only 1 text message ! (Figure 35).

**Figure 35: Total engagement effort, stratified by final engagement status, Keep Well Wave 1 2006-2009 (n=19,446)**



There were significant variations between practices in median time from first contact to consultation, ranging from 15 to 136 days (Figure 36; Table 18).

**Figure 36: Survival analysis of time from first contact to engagement, in subgroup who engaged by 1<sup>st</sup> September 2009 (n=12,900)**



**Table 18: Estimated mean and median time from first contact to engagement, by practice, Keep Well Wave 1, 2006-2009 (n=19,446)**

Practice alias	Mean <sup>a</sup>				Median			
	Estimate	Std. Error	95% Confidence Interval		Estimate	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound			Lower Bound	Upper Bound
A	105.664	8.439	89.123	122.205	22.000	3.009	16.103	27.897
B	141.534	6.137	129.505	153.564	64.000	7.774	48.764	79.236
C	112.148	6.281	99.838	124.459	34.000	4.722	24.744	43.256
D	90.208	7.032	76.425	103.990	15.000	.990	13.060	16.940
E	94.446	4.297	86.023	102.868	38.000	4.507	29.166	46.834
F	90.114	5.148	80.023	100.205	29.000	1.581	25.901	32.099
G	28.875	3.385	22.239	35.510	10.000	.942	8.154	11.846
H	137.121	8.730	120.011	154.232	39.000	9.404	20.569	57.431
I	184.720	5.083	174.757	194.682	136.000	12.218	112.053	159.947
J	147.495	6.629	134.501	160.488	54.000	4.801	44.589	63.411
K	108.408	4.952	98.701	118.114	54.000	3.792	46.568	61.432
L	157.633	5.570	146.716	168.550	90.000	11.822	66.830	113.170
M	77.831	5.322	67.400	88.262	13.000	.811	11.410	14.590
N	105.416	4.764	96.079	114.753	19.000	.644	17.738	20.262
O	165.936	9.177	147.949	183.922	98.000	21.969	54.941	141.059
P	58.798	5.535	47.950	69.647	.000	.	.	.
Q	134.856	4.477	126.081	143.632	33.000	2.407	28.283	37.717
R	163.377	7.464	148.747	178.006	132.000	11.623	109.218	154.782
Unknown	548.472	34.871	480.125	616.818	555.000	47.832	461.249	648.751
Overall	124.465	1.466	121.592	127.338	34.000	1.081	31.881	36.119

**Implications:** This analysis provided further insights into the important patient and organisational factors that determine uptake of Keep Well health checks. Although there is a plethora of activity around engagement, there are clear opportunities to address variations in the efficiency, appropriateness and flexibility of this activity. The potential to make better use of new technologies is now being used, but could be strengthened. Implementation of the Keep Well engagement protocol following the period covered by this analysis may have achieved some improvement in both aspects, although informal observation suggests that the extent, focus and consistency of deployment of engagement methods across the programme as a whole remains variable. After the 6<sup>th</sup> invitation, at which point over 96% of attendees in this study population had undergone a Keep Well consultation, the additional 'yield' from further attempts at engagement appears small and the greatest need for innovation is likely to be in those who have not attended after their first or second invitation.

#### **4.1.3 Acceptability**

##### ***Acceptability 1: Patient and practice experience***

**Methodology:** The national evaluation team explored the views of those involved in delivery of Keep Well with a small number of practitioners and service users, using surveys and qualitative interviews in four of the five national pilot sites, based on two theoretical frameworks (normalisation process theory and candidacy).<sup>21</sup> A telephone survey was carried out among practices delivering KW in four Wave 1 sites and members of staff were sampled from within these practices to take part in interviews. 137 patient questionnaires were completed in Wave 1 practices: 49 in Lothian (4 refusals); 46 in Glasgow North (1 refusal); and 42 in Glasgow East (1 refusal). Questionnaire response rates were extremely high, with 96% of participants approached agreeing to take part in the study. The majority (66%) were women, and most (67%) fell into the 45-54 age group, so were toward the younger end of the KW age-group. Four patients took part in qualitative interviews: 1 in Lothian; and 3 in Glasgow East. This poor response was due to refusals on the basis of lack of time or unwillingness to participate in a tape recorded interview, and a small number of individuals failing to attend for a pre-arranged interview.

##### **Results:**

- 1) Practice staff:** Practice staff demonstrated a high level of coherence in their understanding of the aims and importance of Keep Well, including the need to enhance primary care in deprived areas in order to help tackle inequalities and the need to move from reactive to preventive care. However the current focus on disease and targeting the Keep Well age group was challenged by a number of interviewees. Variation was found between practices in how the additional work created by Keep Well was allocated, with increasing use of health care assistants across Scotland. Practice staff had concerns about the perceived excessive number of contacts being made as part of the Keep Well engagement policy, which they feared might damage their relationship with patients and called for some form of 'cut-off point'. There was a general feeling that Keep Well should be normalised into general practice.
- 2) Patient and community experiences:** Norms associated with 'proper' use of primary care services were highlighted as a factor influencing uptake of Keep Well. In

particular, there were variations in perceptions about the role of a preventive health check when an individual feels well, with some viewing use of scarce primary care services for health checks in asymptomatic people as not a good use of NHS resources. However, patients who had received the health check viewed the process very positively, particularly the length of the appointment and opportunity to discuss issues that would not usually come up in a consultation with a clinician (Table 19). They also valued the level of information provided and noted reduced anxiety around Keep Well health checks compared with visiting a doctor with a problem. When asked about referrals that could be made via Keep Well, interviewees had a high level of awareness of preventive actions that would benefit them personally. However, they would be unlikely to attend services targeting these issues because of time constraints or lack of willingness to make lifestyle changes. The survey also revealed low uptake of services to which patients had been signposted.

**Table 19: National evaluation of patient and practice experience in Keep Well: satisfaction with the health check (%)<sup>21</sup>**

	Somewhat/ very dissatisfied %	Undecided %	Somewhat satisfied %	Very satisfied %
Explanation of KW (n=70)	0	1	23	76
Duration of health check (n=70)	0	1	20	79
Advice on existing conditions (n=70)	0	4	19	76
Advice on healthy lifestyle (n=69)	0	2	25	72
Information about other services (n=65)	2	3	26	68
Explanation of KW results (n=70)	0	0	27	73

When asked about referrals that could be made via KW, interviewees had a high level of awareness of preventive actions that would benefit them personally. However they considered that they would be unlikely to attend services targeting these issues because of time constraints or lack of willingness to make lifestyle changes. Accessing preventive measures such as screening and vaccination appeared to be more likely.

**Implications:** Keep Well is highly regarded by patients and most professionals also recognised its value, although this is not unqualified. The complex range of factors influencing an individual's willingness to access a health check and consider subsequent lifestyle change reflect diverse perceptions of the fundamental nature of preventive services and this learning should be incorporated into local social marketing of the programme.

### ***Acceptability 2: Acceptability of 'maintaining mental wellbeing' sessions***

**Methodology:** South West CHCP introduced a new initiative to help individuals who were considered at their Keep Well health check to potentially benefit from support with mental health and wellbeing. Clients were offered the opportunity to attend a 'Maintaining mental wellbeing' screening session staffed jointly by the Primary Care Mental Health Team and South West Glasgow Stress Centre. The screening session was delivered in non-healthcare premises in Govan and Pollok. An evaluation was commissioned and conducted by Axiom Consulting, which aimed to identify:

- Benefits experienced by patients, practice staff and mental health service providers
- The added value to the Keep Well programme
- Effectiveness in encouraging hard to engage clients to attend mental health services
- Impact on service provider knowledge, skills and awareness
- Unintended consequences and reasons for any lack of engagement

The evaluation took place between November 2009 and March 2010, using project monitoring data from the Keep Well tracking tool, supplemented with information collated by South West CHCP and the Stress Centre. Semi-structured face to face interviews were conducted with project staff; and telephone interviews were undertaken with 5 practice nurses, 35 participants and 26 Keep Well patients who had been offered the opportunity to attend a session but had declined. A further 10 interviews were also undertaken with participants to explore areas of satisfaction and dissatisfaction with the service.<sup>22</sup>

**Results:** The ‘Maintaining mental wellbeing’ screening sessions enhanced the partnership and mutual understanding between the two service providers. The majority of individuals offered referral to the session took up the opportunity and were happy with the outcome. The following issues were highlighted as areas for improvement:

- The KW health check and HADS screening tool offer opportunities for detailed discussion about mental health, however few respondents, either those who had attended the Screening Session or those who had declined the offer, could recall receiving any information on it from the clinician delivered the Keep Well health check. Practice nurses suggested that people do receive a substantial amount of information during the course of their health check and it may be that this is too much for people to take in at one time.
- Many of the respondents who attended the session had been were unaware that its purpose was to further assess their need for support; several thought that they were being referred to a counsellor and were disappointed with the outcome
- From more in-depth discussion with a sample of these individuals, it would appear that the terminology used to describe the referral by some Practice Nurses may be confusing people and leading them to believe that they will be receiving counselling at the Screening Session.

**Implications:** This evaluation highlighted the importance of fundamental understanding and proactive, functioning relationships between referring practices and all services. It also highlighted the need for workforce development to help clinicians communicate clearly to patients the nature and purpose of these services, who should be encouraged to proactively engage in follow up communication back to referring staff.

### ***Acceptability 3: Acceptability and outcome of referral to health improvement services in North Glasgow***

**Methodology:** The North Glasgow Keep Well team set out to explore the acceptability of their support services as perceived by patients re-attending for their second Keep Well review (see previous section, ‘Effectiveness 2: Effectiveness of Keep Well on intermediate outcomes’). A service-specific questionnaire was devised by the Keep Well

co-ordinator for each of the services offered, including those who decided not to attend the service after being referred or signposted. The questionnaires were administered by practice staff at the Keep Well follow-up review assessment and analysed by a senior researcher within the PHRU team (Julie Truman).

**Results:** The overall number of responses in relation to each service was low (Table 20). Service-specific findings are reported in order of the number of respondents.

**Table 20: Patient survey of acceptability and outcome of referral to health improvement services in North Glasgow: number of respondents, by service**

Service	Attender	Non attender	Total
Health Counsellor	34	16	50
Stress Centre	20	12	32
Smoking Cessation	16	8	24
Money Advice	18	3	21
Employability	5	3	8
Alcohol	4	1	5
Waist Winners	3	1	4
Learning on Prescription	3	1	4
Eat Up	0	1	1
<b>Total</b>	<b>103</b>	<b>46</b>	<b>149</b>

### Health Counsellor

34 responses were received from patients who attended the Health Counsellor service, 14 male and 20 female. All described their ethnicity as White Scottish and were distributed evenly throughout the Keep Well age range. Twenty four respondents had been referred to one service at their first Keep Well consultation, 8 respondents to two services and 3 to 3 services. 25 respondents felt they had benefited from the Health Counsellor service, whilst 8 felt they had not, however most respondents were generally highly satisfied with the Health Counsellor service (Table 21).

**Table 21: Acceptability of Health Counsellor services in North Glasgow: logistics**

Statement	Agree	Disagree
My appointment came quickly	22	1
My appointment was at a suitable time of day	23	1
My appointment was the right length of time	24	0
I was given all the follow up support that I needed	21	2
I found the consultation venues suitable	23	1

**Table 22: Reasons for attending Health Counsellor services in North Glasgow**

Statement	Agree	Disagree
I was concerned about my lack of physical activity	16	4
I was concerned about my weight	18	4
I was concerned about my diet	12	10
My health practitioner (GP, Nurse etc) wants me to go	9	8
My family were concerned about me	2	16
I had heard about Live Active	2	15

**Table 23: Perceived benefits received from Health Counsellor**

Statement	Agree	Disagree
Helped me increase my physical activity	19	2
Helped me improve my diet	13	11
Helped me change my weight	13	9
Made me feel better about myself	18	3
Did not give any benefit	2	20

Respondents were asked to recommend improvements to the Health Counsellor service. Four respondents made comments, which included:

- “Follow up, ie monthly”
- “Timing of appointments varied, timing of classes changed to earlier in day”
- “Follow-up should be consistent”
- “Groups of women together at same time might help”
- “Setting goals”

Those respondents who felt they did not benefit from the service were asked to give their reasons. The following responses were received:

**Table 24: Reasons given for not benefiting from Health Counsellor service**

Statement	Agree	Disagree
I cannot remember attending the service	0	6
My appointment came too late	0	6
My appointment was at an unsuitable time of day	1	5
My one hour appointment was too long	0	6
My one hour appointment was too short	1	5
The service is difficult to get to	1	5
I didn't know why I had been asked to attend	0	6
I did not feel the service was able to tackle my individual issues	1	5
The service is not private enough	0	6
I was not ready to make changes	3	5
I felt I did not need the service	1	4

Respondents gave other reasons why they felt they did not benefit from the service:

- “Did not attend due to work commitments”
- “Mood low, I didn't want to go out”
- “Had to go somewhere else on second appointment and never returned”
- “Domestic problems at the time prevented attendance”
- “Only spoke about patients, diet and exercise – didn't feel that there was anything new said by the Health Counsellor. Didn't re-attend.”

A further 16 respondents were referred but chose not attend the Health Counsellor service; 14 reported that they had been contacted by the Health Counsellor and invited to attend the service and two did not know whether they had been contacted or not. Reasons for not attending the Health Counsellor service are summarised in Table 25.



**Table 25: Reasons given for not attending Health Counsellor services**

Statement	Agree	Disagree
Appointments at unsuitable times/days	3	7
Access/location issues	3	6
Communication issues	0	9
Don't know why I was referred	0	9
No longer needed the service	1	9
Service took too long to contact me	0	9
Unsure of what the service offered	1	8
Work commitments	4	7
Change in personal circumstances	5	6
This service was not a priority for me	2	7

Respondents gave the following other reasons for not attending the service:

- “Just location”
- “Felt venues not convenient as lives in Maryhill”
- “Did not want to be in a group setting”
- “ Felt too big and it was a male that had phoned her and put her off.”
- Respondents gave the following reasons that would improve attendance in the future. The following responses were received:
- “Evening consultation time”
- “More day appointments”
- “More convenient location”
- “Venues in Maryhill”
- “ Appointment times, unable to afford membership”
- “Depends on location”

Nine of the 16 respondents stated that they would prefer not to be re-referred, 6 of whom reported making behaviour changes without attending the service.

### **Stress Centre**

Twenty patients who attended the Stress Centre responded to the survey, five male and 15 female. 19 reported their ethnicity as White Scottish and one reported it as Pakistani. The majority of respondents were in the 51 – 55 age band. Ten had been referred to one service, a further 7 had been referred to two services and two had been referred to three services. 19 felt that they had benefited from the Stress Centre Service and one felt that they had not benefited.

Respondents were generally very satisfied with the Stress Centre (Table 26).

**Table 26: Acceptability of the Stress Centre in North Glasgow: logistics**

Statement	Agree	Disagree
My appointment came quickly	17	1
My appointment was at a suitable time of day	19	0
My appointment was the right length of time	18	1
The service is easy to get to	16	2
The staff at the service were supportive	19	0

**Table 27: Reasons for attending the Stress Centre in North Glasgow**

Statement	Agree	Disagree
I was concerned about not coping/feeling anxious/ my behaviour	15	2
My health practitioner (GP, Nurse etc) want me to go	13	0
My family were concerned about me not coping/feeling anxious/changes in my behaviour	6	2
I was worried about things in general/a specific problem or issue	14	2
I had heard about the service and thought it may help	8	4

**Table 28: Perceived benefits received from the Stress Centre in North Glasgow**

Statement	Agree	Disagree
Helped me copy better with things/feel better	18	1
Helped me improve my levels of stress and anxiety	14	1
Helped me start looking forward to things/doing things differently	11	2
Made me more aware of how I am feeling/coping/behaving	15	0
Made me feel supported	15	0
Made me feel better about myself	15	1
Did not give any benefit	0	15

Other ways in which the Stress Centre benefited respondents included:

- “Have more confidence”
- “More aware of coping strategies”

Six respondents made suggestions for improving the Stress Centre. However, only one free text response was recorded.

- “Improve the speed of referral”

One respondent felt they did not benefit from the Stress Centre. The reason they gave was: “I did not feel the service was able to tackle my individual issue.” This respondent also reported that “The massage and reflexology were good but did not feel any better at the end of 6 weeks.”

Twelve patients were referred to the Stress Centre but chose not to attend, for the reasons given in Table 29.

**Table 29: Reasons given for not attending the Stress Centre in North Glasgow**

Statement	Agree	Disagree
Appointment at unsuitable times/days	2	2
Access/location issues	0	4
Communication issues	2	4
Don't know why I was referred	2	4
No longer needed the service	1	4
Service took too long to contact me	1	4
Unsure of what the service offered	0	4

Respondents gave the following ‘other’ reasons for non-attendance:

- “Didn’t feel it was the right time”
- “Felt too stressed to go”
- “Too lazy”
- “Patient unsure of what was expected of them”
- “Work commitments”
- “Personal circumstances”
- “Wasn’t feeling well at the time”
- “Did not get an invitation”
- “Didn’t feel comfortable at thought of chatting to someone.”

Three respondents wanted to be re-referred to the service; five did not wish to be re-referred to the service; 2 wanted to be referred at a later date and one was unsure.

### Smoking Cessation

Sixteen patients who had attended the Smoking Cessation service completed the survey, 8 male and 8 female, all reporting their ethnicity as White Scottish and representative of the Keep Well target age group. The majority of respondents had been referred to only one service (n = 8); 5 respondents had been referred to 2 services; 1 respondent had been referred to 3 services and another respondent had been referred to 6 services.

Thirteen respondents felt they had benefited from the service. Three felt they had not benefited. Respondents were highly satisfied with the practical arrangements for Smoking Cessation services (Table 30).

**Table 30: Acceptability of Smoking Cessation services in North Glasgow: logistics**

Statement	Agree	Disagree
My appointment came quickly	13	0
My appointment was at a suitable time of day	13	0
My appointment was the right length of time	13	0
The service is easy to get to	11	1
The staff at the service were supportive	13	0
I found the consultation venues suitable	13	0

**Table 31: Reasons for attending Smoking Cessation services in North Glasgow**

Statement	Agree	Disagree
I was concerned about my health	12	0
My health practitioner (GP, Nurse etc) wanted me to go	5	0
My family were concerned about my health	7	2
I was worried about the number of cigarettes I smoked	9	0
I had heard about the service	4	5

**Table 32: Perceived benefits received from Smoking Cessation services**

Statement	Agree	Disagree
Helped me stop smoking	11	1
Helped me reduce my smoking	4	3
Helped me improve my health	9	1
Made me more aware of the benefits of stopping	10	0
Made me feel supported	11	1
Made me feel better about myself	7	0
Did not give any benefit	0	6

**Table 33: Reasons reported for not benefiting from Smoking Cessation services**

Statement	Agree	Disagree
I cannot remember attending the service	0	2
My appointment came too late	1	1
My appointment was at an unsuitable time of day	1	1
My appointment was too long	0	2
My appointment was too short	0	2
The service is difficult to get to	0	2
I didn't know why I had been asked to attend	0	2
I did not feel the service was able to tackle my individual issues	0	2
The service is not private enough	0	2
I was not ready to make changes	1	1
I felt I did not need the service	0	1

**Table 34: Reasons given for not attending Smoking Cessation services**

Statement	Agree	Disagree
Appointment at unsuitable times/days	2	2
Access/location issues	1	2
Communication issues	0	3
Don't know why I was referred	0	3
No longer need the service	1	2
Service tool too long to contact me	0	3
Unsure of what the service offered	0	3
Change in personal circumstances	3	1
This service was not a priority for me	1	2
Work commitments	3	2
I was not ready to make changes	3	2
I felt I did not need the service	1	3

One suggestion for improvement of the Smoking Cessation service was given: "Follow-up support after the course is complete."

Two respondents asked to be re-referred to the service, 3 did not wish to be re-referred, 2 more were unsure and one would like to be re-referred at a later date. Four respondents indicated they had made changes without attending the service, whilst 3 reported they had not made a change.

## Money Advice services

Eighteen people who had attended the Money Advice service responded to the survey, 5 male and 13 female, all White Scottish. 10 respondents had been referred to only one service; whereas 7 respondents had been referred to two services and 1 respondent had been referred to three services. 15 of the 18 felt they had benefited from the service.

**Table 35: Acceptability of money advice services in North Glasgow: logistics**

Statement	Agree	Disagree
My appointment came quickly	15	0
My appointment was at a suitable time of day	15	0
My appointment was the right length of time	15	0
The service is easy to get to	15	0
The staff at the service were supportive	15	0
I found the consultation venue suitable	15	0

**Table 36: Perceived benefits of money advice services**

Statement	Agree	Disagree
Helped me manage my money	6	6
Helped me improve my income	9	3
Helped me start budgeting	4	7
Made me more aware of options available to me	12	2
Made me feel supported	12	2
Made me feel better about myself	11	2
Improved my family situation	8	2
Did not give any benefit	2	9

**Table 37: Reasons reported for not benefiting from money advice services**

Statement	Agree	Disagree
I can not remember attending the service	1	1
My appointment came too late	1	1
My appointment was at an unsuitable time of day	0	2
My appointment was too long	0	2
My appointment was too short	0	2
The service is difficult to get to	0	2
I didn't know why I had been asked to attend	0	2
I did not feel the service was able to tackle my individual issues	2	0
The service is not private enough	0	2
I was not ready to make changes	0	2
I felt I did not need the service	1	2

Two respondents gave other reasons for not benefiting from the Money Advice service these were:

- “Couldn’t be bothered going”
- “I am not able to receive any benefits”.

Three respondents were referred to the Money Advice service but chose not to attend.

**Table 38: Reasons given for not attending money advice services**

Statement	Agree	Disagree
Appointment at unsuitable times/days	1	2
Access/location issues	0	2
Communication issues	0	2
Don't know why I was referred	0	2
No longer need the service	0	2
Service took too long to contact me	0	2
Unsure of what the service offered	1	1
Afraid of what would be involved	1	1
No-one knows about my debt	1	1
Change in personal circumstances	0	2
The service is not a priority for me	0	1
Work commitments	0	2

### **Employability services**

Only five responses were received from patients who had attended the Employability service, four of whom felt they had benefited.

**Table 39: Perceived benefits of employability services**

Statement	Agreed	Disagreed
Helped me access training	3	0
Helped me improve my employment prospects	0	0
Helped me start a college course	2	0
Made me more aware of more opportunities	2	0
Made me feel supported	2	0
Made me feel better about myself	2	0
Helped me, now actively seek employment	0	0
Did not give any benefit	0	0

One respondent that felt they had not benefited from the service and gave the following reasons (in response to a series of closed responses):

- My appointment was at an unsuitable time of day
- The service is difficult to get to
- The service is not private enough
- I felt I did not need the service

### **Alcohol service**

Only 4 patients responded to the survey, all of whom reported benefit from the service.

**Table 40: Perceived benefits of attending alcohol service**

Statement	Agreed	Disagreed
Helped me reduce my drinking	2	0
Helped me improve my relationships with my family	2	0
Helped me improve my relationships at work	2	0
Made me more aware of safe drinking levels	2	0
Helped improve my physical health	1	0
Helped improve my mental/emotional health	1	0
Helped improve my confidence	1	0
Did not give any benefit	0	0

**Implications:** Although these quantitative results should be interpreted with extreme caution due to the low response numbers, poorly defined denominator, imprecise terms used in some parts of the questionnaire and missing data, the patient comments identified some useful hypothesis-generating themes that could be explored further in future evaluations of a very important and relevant topic area.

#### ***Acceptability 4: Acceptability of financial inclusion assessment in primary care***

**Methodology:** A study was undertaken between November 2009 and May 2010 as part of a Masters degree by Yvonne Neilson (Health Improvement), to explore clinicians' attitudes to asking about financial issues in the context of Keep Well health checks. All clinical staff involved in Wave 1 in NHS GGC were invited to participate in semi-structured depth interviews. 9 clinicians were recruited; 1 GP, 5 practice nurses and 3 healthcare assistants. Interviews were transcribed and their content analysed to identify key themes. A second researcher co-analysed the content and an analytical workshop was held to explore similarity and differences between the analyses.

**Results:** Emergent themes were identified around the following issues:

- Attitudes and values regarding inclusion of financial questions in Keep Well consultations
- Understanding of anticipatory care and the clinician's perceived professional role within Keep Well
- Raising sensitive issues
- Sustainability: Levers and Barriers
- Changing roles and practice
- Keep Well Screens

Some staff were apprehensive and unclear about their role within financial inclusion enquiry, expressing concern that they knew nothing about financial inclusion services. Although they recognised the link between finance and health and, as such, recognised the relevance of social issues, some clinicians still felt uncomfortable. A few staff both recognised the links and felt generally comfortable about raising the issues.

Training provision for financial inclusion was perceived to be insufficient and not always available in advance of taking up a Keep Well clinical role. Although participants advocated training that accommodates different learning styles and different levels of experience, they cautioned against overwhelming training sessions with multiple service providers. Shadowing was given as a good example of preferred learning style for



financial inclusion, enabling peer-to-peer learning on how to raise the issue of financial inclusion.

Clear electronic referral pathways appear to give staff the confidence to raise financial inclusion questions and 'have the discussion'. All agreed that having services either on-site or based locally was crucial to success. Being aware of the breadth of service provision on offer from financial inclusion services was cited as being an encouragement to dialogue and onward referral.

The precise wording of financial inclusion questions on electronic consultation templates does not seem to be particularly important, however, as staff can readily modify the wording on templates to elicit the required information in their own way and to suit the circumstances. In the majority of cases, they used the template questions as prompts only.

**Implications:** This study demonstrates that some practice staff may feel very uncomfortable about raising financial issues in a healthcare consultation. Participants in this study offered some guidance on approaches for helping staff to become more conversant with enquiring and responding to financial issues. These included:

- promoting opportunities for clinicians to get to know financial inclusion services personally to discover what the services offer
- have written material regarding financial inclusion services' scope and contact details to give to patients.
- Clear protocols and easy referral mechanisms – IM&T systems could support automated referrals.
- Improved feedback from financial inclusion agencies on current waiting times and lists and patient outcomes would be welcomed.

#### **4.1.4 Equity**

##### ***Equity 1: H2R Project***

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**Methodology:** After two years of operation, approximately one quarter of the target population in Keep Well remained unengaged, despite considerable effort invested by practices and the Keep Well project team in engagement and invitation attempts. Given the substantial size and likely health needs of this patient subgroup, we established a short term project in the autumn of 2009 to develop a more structured understanding of factors associated with failure to engage and to define the feasibility, effectiveness, and cost-effectiveness of engagement strategies for this subgroup. The project contained the following components:

1. Synthesis of published research evidence and relevant grey literature on engagement with population subgroups within deprived areas for cardiovascular disease prevention initiatives
2. Analysis of the perspectives of primary care professionals on the challenges of engaging this patient subgroup and their views on how these challenges should be addressed

3. A case note review in a purposive sample of unengaged patients to document medical and social history and their current patterns of health and social care utilisation.
4. Development of a conceptual framework based on Objectives 1-3, for three purposes:
  - a) to generate a valid measurement tool for Objective 5
  - b) to inform design of testable patient engagement methods
  - c) to inform the design of a suitable evaluation framework
5. A case control study in a larger sample of patients to quantify factors independently associated with repeated failure to engage in this population
6. A small pilot of innovative, patient-centred models of engagement in a sample of Keep Well practices in North and East, to allow estimation of the effectiveness, efficiency, acceptability and equity of potential engagement methods for 'hard to reach' subgroups

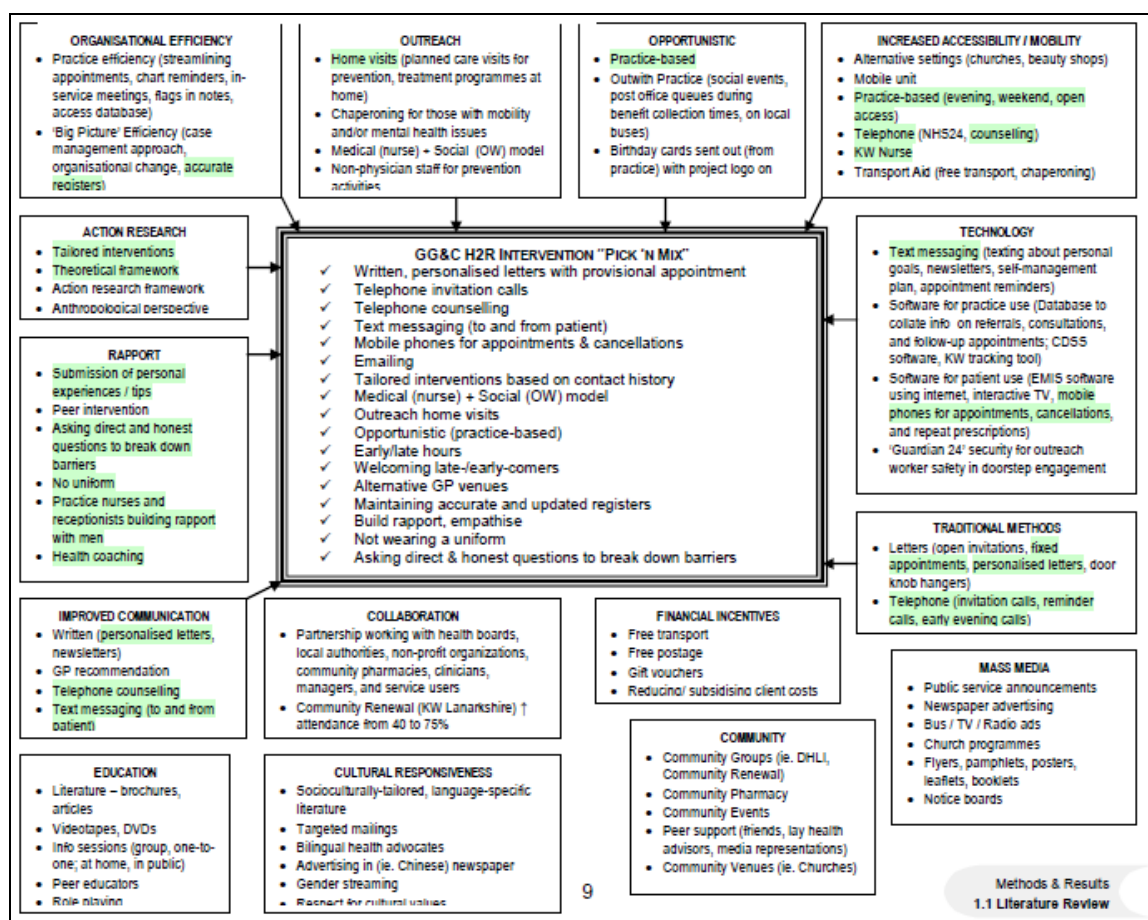
## **Results:**

1. Literature search: the initial search yielded a result of 32,783 papers, of which 5,591 were flagged as potentially relevant and whose abstracts were screened. Of this group, 321 full papers were selected for review, and finally reduced to 34 papers, which were appraised and coded thematically. Selected papers featured studies from the UK, Europe, North & South America, and Australia. Participants ranged from 'hard-to-reach' sex workers and homeless drug users in urban centres, to African American women in low-income areas, to British Bangladeshi in deprived areas of London. Papers typically focused on increasing mammography uptake, cancer screening, diabetes education and influenza vaccination rates, amongst others. In total, fifteen types of interventions were coded from the literature review. The literature review generated many transferable lessons on how attendance at primary care services could be increased for patients who do not usually use health services, for whatever reason. The programme team applied these findings in all subsequent stages of the work. Figure 37 overleaf summarises its findings, with the centre text box indicating the interventions the project team considered most relevant to Keep Well in North and East Glasgow.

2. Perspectives of primary care professionals: Interviews were carried out with 14 out of the 16 participating Keep Well practices. Interview questions varied slightly depending on the occupation of the interviewee, and which aspects of Keep Well were more directly relevant to their role. However, there were two questions asked across almost all of the interviews, which were fundamental to the aims of this project. They were, "Who are still unengaged at this point?", and, "Why do you think they remain unengaged?". Primary Care Staff perspectives on these questions were very enlightening and gave great insight into reasons for non-attendance in this subpopulation.

In summary, unengaged patients were typically viewed by healthcare staff as more commonly male and younger than those who had engaged. Some were considered to remain unengaged because they had relocated and not told the practice, with other suggested practical reasons for not attending including patients who were "too busy" (eg working), looking after dependants, or fearful of crossing unfamiliar territory en route to the practice. Psychosocial reasons for non-attendance were also perceived to be important; these include apathy, needle- or doctor-phobia, worry about withdrawal of benefits or diagnosis of illness, uncertainty of what the health check might entail and, on occasions, a personal 'determination' not to participate as a matter of principle.

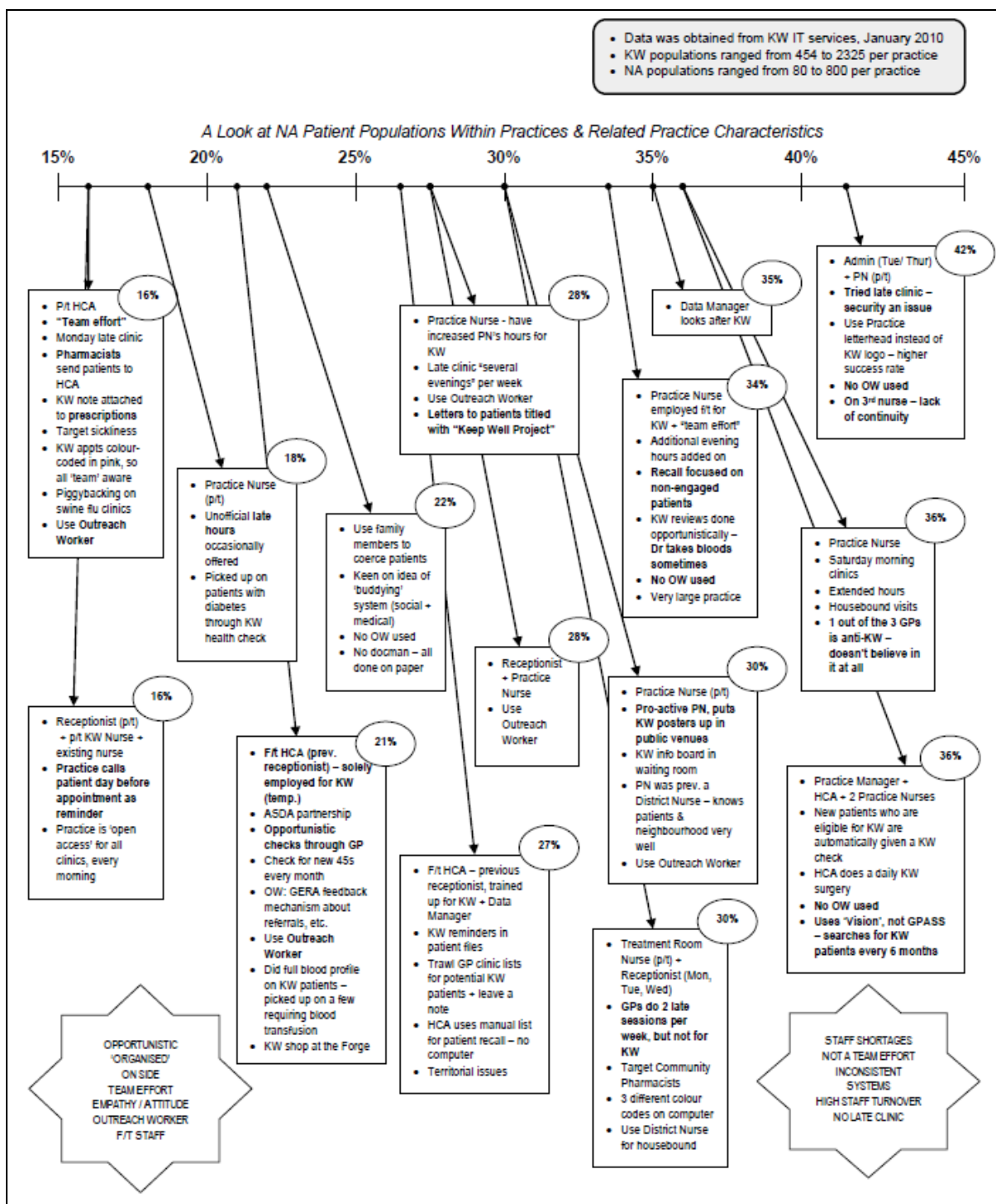
**Figure 37: Summary of literature review findings transferable to 'H2R' Project**



Primary care staff considered that increased attendance could be achieved through personalised invitations to open, flexible slots, invitation phone calls, reminder calls (made by clinical and non-clinical staff), and opportunistic checks, particularly if recommended by GPs. However practice staff defended their current perceived underuse of phoning, texting and opportunistic checks because these methods were usually more time-consuming. Outreach workers were valued by the practices that used them, particularly when they supported data cleaning. However, a small group of practices were not using outreach workers at the time of interviews. Outreach workers felt that patients frequently regarded themselves as not 'entitled' to access services, due to low self-worth, not wanting to 'waste' the doctor's time, or wanting to give priority to 'sicker' patients.

Practice-reported approaches to Keep Well were assembled in a table alongside their practice list size, number of GPs, Keep Well population and unengaged KW population sizes. Practice characteristics were then displayed on a spectrum, aligned with their proportion of unengaged patients (Figure 38). Practices with the lowest proportion of unengaged patients had common characteristics; they exploited opportunistic chances to engage with patients; they used outreach workers; they described their approach as a 'team effort'. In contrast, practices on the other side of the spectrum experienced higher staff turnover, with resultant staff shortages. Outreach workers were less used and late clinics were generally not offered.

**Figure 38: H2R Project 'Ready Reckoner' showing typology of practice systems aligned with the proportion of their target population who remained unengaged**



3. Case note review: Between October 2009 and January 2010, following practice consent, anonymised data were collected from a random sample of ~20 engaged patients per practice in 15 practices (9 North, 6 East). Data were collected from a total of 311 unengaged patients. Data fields were comprehensive and included invitation attempts (number and dates), medical & social history and utilisation of primary and secondary health care services. While almost all unengaged patients had been sent an invitation to Keep Well, the majority (179 / 287, 62%) had not received a phone call from their practice as a first attempt. Opportunistic invitations were rare and only 30% of NA had received OW attempts. As expected, unengaged patients contained a slightly higher proportion of males (159 / 287; 55%) than females. Ethnicity recording averaged 42% in unengaged patients.

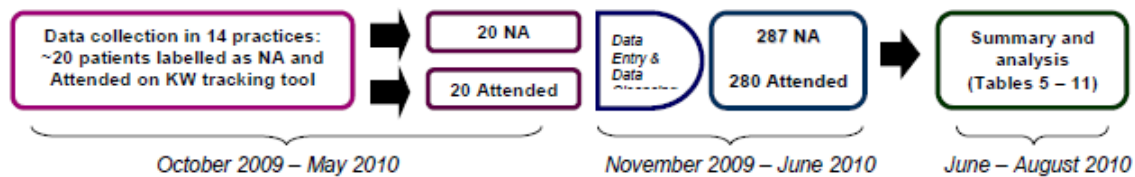
Whilst clearly not attending KW appointments, the majority of unengaged patients (202/287; 70%) regularly used health services; nearly half (123/287; 43%) had used services within the 3 month period leading up to data collection. Further analysis of those who had accessed services (Table 41) revealed that General Practices (GP, Practice nurse, Treatment Room Nurse, or Healthcare Assistant) were visited by 191 / 202 (95%) of those who used any services with many patients visiting these services on multiple occasions. Thirty-nine percent (78/202) used secondary care services. Together these data indicate widespread use of NHS facilities for a variety of reasons. Together, these data indicate the scope for opportunistic practice-based KW Health Checks among the 191 / 287 (67%) of our sample of KW NA.

**Table 41: Utilisation of other NHS services by 202 of 287 Keep Well non-attendees**

NHS services used in past year	Number of unengaged patients using service	Median number of visits (range)
<b>General Practices</b>	191 / 202 (95%)	3 (1 – 23)
General Practitioner	183 / 202 (91%)	3 (1 – 17)
Practice Nurse	70 / 202 (35%)	1 (1 - 19)
Treatment Room Nurse or Healthcare Assistant	18 / 202 (9%)	1 (1 – 2)
<b>Secondary Care</b>	78 / 202 (39%)	2 (1 – 14)
Hospital appointment/ Referral (e.g. Cardiology, X-Ray)	76 / 202 (38%)	2 (1 – 11)
A&E	41 / 202 (20%)	1 (1 – 8)
<b>GEMS or NHS24</b>	22 / 202 (11%)	1 (1 – 5)
Other (e.g. Physio, Mammography, Podiatry)	32 / 202 (16%)	1 (1 – 7)

A high proportion of the clinical data items sought for the case note review in unengaged patients were missing, which did not fit with the pattern of frequent General Practice attendance. It is therefore likely that at least 70% of this group of patients make appointments only when they feel necessary and do not tend to visit their practice unless they see any benefit to their immediate health. Where data were available, there appeared to be a high level of moderate to very heavy alcohol use (59 / 287; 21%), smoking (136 / 287; 47%), and family history of CHD (58 / 287; 20%).

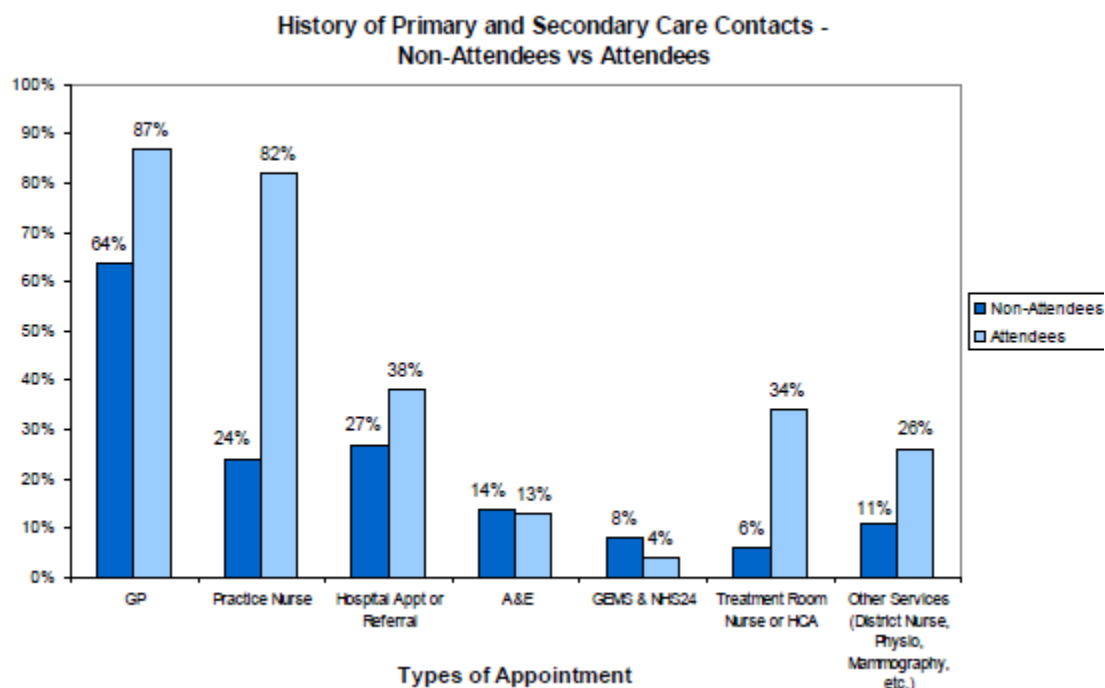
4. Case control study: Defining cases as the unengaged, a sample representing 287 / 5446 (5.7%) of all unengaged patients in North and East Glasgow was used as the basis of a case control study incorporating 280 attendees, representing 280 / 12,782 (2.2%) of attendees.



Logistic regression models (univariate and multivariate) were used to test for differences between unengaged patients and attendees. Based on our previous data collection of unengaged patient characteristics, factors suspected of being associated with attendance at KW checks included: invitation method, gender, age, mSIMD and use of NHS services in the preceding year (type and number). Several of these variables were found to be significantly predictive of attendance, expressed as an Odds Ratio [OR] < 1 with a p-value < 0.0001) or predictive of Non-Attendance (OR > 1; p < 0.0001). For each of the variables, multivariate analysis was performed through stepwise selection to identify the significant variable(s) within the 'invitation method', 'demographic' and 'health service use' parameters.

Although KW attendees generally outnumber the unengaged patients in attendance across most services, the majority of the unengaged were still using health services to a great extent – for example, there were 741 NA appointments with GPs in the past year, with a range of 1 to 17 visits to GPs (Figure 39).

**Figure 39: History of primary and secondary care contacts: unengaged vs KW attendees**



**Table 42: Independent predictors of failure to engage in Keep Well on multivariable logistic regression**

<i>Characteristic</i>	<i>Level</i>	<i>Odds Ratio</i>	<i>p-value</i>
		<i>95% Confidence Interval</i>	
Age	50-54 years	0.551 (0.356, 0.854)	< 0.0001
	55-59 years	0.601 (0.376, 0.961)	
	60-66 years	0.255 (0.153, 0.425)	

<i>Characteristic</i>	<i>Level</i>	<i>Odds Ratio</i>	<i>p-value</i>
		<i>95% Confidence Interval</i>	
Attended A&E	Yes	3.633 (1.951, 6.765)	< 0.0001
Attended GEMS or NHS24	Yes	6.436 (2.624, 15.787)	< 0.0001
Number of Services Used	N/A	0.540 (0.467, 0.625)	< 0.0001

<i>Characteristic</i>	<i>Level</i>	<i>Odds Ratio</i>	<i>p-value</i>
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Attended GEMS or NHS24	Yes	6.436 (2.624, 15.787)	< 0.0001
Number of Services Used	N/A	0.540 (0.467, 0.625)	< 0.0001

<i>Characteristic</i>	<i>Level</i>	<i>Odds Ratio</i>	<i>p-value</i>
		<i>95% Confidence Interval</i>	
KW Letter	Yes	7.813 (2.621, 23.293)	0.0002
KW Face to Face	Yes	0.137 (0.081, 0.232)	< 0.0001
Outreach Worker to Door	Yes	5.626 (3.080, 10.275)	< 0.0001

<i>Characteristic</i>	<i>Level</i>	<i>Odds Ratio</i>	<i>p-value</i>
		<i>95% Confidence Interval</i>	
Age	50-54 years	0.499 (0.293, 0.848)	0.0058
	55-59 years	0.770 (0.436, 1.359)	
	60-66 years	0.376 (0.203, 0.697)	
Attended A&E	Yes	3.205 (1.549, 6.631)	0.0017
Attended GEMS or NHS24	Yes	5.074 (1.822, 14.133)	0.0019
Number of Services Used	N/A	0.636 (0.541, 0.747)	< 0.0001
KW Letter	Yes	5.052 (1.619, 15.768)	0.0053
KW Face to Face	Yes	0.154 (0.088, 0.271)	< 0.0001
Outreach Worker to Door	Yes	5.353 (2.818, 10.169)	< 0.0001

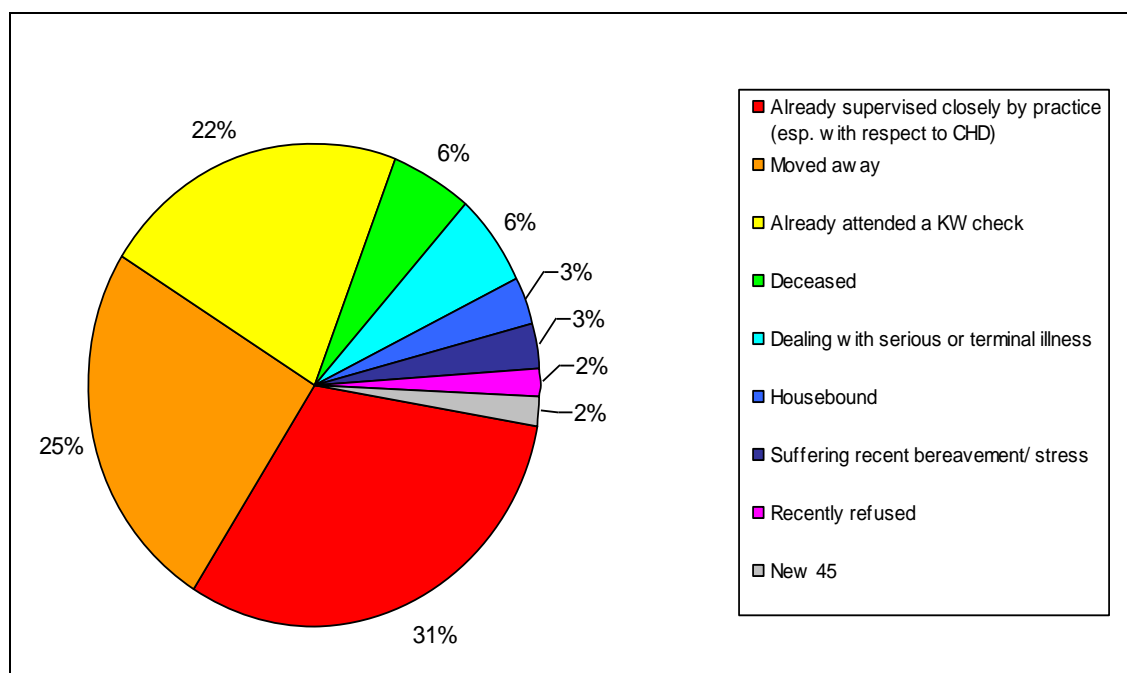


The multivariable regression showed that attendance at A&E, GEMS or NHS24 and the number of services used were significant predictors of non-engagement within the attendance variables and KW Letter, Face-to-Face and Outreach Worker within the contact variables. All these remained significant when investigated together. It is plausible that patients use these emergency services out of hours, instead of their practice, perhaps out of convenience. This is in accord with practice staff perceptions that NA patients are busy, often unable to attend due to work commitments.

5. Pilot of innovative, patient-centred models of engagement: Twelve practices were approached with the offer of practical support to identify unengaged patients with a view to conducting health checks within the practice. Following practice agreement, the nursing team identified a convenience sample of 889 patients labelled as unengaged in practices (average 148 per practice, range 93 – 240). This represented 889 / 2487 (36%) of the total cohort of unengaged patients across these 6 practices.

343 / 889 (39%) of those labelled unengaged should have been excluded (Figure 40). Contact was therefore attempted for 546 / 889 (61%) of the original group after excluding this category of patients.

**Figure 40: Patients identified on tracking tool as unengaged, but subsequently excluded from pilot (n=343)**

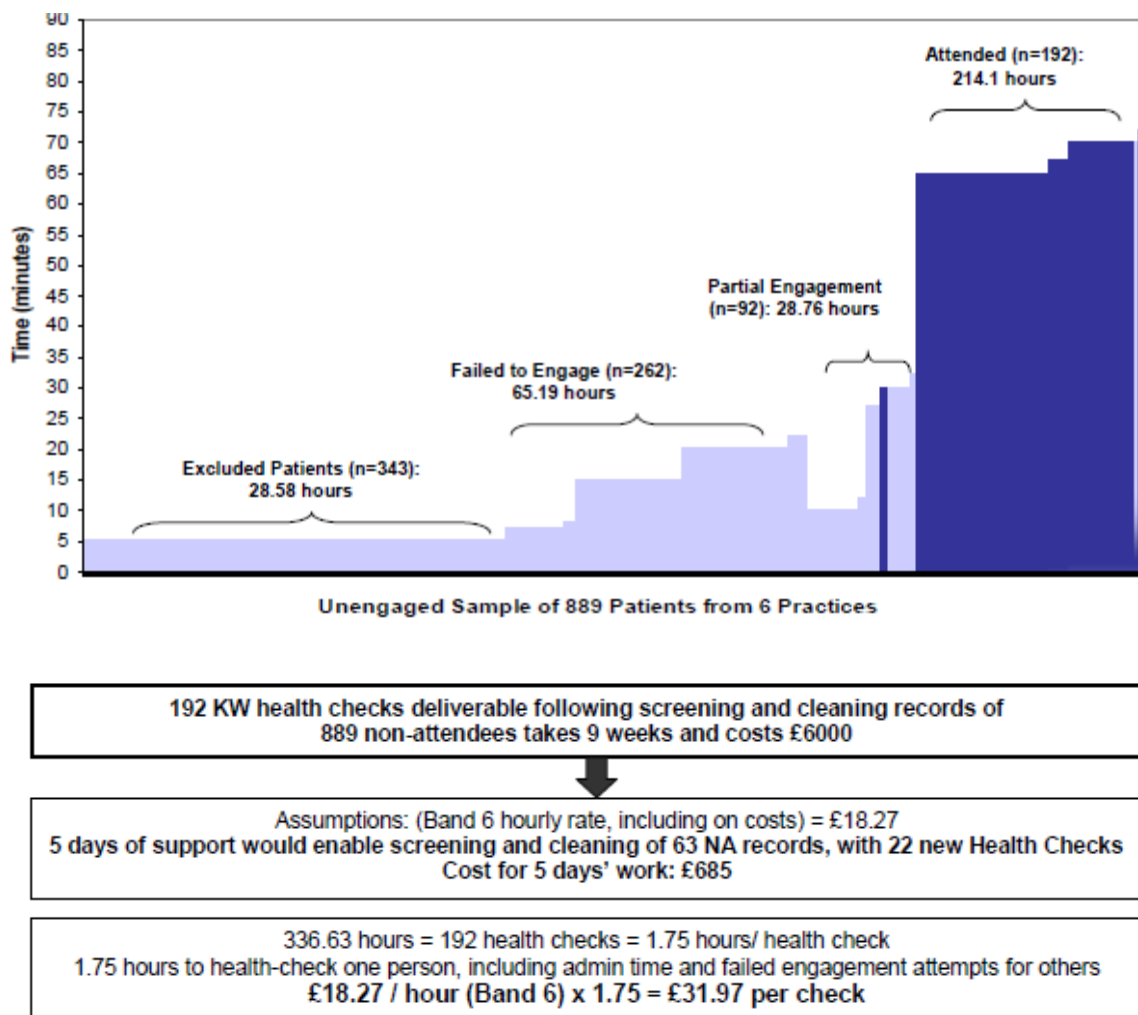


Taking 546 as the new denominator, the team completed Keep Well consultations in 192 / 546 (35%) of those previously unengaged patients. An additional 17% were successfully contacted by phone, text or email and had not yet attended a check by the end of the project, but may have subsequently done. Although these success rates may seem modest, they required minimal personnel (two project nurses, 0.6 WTE and 0.2 WTE respectively), across 3 North and 3 East practices.



This project also underscored the immense amount of administrative work involved in Keep Well, which includes identifying and excluding ineligible patients, updating computer systems, calling and/or sending letters to patients, and if successful, carrying out the Keep Well check and related administration. Figure 41 outlines the administrative and clinical time consumed by these processes for this small pilot.

**Figure 41: Resources used in engagement attempts during pilot H2R project (n=889)**



One of the key findings of inviting and engaging with unengaged patients was the immense time required throughout the whole engagement process. Firstly, some of the traditional, 'speedy' methods of invitation, which work for the majority of the Keep Well population, may not be suitable for the unengaged subpopulation (Table 43). Extra time is generally required as there are multiple barriers prohibiting communication from both the practitioner and patient perspective.

**Table 43: Transferable learning from H2R Project on contact methods for patients who have not engaged, by needs-defined subgroup**

Types of unengaged patients	Unsuitable Method(s) of Contact	More Appropriate Method(s) of Contact
Patients who work during the day	<ul style="list-style-type: none"> <li>Daytime phone calls to a home number</li> <li>Open invitation letters (patient must remember/find time to call the practice during working hours)</li> </ul>	<ul style="list-style-type: none"> <li>Evening phone calls</li> <li>Texts</li> <li>Emails</li> <li>Fixed appointment invitations with the option to reschedule</li> </ul>
Patients who tend to avoid health services and other establishments	<ul style="list-style-type: none"> <li>Open invitation letters (which put the onus on the patient to take action)</li> <li>Invitation phone calls made by staff unfamiliar with Keep Well or not confident when phoning</li> </ul>	<ul style="list-style-type: none"> <li>Phone calls made by Keep Well staff</li> <li>When phone calls not possible, handwritten invitation sent in handwritten envelope, without practice stamp</li> </ul>
Patients with literacy issues	<ul style="list-style-type: none"> <li>Invitation letters</li> </ul>	<ul style="list-style-type: none"> <li>Phone calls</li> <li>Opportunistic appointments</li> </ul>
Patients who are hearing impaired	<ul style="list-style-type: none"> <li>Phone calls</li> </ul>	<ul style="list-style-type: none"> <li>Invitation letters</li> <li>Opportunistic appointments</li> </ul>
Patients who are visually impaired	<ul style="list-style-type: none"> <li>Invitation letters</li> </ul>	<ul style="list-style-type: none"> <li>Phone calls</li> <li>Opportunistic appointments</li> </ul>
Patients who speak English as a second language	<ul style="list-style-type: none"> <li>Phone calls (very often, English is more confidently read than spoken or understood)</li> </ul>	<ul style="list-style-type: none"> <li>Fixed appointment invitation letters</li> </ul>
Patients who have received several open invitations and not responded	<ul style="list-style-type: none"> <li>Open invitation</li> </ul>	<ul style="list-style-type: none"> <li>Phone calls</li> <li>Fixed, provisional appointment invitations with feedback options</li> <li>Opportunistic, if possible</li> </ul>
Patients who have refused in the past	<ul style="list-style-type: none"> <li>Open invitation (no opportunity for further explanation of why the check is important)</li> <li>Invitation phone calls made by staff unfamiliar with Keep Well or not confident when phoning</li> </ul>	<ul style="list-style-type: none"> <li>Phone calls made by Keep Well staff, confident in their approach</li> </ul>
Patients who have DNA'd in the past	<ul style="list-style-type: none"> <li>Fixed appointment invitations</li> </ul>	<ul style="list-style-type: none"> <li>Phone calls made by Keep Well staff, confident in their approach</li> <li>Reminder letters, calls, texts, and emails</li> </ul>

**Implications:** Although there is widespread intuitive knowledge of strategies that can increase attendance at KW consultations among primary care professionals, there is substantial variation in systematic application of this knowledge. Throughout the course of Keep Well, the main presumption has often been that it is patient-related factors, such as fear, apathy, health service avoidance, and health service over-consultation, which are the largest barriers to engagement with Keep Well, and that the key to improved

engagement was addressing these patient factors systematically. Although this is true to some extent, what seems to be an equally significant indicator of attendance determined by practice-related factors, such as the engagement approach, patients' previous experiences with primary care and the accuracy of patient data (e.g. up-to-date phone numbers). Even patients with significant emotional or practical barriers to attending a Keep Well health check can still be engaged through a non-judgmental, empathetic approach and appointment flexibility. Opportunistic approaches, cleaning and better use of relevant patient-level practice data and combinations of evidence-based approaches by sessional nurses reduced the unengaged cohort by 35% in this pilot. 60% of NA contactable by phone will attend following discussion with an experienced nurse with an empathetic approach; patient telephone numbers should therefore be actively sought. Practices would benefit from additional, practical support to clean existing records, individualise contacts and use opportunistic approaches. Outreach Workers should also be engaged earlier and more consistently to visit patients who have not attended after one or two appropriate, customised engagement attempts by the practice. The visit would aim to confirm contact details, whether the person is still living at the given address, and whether the patient is housebound.

## **4.2 Process evaluation**

NHS GG&C's Keep Well evaluation framework recommended an explicit move towards higher quality outcome evaluation, complemented by more focused and purposeful process evaluation to add explanatory meaning to the findings of impact evaluation. The range of activity in these different types of process evaluation is described in the evaluation reports below.

### **4.2.1 Reach and engagement**

#### **Reach and engagement 1: Role of outreach workers in Wave 1**

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**Methodology:** A learning event to capture Outreach Workers' and Equally Well Practitioners' reflections on their role was held in January 2011, attended by outreach workers working with general practice populations and also by those with nursing backgrounds working predominantly with carers and service users within addictions and criminal justice services. The focus group discussion aimed to elicit detail about the following issues:

- The outreach worker job role and function
- The skills and experience required
- The essence of an outreach worker's work
- Which client groups really need outreach worker input
- Engaging with the client group and ways of working

Each discussion was transcribed, then emergent themes within the data were identified and analysed, using a qualitative methodological approach based on a critical realist theoretical framework, which reports experiences, meanings and reality as developed by participants in their shared discussion. These themes were then grouped into two main categories; firstly, participants' reflections on their work to date; and secondly, observations pertinent to future change and development in the outreach worker role.

## Results:

### 1. Outreach workers' reflections on their work to date (Figure 42).

It was quite clear that outreach workers shared a very strong sense of personal commitment and motivation in working with vulnerable and difficult to engage populations, with a powerful sense that they saw their work as contributing to public health and 'making a difference' in communities which they generally knew very well:

*OW4: This is my first outreach role as well. My background is community development and I worked in the xxx in xxx and I worked closely with the community there. I became a development officer at the xxx and found that I was kind of getting bogged down and stuck in the office doing like monitoring and evaluation and reports and things like that and I was keen to get back working with the community and then I saw the job advertised for the Outreach Worker and that is what brought me out of that.*

There was a shared understanding of community norms and the types of challenges faced every day in the people within their client group:

*OW1: If somebody is being unsure about going along - maybe some will come out with it – it's that they haven't got the bus fare - or, you know - they don't know how to get there. Sometimes it's because they don't live in that area and they are scared to go into that area - and that brings up the other side of it - you know.*

Workers could see both advantages and disadvantages of having a clinical role:

*OW1: I found it very beneficial not to have the nursing part so that I am not going in and I am not discussing their medical side of it. I am going in and discussing their fears maybe of getting there and just having conversations about their life and actually getting to just what they want to tell you, what the fear is of going there and how we can get round that and not getting side tracked. Because they do get side tracked but for me it is easier just to say "well I don't know" you can go along for the health check with the community nurse.*

However, the outreach workers with nursing backgrounds who were working predominantly with addictions and criminal justice service users expressed strongly their belief that their ability to engage the target population would be significantly strengthened if they had been able to incorporate clinical tasks within their engagement role:

*OW3: I think as well with our clientele if you get them on day one and what you are saying carried out the physical health check they would engage, I think they would engage. Whereas you are saying to them "well I am doing this today but I need to refer you on the GP I need to make an appointment with the GP or the Keep Well Nurse blah blah blah and they will not go.*

*OW2: That's right. They actually tell you they are not going to go. They sort of shake their head and say "aye OK hen - if I've got time".*

The outreach workers provided powerful insights into the mix of factors associated with non-engagement and the different characteristics and needs of their client group. There was a common denominator of complexity of needs of client/patients, with about 80% of the clients visited at home having very complex and potentially chaotic lives:

OW1: *You get about 20% that are too busy because they are out working or because they get health checks through their work and they don't think - em - it is going to be a waste of time going for another health check. A lot of people say that. I get my blood checked every year - you know - for my job - and things like that or whatever - so they think it is going to be a waste of the doctor's time and their time to go. But that is maybe about 20%. The rest are just .....em .....have rather complex lifestyles.*

AS: *What about X's team – would you agree?*

OW4: *Aye I would say so. I get a lot of people as well that .....em when you start to chat to them they will sit and listen to you and you will describe the services like healthy eating - "oh I eat healthily" - and they are really happy to tell you "I go to the gym, I eat healthy - blah blah blah" - and they are just not interested in the health check because they are doing all of these things already.*

OW1: *Chaotic lifestyles, unemployed, unhealthy diet.*

OW4: *There is a lot of carers as well [talking over one another] I find a lot of people who work shifts, or night shifts and the GP practices are just not opened at times that is suitable for them. I come across that a lot.*

In general, however, low confidence and self esteem was the norm in the workers' client group; countering this norm was part of the rewards some gained from the outreach role:

OW2: *A lot of people who have got low self esteem find that reinforces their low self esteem so this kind of approach really tries to make them feel valued and for me that is the key it is the kind of human friendly element which takes the person first. And the ethos is the most important thing about outreach, it is more important than anything that they say technically, or any technical information that is really about that person-to- person approach - and having a bit of understanding.*

OW1: *I think when you go to their door it gives them a wee bit of self-worth - that we have come all the way out to see them.....*

Reactive (as opposed to preventative or anticipatory) healthcare use was seen as the norm among the client group:

OW3: *I thought as well about people that don't have GP that have no contact. That maybe attend - em - the only attention they get is when they go into hospital and there are so many, from working in the A & E I know there are so many people present and don't go in, they get as far as getting some initial treatment - and then leave. And you wonder what happens to them.*

When asked about the 'essence' of their role, the single feature that resonated most strongly in outreach workers' accounts was its inherent 'client-centredness', requiring them to 'play the long game' at the client's pace, rather than focus solely on getting them into Keep Well health checks:

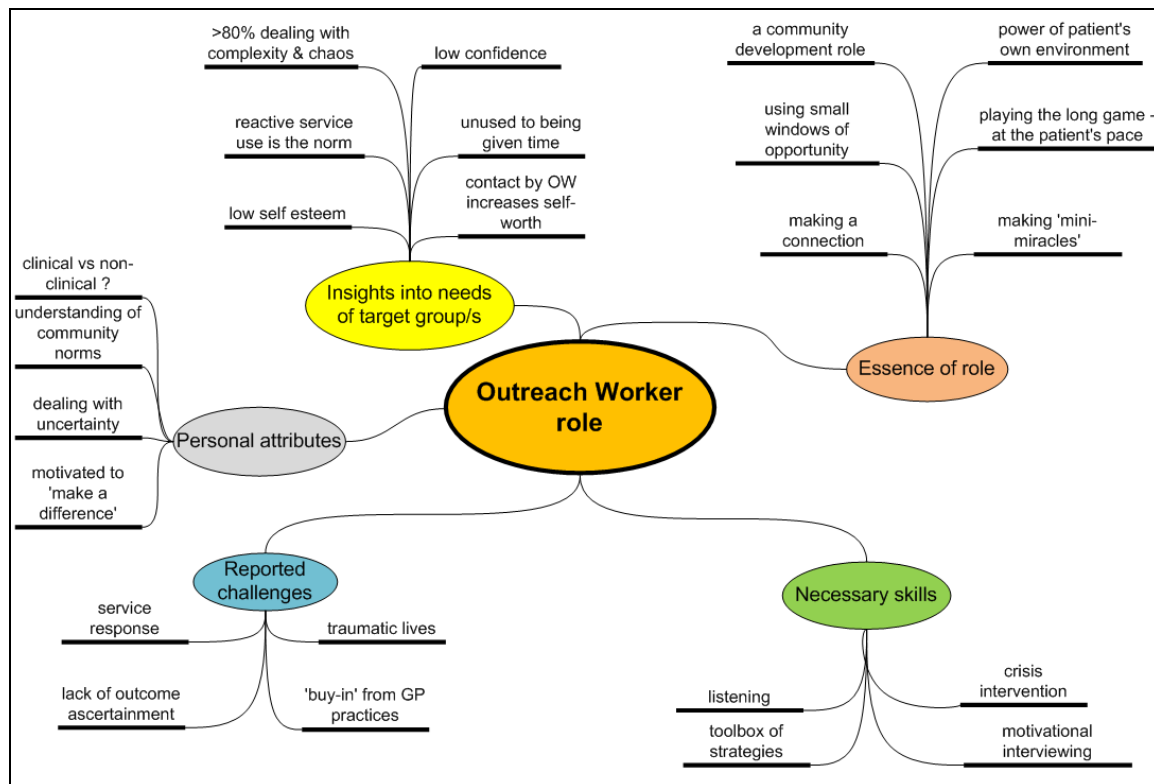
OW1: *Aye just - em - like I said - think fast on your feet and ....em - em - just go with it and - like what you were saying - helping that person identify what is most important for them and sorting that first. It is not about – "you need to get your GP for a health check" - although that is what I am there for, obviously - but sometimes that is just not what people.... em - they just can't do that right at that point in time. So helping them identify what they need first and helping them with that.*

AS: *Anything that people used to do and don't do any more?*

OW2: Making the health check the sole focus that is what I started out doing and then realised this is not going to happen for two or three weeks.

OW3: And there is a degree of flexibility - while we have been - em - we have taken people to the GP, we have taken them to the hospital and have spent maybe hours about talking about things that maybe aren't the most important thing in your mind..... but they need it sorted before they are ready to look at anything else. So I would say the level of support is very different in what we are providing.

**Figure 42: Analysis of outreach workers focus group: learning from experience**



Fundamentally, the role was seen primarily as being about drawing on their communication skills to make a strong connection with the patient as they could achieve, within what was frequently a very small window of opportunity:

OW1: Well, you are responding to them, aren't you? The cues and their body language and - I mean - obviously you are able to think really quickly on your feet and say "oh what am I going to do?"

OW4: Aye - you have got to be creative - if they maybe say "oh listen I haven't got time I am really stressed" you can maybe say - "well, we have got these services here that can help with that and that might catch them" .... And then they will go "oh right", because (interrupted)

OW1: Aye it is making a connection isn't it?

OW4: Definitely - and being able to identify them as well. I think for me having been brought up in xx and I kind of have been through lots of things that maybe people I am going to visit have been through so I can identify with that and I can relate to them. So I think that helps as well.

Workers talked of the transition in dynamics that occurs in going to the patient or client's home, which allows a shared understanding of the context of the patients' lives, as opposed to attending a service and the service 'doing things to' individuals. The power of being in the patient's own environment was recognised as significant by all workers:

*AS: Anything else that makes this work that you are doing unique?*

*OW5: I suppose going to see them in their home is unique. But also given the time that you are there - that you are not just spending 10 minutes with them.... half an hour, 2 hours - talking about them could often be the case. But given TIME.*

*OW1: I suppose not giving up on them. Like obviously you don't get them in because a lot of the services it is 3 strikes and you are out and you are off the register. We keep going and keep going. I know we have had to reduce that a bit because they have been on the list for years - but I suppose we give them more of a chance.*

*OW4: Contacting them in the evening and stuff - you very rarely get anybody else that (interrupted)*

*OW1: Out of hours as well.*

*OW5: One of the doctors I was working with and I fed back on an issue I had asked her to deal with, having seen the patient - and it was like, "well you deal with it, because you have now got a more detailed knowledge of my patient". And so I think that is significant.*

Although outreach workers recognised that individual patients might only be making small changes (and only then after a very long period of time), they appreciated their role in engaging patients at the start of their health improvement journey, as well as the collective impact of multiple small changes, if sufficiently sustained and widespread in the community:

*OW5: Obviously they want to make a difference - the team want to make a difference but they don't see that difference happening. But there IS mini miracles happening. It is what they are doing, because if they are not feeding them in - you know - the people are making these changes and that is where the miracle starts, right at the beginning.*

*OW4: I think it took until we had like a group and stuff and we came together to actually - to see - so it is people that we went to initially and then we saw the outcome and one person, who years later went to college - and that is the part you need to keep remembering that you go to that door that initial contact can get a result.*

Performing effectively as a outreach workers required them to draw on a 'toolbox' of skills, which didn't necessarily differ according to professional background. These generic skills centred on high quality communication, listening, empathy and giving an individual the time to work through a personal goal, whether that goal was about getting a health check or whether that goal was actually about working with an addiction or working with other complex needs. There was therefore clearly a need for outreach workers to possess a very solution focused motivational interviewing set of skills to help people move forward:

*OW5: I think one of the key skills there is having a wee bit of a tool box and you can jump from one approach depending on.... em - because it is not everyone that can deal with a CBT kind of context. For some people, you really are actually starting at the very beginning, to build up their*

confidence before you can even look at anything else. So if you have got that tool box of interventions and things that you can just pull out. And I - thinking, thinking on your feet, as you were saying - we do that quite creatively - em seamlessly.

OW5: ...we actually got our starter training solution-focused stuff and ASSIST training because we were coming across suicidal patients and we felt that we needed more support on how to deal with that. Because of the high incidence of sexual abuse in women in our area. A lot of them are at the end of their tether. And how we deal with that. We felt inexperienced in that - and also having a place to refer them on to - and to bring someone in to do that specifically, because there was no referral onwards and we were just left with a patient who was telling me all this stuff.

OW5: I think very much that is client led but it is also for pointing people forward. I think we are not just listening to people - we are actually moving them into a plan. And probably my own wee technique there is when I am doing the assessment I explain to the person that they have got a wee wish list at the end here, but the thing is - I can put things in the wish list as well. So at the end of the assessment, if an issue has come up - like finance or smoking - and the person has maybe identified a few things - and maybe that is good enough for them to keep them at the forefront of their mind. But at the session they may have half a dozen things, so - looking at relaxation, coping skills, respite care, financial benefits maximisation. Are there any of these that you think is the biggest one? So I think that give people a lot of ownership and it focuses in on and we have got a result.

Building trust and relationships was one of the essential factors without which it would be almost impossible to help individuals move forward, thus participants wanted to see wider recognition of the time required to build that relationship with individual patients:

OW2: I think for me it is learning to take my time. So at first when we get used to the concept of Equally Well Assessment and I was thinking, "right, I have got to achieve these, what do they need to change, what do they want to change? Right, let's get this done and move on". And it is learning to say "no - it is too quick". They might never go for their assessment - but - see if they make some changes? - it is a step in the right direction. That is the biggest thing I have learned.

Outreach workers experienced a range of different challenges in attempting to fulfil their role. Challenges were of two main types; i) dealing with the unmet needs of the client group; and ii) programme and practice organisational challenges. The first of these categories was less prominent than the second, but did highlight the importance of preparation of outreach workers through induction training, shadowing and supervision:

OW1: I have been in some situations where I have thought, like that - somebody that was suicidal - and I had no clue what to do. What I did - when I left - em - the woman's daughter was actually there, luckily. And what I did when I left is - I went straight to the GP practice, because I was at a loss to know what to do. I just sat and listened to the woman and then I went straight to the GP. But that identified for me that I needed some kind of training so I did mental health - which touched on, like - suicide and things like that. But I think definitely a package that is going to cover things that people are going to come up to. Because you are so privileged when you go to somebody's house and they are sharing all of this stuff with you. But sometimes it is a bit too much if you don't know how to deal with it.

Organisational challenges emanated mainly from the fact that not all parts of the Keep Well 'system' had a shared understanding of the needs of their client group. Workers noted that whilst some practices seemed to have embraced the holistic nature of Keep Well, this contrasted with others at the opposite end of the spectrum, who appeared to have a more business-focused, target driven model that didn't appear to grasp the holistic nature of the Keep Well programme.



OW5: *I think some practice managers buy into the philosophy of anticipatory care and they understand that this is about - you know - preventative work, it is about influencing what is going to happen in the future. Others just see it as a contract, a business contract to be managed at the minimum interruption to the general smooth running of the practice. And - to be fair to them - that is their primary function, it is to make sure that the practice runs smoothly.*

Some outreach workers perceived a barrier in actually getting through the practice 'gatekeeper' (usually either the practice manager or practice nurse), with a perception that there was sometimes an initial unwillingness to regard outreach workers as part of a multidisciplinary team effort:

OW3: *You get passed to the practice nurse often, who is there as the gatekeeper to any pressures that are going through to the GP. I am sure there are hundreds of different projects trying to make their pitch to them. But I think once you are delivering results and you are doing your feedback letter to the GP and you are demonstrating this is actually adding value to your practice and I can work very autonomously and very efficiently and just get that connection... em - I think the difference in the working relationship is completely different and I think it is worth spending time doing that and working on that. From basically getting fairly well hammered on my first visit with one practice nurse, em - I was subsequently given cake and tea and given a computer when they realised in actual fact this is going to make us look really good.*

These variations in understanding of the fundamental purpose of the Keep Well programme were not confined to general practice, but also seen in health improvement services:

OW5: *I think it is the attitude of the service. I think you can go to a service and you get this '3 strikes and they are out' - which does not work with these chaotic people. I think what happens - I've seen it personally with services - if the person doesn't turn up, they don't think the person cares. You know, you get that attitude that they 'don't care' - and they say "they are not bothering"..... and it is not that they are 'not bothering' - it is just like - you want to see what they are coping with, you know? .... It is what the patient is coping with.*

## 2. Observations pertinent to future development of outreach worker role (Figure 43).

The outreach workers' reflections within the discussion generated four main types of learning that could potentially inform the future design of the outreach worker function within Keep Well.

Firstly, the programme's aspirations for the outreach component of Keep Well should be raised, with more explicit appreciation of its clear community development potential through influencing family and social networks and thus supporting sustained change within communities. Outreach workers also have a valuable 'barometer' role, feeding back to practices in detail the current social circumstances experienced by harder to engage subgroups within the Keep Well target population and potentially influencing practices to learn and change from this feedback:

OW3: *....As a result of working with that family - because it would be the other family members who would cover the caring role - 3 people gave up smoking. And it was - when we started it was like an opium den and it was reeking. And then I went in this day and it was - like - really DIFFERENT. The carer I have to say was still smoking a pipe - she was keen on her pipe, which was a big odd to see! But no, em - it is very common. People do make massive strikes and it is not all doom and gloom. People are actually kick starting their lives again.*

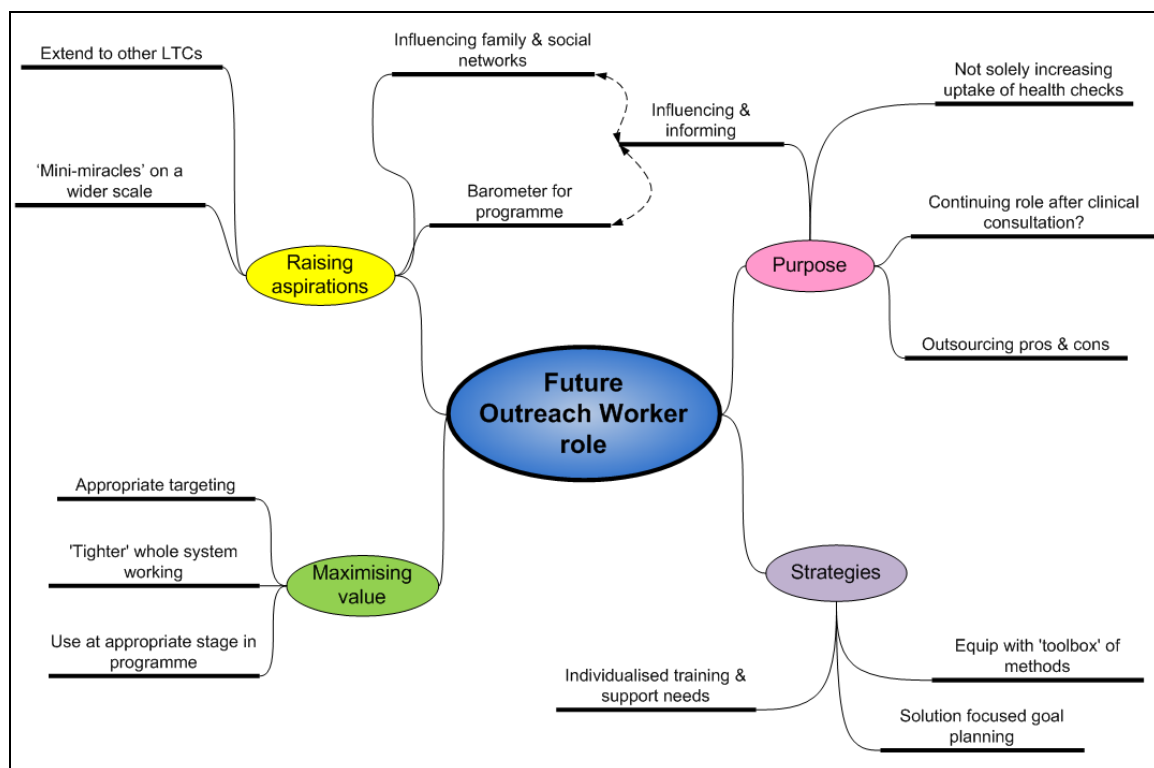
AS: And do you attribute that to the work that you have done?

OW3: I think we are the catalyst. We were there at the right time and they were thinking about it for a long time and then it is like you are there and it's- like - let's do this now.

These aspirations could be extended beyond primary prevention, to include case management of other long term conditions:

OW5: I think coming back to what you were saying earlier about treating the GP practice almost the same way that you would treat the client if you are using motivational interviewing. I think finding out what their real engagement challenges are. They might not necessarily be Keep Well that is high up in their mind it could be diabetes or COPD or something else and maybe having an outreach service which was able to be responsive to that for the practice. We have piloted, I don't know if you talked much about the diabetes but one particular practice a GP took the initial to say look this outreach thing is quite interesting but my main concern is chronic non attenders of my diabetes clinic, can you go and do something with them and you know just small numbers 20 people but we were able to get a dozen of them back engaged with the GP practice within about 4 weeks and that starts to really change their perception because diabetes is higher up on a GP's agenda possibly than prevention.

**Figure 43: Analysis of outreach workers focus group: implications for future role**



In this way, outreach workers can play a valuable influencing and informing role, which helps consolidate a shared ethos through the process of feedback and collaborative experience in the care of individuals and families:

OW4: I think there is still a challenge in working in the health service to try to break down this attitude and potential for the perception that if people don't engage, they are not interested.....

*there is still this - em - a little bit of work to do in understanding the needs and complexities of the client groups you are working with. I think there are two approaches – the first one could be if they are very business orientated then let's make the business case for targeting these people because they are going to cost the NHS a lot more and use up a lot more resources. But also there is compassionate part you know these are the people that are most vulnerable and most need that extra type of support. There are two different messages there which may hit different personalities.*

There are clear strategies to maximise the value of outreach workers in the future delivery of anticipatory care; these include appropriate targeting; closer integration between outreach workers, clinicians, health improvement services and programme managers; individualised training needs assessments, with a particular emphasis on motivational interviewing and solution focused goal planning, which are clearly fundamental to the outreach worker role:

*OW5: Because fine you can arrive at a mutual understanding that practices understand a bit more about outreach after 2 years but you don't start off knowing all that and I think we really need to, I know we have got some good practice guidance which is a manual it is much better and we have got proper engagement protocol now. It is so much better than it was at the beginning and that has just come from learning, the same as practitioners of the ground have learned to do things differently. So now that we have got all that learning we should probably do something that is a bit imaginative than a manual that just basically says this is the role of the outreach worker, this is when we call them, we haven't got a lot of spare em so let's not waste this resource on people that are going to come in through other strategies.*

*OW4: I am X. One of the XXs and probably I draw very heavily upon the fact that I am not a master of anything but I have done everything I think just about. So I think probably on a day to day basis I am relying mostly on my motivational work, counselling skills, awareness of the recovery model in mental health and .....people have multiple issues so really to generalise is difficult.*

**Implications:** Outreach workers should be clearly recognised as a vital, permanent component of the Keep Well workforce. Their strategic objectives, skills and competency set should be more firmly embedded and understood as part of a coordinated system, working in close alignment with practices and health improvement services in a local anticipatory care system. Outreach workers can provide powerful insights into the mix of factors associated with non-engagement and thus offer a rich source of organisational learning, if effective systems are established to capture and act on this. In order to maximise their potential, outreach workers need to be well supported and trained across a wide range of patient engagement, communication and motivational interviewing techniques.

## **Reach and engagement 2: Role of outreach workers in Wave 2**

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**Methodology:** This process evaluation was commissioned locally in South-West Glasgow in summer 2009 to explore the impact of both the Outreach Worker and Health Case Manager roles on the patient journey through Keep Well. Its methodology comprised the following:

- analysis of the databases held by the Community Renewal team and consideration of their paper based records;

- 18 semi-structured interviews with a variety of stakeholders, including CHCP staff, Keep Well staff, those on the local steering group, the Outreach Workers, Health Case Manager and patients;
- 3 focus groups, with programme providers and primary care staff (supplemented by individual interviews); and
- 110 structured telephone interviews with patients, half who had contact with HCM/CHOW roles and half who had not.

## **Results:**

Activity data: The number of outreach worker clients grew progressively over the course of the project, with the number of active clients remaining high, at around two-thirds, as cases remained unresolved. According to the outreach worker spreadsheets, of the 813 referrals to outreach workers:

- 238 people received appointments for screening, of whom
  - 155 people attended
  - 132 had incorrect contact details
  - 21 found their appointment to be unsuitable
  - 158 people wished no further contact
- 264 were still to be engaged

Two-thirds of outreach worker referrals logged as 'inactive' were resolved within a week of referral, usually for one of the following reasons:

- it was established that contact details were incorrect
- an appointment was made
- they declined to participate in Keep Well.

At the time of the evaluation in mid-2009, when the Wave 2 programme in SW Glasgow had been established for over a year, there had been very few recent outreach worker referrals and 824 clients (92%) had been 'active' for more than 14 weeks. Of those, 358 (60%) had not been contacted for at least three months. 535 (55%) outreach worker clients had been contacted once or twice by outreach; a further 258 (26%) had been contacted 3 or 4 times. Half of all clients contacted by outreach workers who made an appointment (122; 51%) required just 1 or 2 contact attempts in order to do so. Few home visits were conducted in the evening, particularly in the winter, and there were no weekend visits, so the outreach service did not extend far beyond that of traditional 9 – 5, Monday to Friday availability, thus may not have reached those in employment and the harder to reach.

Patient views: Half of patients interviewed (49; 48%) had initially heard of Keep Well when they were at their GP surgery for something else, 40 (39%) had heard of it via a letter from their GP and 5 (5%) had first heard of it via an outreach worker. 70 (65%) definitely wanted to attend the Keep Well screening whilst the remaining 29 (27%) were unsure. 84 (77%) had no concerns about Keep Well before attending the screening.

The screening was rated highly, with 84 (77%) rating it as 'very good' and 24 (22%) as 'quite good'. The overall view considered it to be thorough, reassuring and patients felt valued from someone taking time to listen to them/show interest in their health.

Many patients were unable to isolate outreach worker input from GP practice input and so were unable to rate the support provided. Of those who could, 10 out of 15 respondents stated that they attended the screening because of the outreach worker input. Of the 13 patients able to rate the support provided from the outreach workers, the mean score was 8.77 out of 10.

When asked what difference Keep Well had made to patients' lives, the mean score was 6.25 out of 10 (where 0 was no difference and 10 was a big difference). Whilst this cannot be fully attributable to the outreach worker roles, they are likely to have made some contribution.

Other stakeholder views: The outreach worker role was perceived to add value to Keep Well, as more people have attended screening than would have without their input, but stakeholders found this difficult to quantify or to know whether they provided value for money. Some stakeholders found it difficult to rate the outreach workers with respect to how effectively they had engaged with 'hard to reach' patients, but those who felt able to comment rated them highly – an 8 or 9 out of 10.

Although there were formal meetings between services and practice managers, in addition to a range of other meetings, there appeared to be limited discussion between practices for the purposes of sharing learning.

Practices varied in the way they referred to the Community Renewal (CR) outreach worker team and to most other services, with some referring a large number of patients quickly whilst others were more reticent. Practices also delivered Keep Well in slightly different ways in terms of how they selected patients, how they contacted them, when/how many Keep Well sessions were run, how they referred to CR, etc., but all were generally satisfied with the number of health checks conducted to date.

The fact that CR is external to the NHS was considered to have advantages, such as the experience of outreach work elsewhere and potential speed for change, and disadvantages, such as the lack of buy-in from practice staff. The Community Renewal team were positive that they work in partnership with both practices and services as part of the 'Keep Well family' but Keep Well is all that CR staff do and just a small part of the role of practices and services, so practices and services consequently felt less strongly aligned to the Keep Well programme. Partnership working has improved over the course of the project, as relationships have developed, staff became familiar and the CR team started to have an impact on attendance rates, etc., despite some tension at the start.

Three distinct benefits were perceived for practices. Firstly, the Community Health Index (CHI) records were 'cleaned' by outreach workers, who identified that 132 patients (16% of those referred and logged on outreach worker spreadsheets) no longer lived at the address the practice held. The outreach workers also encouraged 238 patients (29%) who had not responded to the practice invitations to attend a Keep Well screening appointment, although only 155 (19%) of those referred actually attended. Thirdly, patients are encouraged to improve their health, both via initial attendance and via

health case manager intervention. Practices also reported that some patients were feeling harassed by the number of contacts by the outreach workers. Some patients were worried that there was something wrong with them because of this. Others just found the home visits too intrusive. This was a particular issue at the start of the project, when the outreach workers had few contacts to pursue, so contacted people repeatedly within a short space of time.

Finally, in relation to the success of outreach workers with tackling the inverse care law, those stakeholders who felt able to comment awarded the team an 8 or 9 out of 10. Some practices felt that people had attended screening who would not have otherwise, although the total number of referrals did vary by practice. Maintaining Mental Wellbeing screenings were considered to be well attended and this was attributed in part to the work of the outreach workers, although it was recognised that other factors may have affected this.

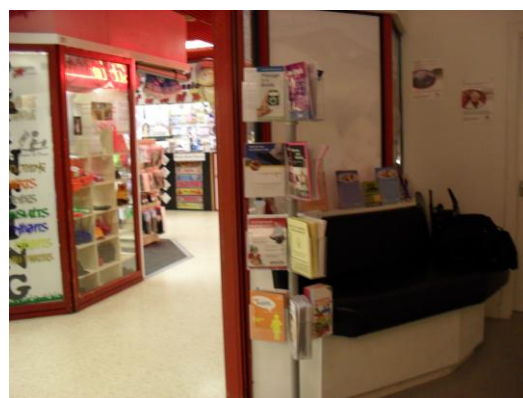
**Implications:** Generally, this evaluation provided evidence to support continuation of the outreach worker role, although it identified scope for other delivery models. It concurs with the recommendations in the above section ('Reach and engagement 1: Role of outreach workers in Wave 1') to further develop the outreach worker role and consider its wider application to other long term condition management programmes.

### **Reach and engagement 3: Role of a community health shop in Wave 4**

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**Methodology:** 'Keep Well in your community', a health shop situated within The Forge Shopping Centre, was opened in October 2009 as a community resource for information and advice on Health & Wellbeing. The Keep Well shop is located within the Forge's 'In Shops', comprising 84 small retail units. The premises consist of a small reception/waiting area and two small rooms enabling 1 to 1 consultation sessions, smaller group sessions and drop in facilities (Figure 44).

**Figure 44: Keep Well Shop in The Forge Shopping Centre, Parkhead, Glasgow**



The CH(C)P defined several purposes for the shop, including: -

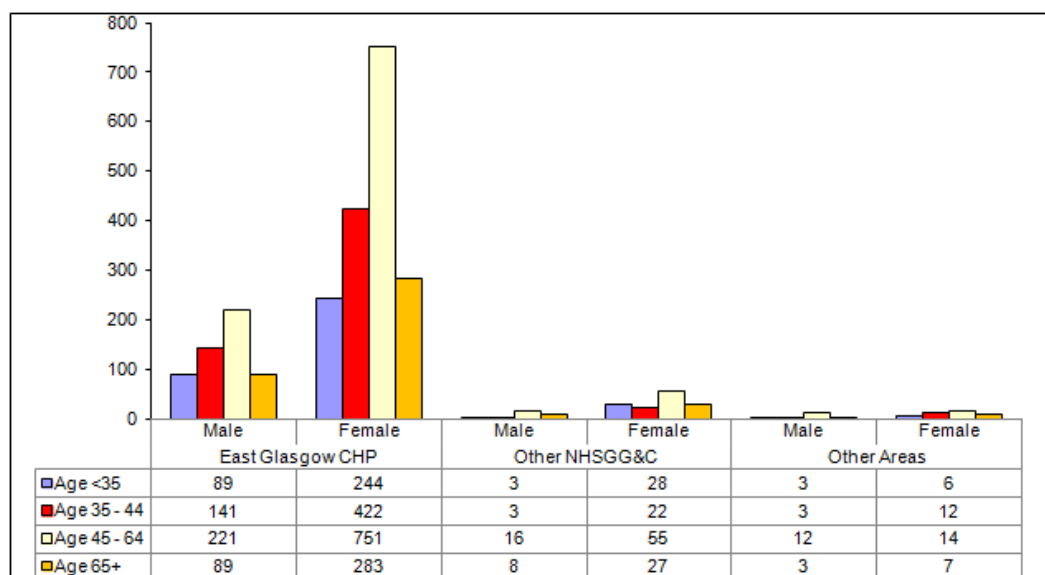
1. Providing an opportunity to engage directly with the local population
2. Raising awareness of health issues with the community.
3. Promotion of Keep Well and encouraging uptake of KW consultations
4. Direct delivery of Keep well services within the community
5. Allowing opportunities for delivering services outwith core working hours
6. Providing a link between the Community Health Partnership and other community organisations, including voluntary services.

The following services were established :

Money Advice; Tobacco Advice; Alcohol Advice; Training & Employability; Learning & Literacy; Physical Activity; Stress Management; Healthy Eating; & Mental Health & Wellbeing.

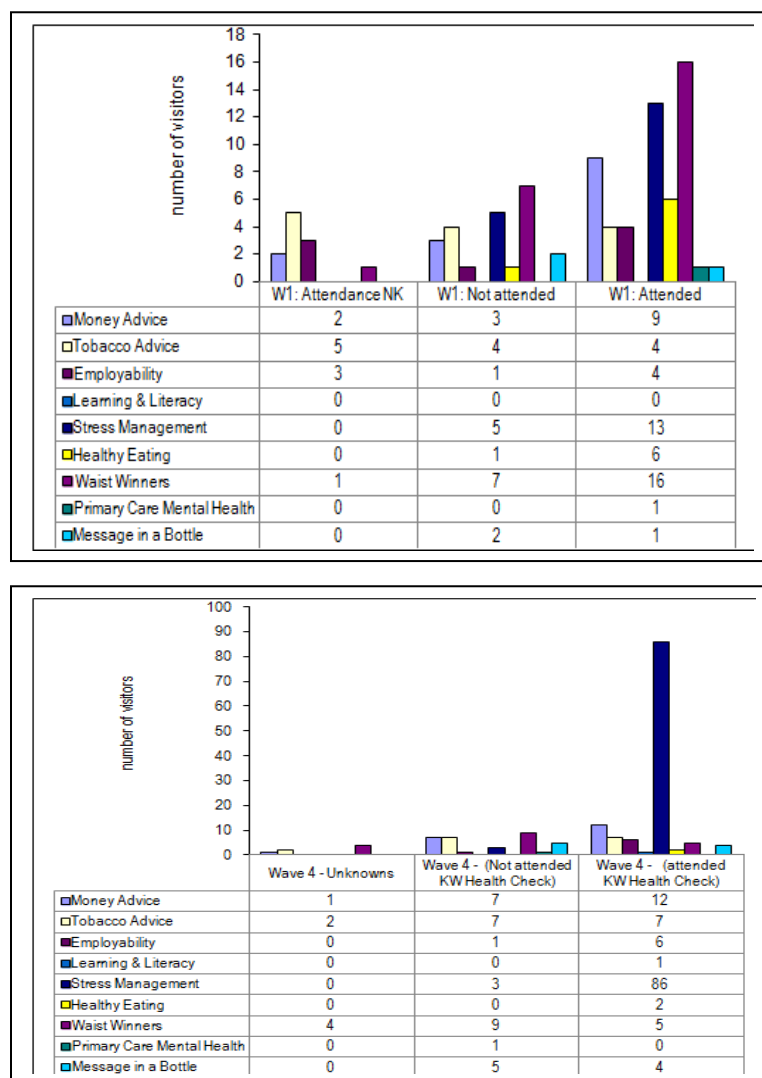
**Results:** By October 2010, 10 months after opening, a total of 2,462 visits had been made to the shop, 591 males and 1,871 females, with 2240 (91%) of visitors residing in East Glasgow CHCP and 972 (43%) in the Keep Well eligible age group of 45-64 (Figure 45).

**Figure 45: Age profile of KW shop visitors, by area of residence, October 2010**



88 patients eligible for Keep Well Wave 1 used health improvement services within the shop, of whom 23 (26%) had never attended their Keep Well health check (Figure 46). 163 patients eligible for Wave 4 accessed services within the shop, of whom 33 (20%) had not attended a Keep Well health check. A further 399 local residents outwith Keep Well practices used the shop's health improvement services. During its first 10 months of operation, the 'Keep Well in your community' initiative signposted 214 Keep Well eligible patients and 1,752 other local residents to health improvement services.

**Figure 46: Use of health improvement services at shop, by Keep Well  
i) Wave 1 and ii) Wave 4 attendance status, October 2010**



The shop was perceived to strengthen relationships and trust within the local community, representing not only Keep Well but also the Community Health Partnership and Voluntary Organisations. It added a new, flexible dimension to the Keep Well project and has been well utilised by health improvement services and practices within East Glasgow, with evidence of uptake by a sizeable minority of unengaged patients. Stress management and weight reduction services received the highest 'footfall' at the shop. Patients reported the shop to be an added benefit to their local community and staff valued taking services to the population rather than utilising only Health Service premises. Although staff capacity remained a continuing challenge, 'Keep Well in the Community' was reported as one of the key success stories of Keep Well within East Glasgow CH(C)P.

**Implications:** Locating a health shop in a busy community setting offers potential for integrating primary care and community based health improvement and may also offer opportunities to strengthen the effectiveness of the outreach worker role by providing a



'bridge' to primary care services in a community setting. The dual approach of combining a physical base in the community with peripatetic outreach workers has demonstrated synergistic effectiveness in other public health contexts where outreach practitioners have been used. However, a more rigorous evaluation framework will be essential to ensure that the potential value of this intervention is captured.

#### **4.2.2 Practice processes & delivering health checks**

##### **Delivering health checks 1: Deployment of resource within practices**

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**Methodology:** A survey of practices' use of the additional capacity funded by Keep Well was conducted in early 2010, led by each of the Keep Well coordinators.

**Results:** The inconsistency of data provided did not allow meaningful analysis

**Implications:** If this exercise were being repeated, it is recommended that a single individual takes responsibility for the consistency of approach to ensure valid measurement of resource allocation within practices

##### **Delivering health checks 2: Keep Well consultation competencies**

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**Methodology:** In order to capture a better understanding of the core competencies required of health practitioners (HPs) for delivery of Keep well and the extent to which existing practice approximates to this, a focused research project was commissioned from Glasgow University, with the following aims:

- To define the core consultation competency framework required of health professionals to deliver the objectives of Keep Well.
- To examine the 'fit' of observed practice within Keep Well consultations with this framework.
- From the perspective of individuals attending and health care professionals delivering Keep Well consultations, to explore their experience in relation to this competency framework.

Ethics approval was sought and granted. An initial literature review was conducted to define a competency framework for HPs conducting Keep well consultations. A comprehensive analysis of relevant literature was undertaken, which was synthesised to form the framework of competencies for health care practitioners in primary care settings. Electronic databases including Ovid MEDLINE, Embase and PsychINFO were searched for papers from the year 2000 onwards. In addition grey literature was searched. This included literature on psychological aspects of health behaviour and behaviour change; communication skills within health care settings; patient centred health care approaches; and skills for motivational interviewing and brief motivational interventions in primary care. In addition, searches were carried out to identify and evaluate existing competency guidelines for HPs in primary care settings.

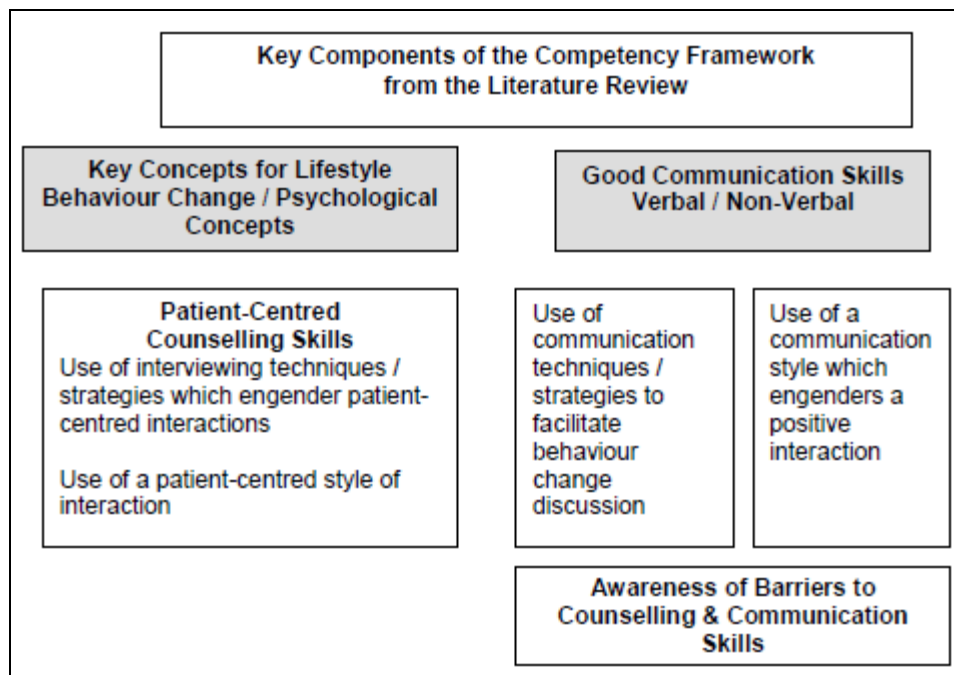
Data were then collected from direct observation of filmed Keep Well consultations, interviews with HPs and patients, and analysis of the Consultation and Relational Empathy (CARE) measure. Analysis of filmed consultations used validated tools (Behaviour Change Counselling Index [BECCI] and SOLER measure of non-verbal

communication skills). A qualitative analytical approach was adopted and all observations and interviews were thematically analysed using NVivo software programme and

## Results:

Literature review: Key consultation skills identified from the literature review included an understanding of psychological concepts of behaviour change, communication skills and patient-centred counselling skills (Figure 47).

**Figure 47: Framework of skills and strategies developed from literature review**



The full literature review is embedded as an electronic appendix to this report (Appendix 2).

The analysis of consultation content then sought to capture the extent to which observed practice within Keep well consultations fitted with this competency framework. Six HPs were recruited from four Keep Well general practices in two NHSGGC HCPS and 16 consultations observed. The consultations consisted of a structured approach; providing information, advising behaviour change and referral to other agencies.

General Observations: The majority of HPs were allocated 45 minute appointment slots for Keep well consultations. The observed length of the 16 recorded consultations varied from 18 to 65 minutes; consultation length showed internal consistency for individual HPs (Table 44). HPs differed in the average time spent looking at the computer screen (3.2 to 18 minutes) and looking directly at the patient (5.3 to 21.5 minutes). Observed differences were not associated with length of time in post or type of HP, however a higher proportion of time looking at the patient did show an association with higher BECCI scores.

**Table 44: Distribution of consultation length, by practitioner**

Health Practitioners (HP)	HP 1	HP 2	HP 3*	HP 4	HP 5*	HP 6*	All HPs
Average length of consultation time (minutes)	25.5 SD 7.3	62 SD 0	48.3 SD 6.2	62 SD 0.5	33.3 SD 5.4	24 SD 2	42.5 SD 15.4
Average total time looking at the computer (minutes) (%of total time)	7.3 30%	18 29%	7 14%	13 22%	3.6 11%	3.2 13%	8.6 20%
Average total time looking at patient (minutes) (%of total time)	5.3 17%	15.5 25%	21.5 45%	20.1 32%	13.3 40%	9.7 40%	14.2 33%
% of average total rest of time e.g. clinical measurements, form filling	53%	46%	41%	46%	49%	47%	47%
* indicates HP with the highest BECCI scores Key: SD is standard deviation							

**Advice Giving:** Giving advice about lifestyle behaviours throughout all the 16 consultations was a strong recurring theme in the researchers' notes. To the observers this appeared to be the main aim of the HPs' consultation style. Much of the advice was brief and accurate then leading to offers of referral to a health improvement service. However the advice was commonly not overtly sought by patients and there were some signs of passive resistance which were not picked up by the HPs. The most common signs of resistance were minimal responses using yes/no answers, leaning away from the HP and occasionally interrupting. One researcher commented:

*"the nurse did not seem to pick up on clues to discuss feelings about issues related to weight and smoking. Went straight into asking about fruit and vegetable portions and when patient said he had none then used a healthy eating questionnaire to explain about diet".*

On the whole, patients tended to be passive participants within the consultation, listening to the advice. Even when HPs occasionally used open and curious questioning styles to engage the patients they frequently answered their own questions or did not encourage, or indeed wait, for detailed responses from the patients. Open questioning was the most patient centred approach used with rare examples of reflective listening, affirmation or summarising techniques observed.

**Template Management:** All the HPs used the Keep Well template throughout the consultations, seemingly using it as a helpful guide to the structure of the consultation. This provided a similarity across all 16 consultations; HPs undertook clinical

measurements, followed by closed questions to gain information about lifestyle behaviours and social issues. The nurses used the template to check patients' past medical history, print out both referral and questionnaire forms and provide information. The computer template was mostly introduced by the HP to the patient at the outset as an integral part of the consultation. As such, when HPs appeared to be less confident about asking certain questions, in particular financial concerns and alcohol intake, nurses indicated that they asked these questions because it was "part of the template".

A subtheme within the template was risk assessment. Possibly as a result of the template indicating that a risk assessment should be done, the HPs raised this issue with the patients. Most often this was similar to other information giving, that is providing a standard response. This included explaining that a cardiovascular risk assessment would be done once all the information was available and, if necessary, the patient would be asked to return, possibly for treatment from the doctor. Although the health care assistant did not do this calculation, she described the process. On three occasions, with different HPs, patients queried the information provided. Each time the HPs found it difficult to provide the information in a way that seemed to satisfy the patients' queries. One observer note stated:

*"The nurse seemed quite uncomfortable. She did a risk assessment and said it would be 14% in the next 10 years. She repeated the score with another tool which gave 10.1%. The patient expressed concern over her increasing cholesterol levels in the last few years and wondering why the nurse isn't able to answer questions on risk scoring and cholesterol. Patient says she will speak to doctor."*

Offering Referrals: The final main theme identified from the notes was the emphasis on referrals. Like advice giving this was observed to be one of the main HPs objectives. The template is designed to support HPs make referrals, not only to lifestyle services but also to diagnostic testing such as spirometry, ECG etc. Most HPs completed the forms while the patient was in the consultation, except HP1 who also had the shortest length of consultation (table 3.1). One observer note described the referral process:

*"offers referrals for the sake of it, not stemming from any discussion, tells patient, 'she would benefit' and just ask, 'are you happy with that?'"*

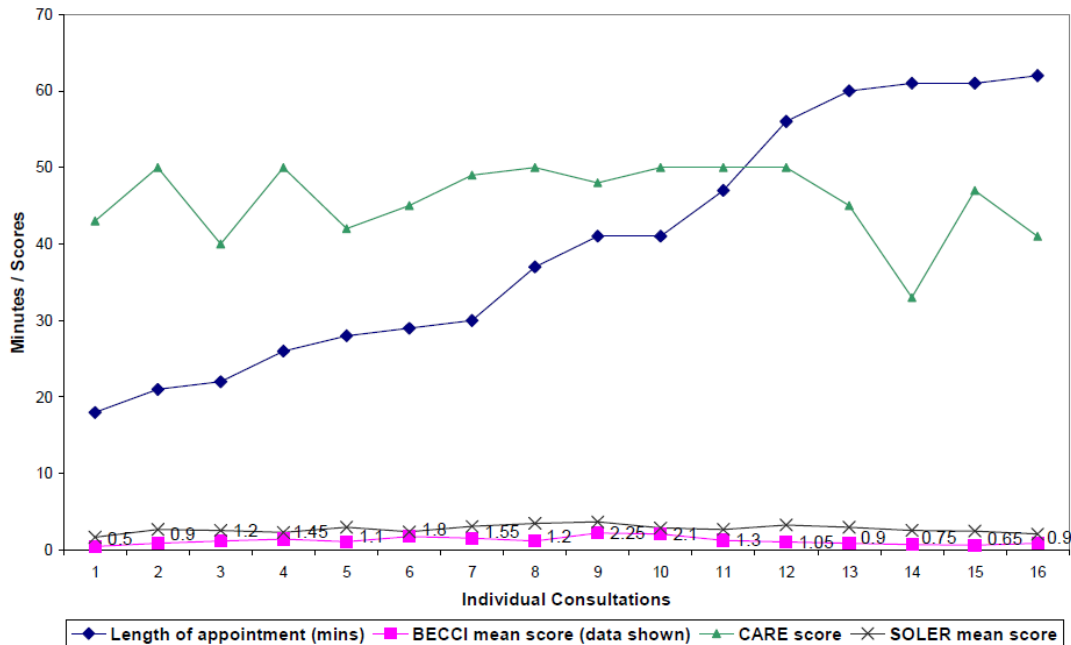
Most consultations resulted in at least one referral however, three referrals to different lifestyle services were observed in a few consultations. There were no referrals to financial inclusion services.

Data collection: Collecting information took place throughout the consultation, however clinical data were generally entered into the computer during the early part of the consultation, typically within the first 7 to 15 minutes. It was observed that clinical measurements took longer if shoes were removed or blood pressure measured twice, which was rare. The results of these clinical measurements indicate that most patients were overweight or obese, had poor diets and were smokers. Thus this small sample of patients appeared representative of patients receiving Keep Well anticipatory care consultations.

Care measure: All patients completed the CARE measure on exit from the consultation, with an overall average score of 45.8 (SD 4.8) out of a possible maximum score of 50. The average for each HP ranged from 41 - 49.3. Clearly the patients considered the HPs

to show much empathy and care during the Keep Well consultations. CARE scores are plotted against length of appointment time and other scores in Figure 48.

**Figure 48: CARE, BECCI & SOLER scores by length of appointment.**



The Behaviour Change Counselling Index (BECCI): The two researchers independently scored all 16 consultation tapes with the 11 BECCI items. The average BECCI score from all consultations (n=16) was low, at 1.2 (SD 0.5), which suggests minimal use of a patient-centred style of behaviour change counselling. Although the results of the literature review considered this to be an effective lifestyle change style of counselling, only two of the HPs in this study had received formal training on brief negotiation skills and techniques. One received training over 5 years ago and the other had attended a half day introduction, however their average scores were not among the highest of the overall group. Average individual HP scores ranged from 0.76 (SD 0.1) to 1.8 (SD 0.2). BECCI scores for individuals showed little variation, suggesting HPs used a similar counselling style with different patients.

SOLER score: Each of the 16 consultations was assessed for non verbal technique using the SOLER scoring system. The total average score for all consultations was 2.75 (SD 0.5) with a possible maximum score of 5. Overall, each of the five non-verbal techniques was used well throughout the HP consultations (figure 3.6). The average SOLER score from each HP ranged from 2.1 to 3.2. The item that was generally less well scored was sitting squarely. This seemed to be due to the frequent use of the computer's mouse throughout the consultation resulting in the HPs twisting in their seat to enable periods of eye contact with the patient. However low BECCI scores (average score 1.2 SD 0.5) and analysis of filmed consultations suggested there was little use of the patient led approach as described in the literature.

Participant perspective of the Keep well consultations: HP and patient factors and the computer template were considered important influences upon dialogue about healthy behaviours. Most interviews conveyed the importance of advice giving within the

dialogue, risk assessment also featured highly. HPs expressed the importance of making referrals as an outcome to the consultation, to health improvement services and to other medical services. Only some patients reflected upon the referrals that had been offered or given.

The longer length of appointment was highly valued by both the HP and patients.

*“You know you’ve got the time to discuss, basically everything as well as your, Keep well. Anything that’s concerning them. But if you tend to go for a five-ten minute appointment its like oh right, bloods done, bye.” [HP]*

The HPs considered longer Keep well appointment times were necessary to be able to complete the template, provide advice and refer to services.

HP views of Keep Well patient group: The HPs frequently commented on the characteristics of patients which they felt impacted on their ability to complete a successful Keep well appointment. Most patients were considered to be receptive to changing lifestyle, but not always. In particular, HPs thought that having identified someone who was not motivated, it was best not to pressure them in case it would affect future contacts.

*“I feel, sometimes, like in these kind of deprived areas, we have families, and sometimes if you push them in a direction, they’re gonna, dig their feet in and say no. So sometimes it’s trying to get the balance between encouraging somebody and not putting them off. Not getting their back up.”*

‘Pushing them in a direction’ often meant towards a referral. Some patients in the interviews made it clear this was not an option for them. Patients described the HPs as very relaxed and interested in them holistically, even comparing them to HP seen in the past who they considered to be less receptive to their needs. Terms used to describe their characteristics included:

*“She was really very nice through everything.” [patient] “Just felt comfortable, she was quite approachable.” [patient]*

HPs’ confidence in delivering the Keep Well consultation seemed to influence the style of dialogue. Two of the practice nurses commented that they felt well prepared to deliver a Keep Well consultation. One stated:

*“I obviously attended - sort of - Keep well meetings.... but I don’t know if I’ve been to specific training. I mean what we do in our job generally is kind of what I’m doing anyway, so although I’m kind of - sort of - took on this role, there wasn’t really anything different in this role that I would feel that I do different from my day to day job” [HP]*

However, many were less confident, particularly when it came to explaining to patients about risk scoring. Most of the preparation for delivering the service was related to using the template and how to refer to health improvement services.

Views of templates: HPs valued the template as a resource, a structure to the consultation and managing follow up. To some HPs it seemed as if the template represented Keep well, even using an explanation about the template to define the style

of the consultation to patients. However the HPs identified that the template order was not logical. They described entering data about levels of smoking, BMI etc early in the consultation but levels of readiness for changing risky behaviours associated with these measures were further down the template. As a result most HPs found it easier to deliberately stall any cues raised by patients for discussion on these topics until later. In their interviews a few patients commented on the presence of the template but did not consider it to interfere with their interaction with the HP. In fact one patient considered it to be beneficial:

*“she just started asking questions and she was on the wee computer putting it in so and writing them down. So that’s how I knew she was listening. Unless she was making numbers up (laughs).” [patient]*

Dialogue on Behaviour Change: All participants highlighted that much of the consultation content was about lifestyle and risky behaviours. The HPs considered it necessary to explain a similar amount and type of information to all patients. One nurse described her approach as:

*“Yes, I went through the risk factors. I told her all about the risk factors, her cholesterol and how we calculate it. I do that with everybody regardless.” [HP]*

Although most patients liked the way the HPs explained things and gave them ideas on how to change, for some it was challenging particularly in relation to excess alcohol. For example:

*“I thought oh don’t say I’m an alcoholic! But she said no, its binge drinking, because you don’t go out much. So obviously I’ll need to think about that as well.” [patient]*

Advice: It was clear that HPs considered advice-giving to be an essential component of the Keep Well dialogue. They described a successful consultation in terms of highlighting risky behaviours, providing written information and talking through ways to change. There was a consensus that the patients were, on the whole, open to suggestions for change and pleased to receive this advice. They also acknowledged that many patients already knew a great deal, but by giving advice it could ‘kick start’ small changes for the better. Many patients described the advice in complimentary terms, suggesting that the HPs advised where in the past similar information had been dictated to them, one patient said

*“she (HCP) lectures you in a way. But she doesn’t dictate to you in that same way.....I find her easy going”.*

Interestingly, the language used in the interviews was often higher in the motivational interviewing change talk hierarchy than in the taped consultation. For example:

*“If possible, I will try and cut it down cause I know I need to cut it down for my health wise anyway my smoking anyway. When I’m drinking I know that”[patient]*

Cardiovascular Risk: Discussion about cardiovascular risk was less well described by both patients and HPs. There were differences in how providing the risk score was organised within different practices. In only one practice were blood results available to

be able to provide an accurate score, in others the practice would contact the patient if treatment was indicated. One HP described this in detail:

*"I just tried to explain to him (patient), at what levels the doctors would treat it, so at 30%, for the health board it would be treated, 20% in this practice the GPs would treat it but he's 10%. So I said although it's low, the fact if you're smoking and you know, your diet can put it up, so I kind of tried to get the points across, but I don't know."* [HP]

The patient she was describing raised risk in his interview:

*"And she gave me the relevant information you know what I mean, and, 10% for the stroke and heart attack I think that's, that's ok, I'll take that"* *"So she gave you a risk score calculation"* [interviewer]

*"Yea, 10% that's ok, I'll take that and just hope, the big man upstairs looks after me (laughs)"* [patient]

Referrals: Like advice, both from the researchers' observations of the recorded consultation and the interviews, referrals are considered a key component of the consultation. The HPs point out the risky lifestyle behaviours and provide the patient with the option of referral to other services. A few recognised the difficulty of assessing whether someone will actually go and one asked:

*"if I referred you to do this - are you going to go?"*

Even if the HP recognised that the patient is not yet ready to take up a particular service, they were either given a leaflet or a telephone number to call. The HPs expressed a belief that patients can change their minds and would self-refer "when they are ready". They describe the uncertainty of whether the patient will take up the referral and how this can be very disappointing, especially if the nurse felt they were motivated. However the patients are more reticent about referrals and even when they have signed forms to attend services they either do not raise this in their interviews or appear uncertain. Others indicate that the referral is driven by the HPs, for example:

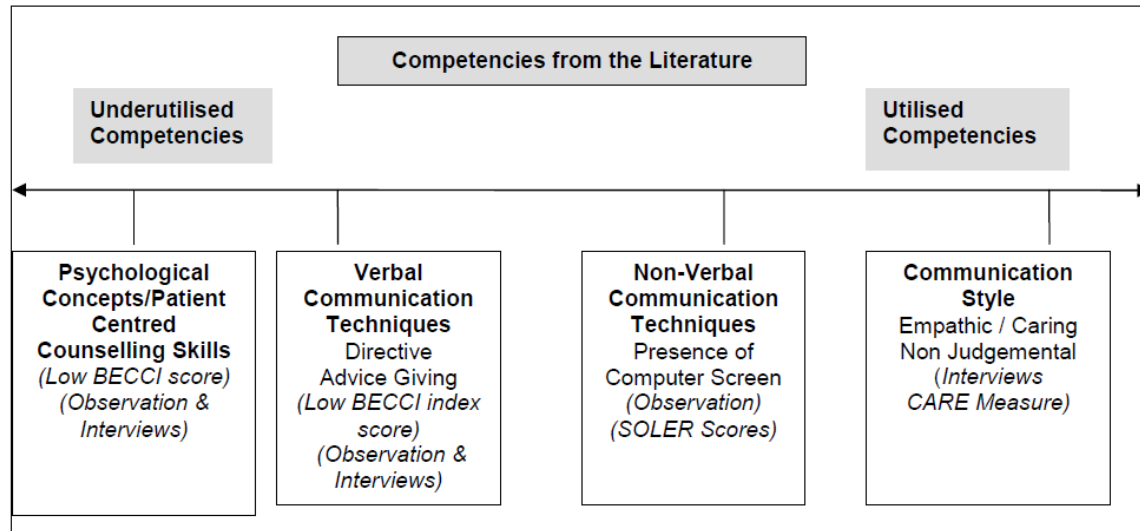
*"She says what we'll do is, we'll get your weight under control and then, in that time, we'll start thinking about giving up the cigarettes as well"* [patient]

Summary: The interviews provided valuable data on how the HPs and patients viewed Keep Well consultations. The patients clearly valued the additional time with the HPs and their caring and holistic approach, particularly the way they imparted advice. The HPs also valued the additional time to discuss a wide range of health and social issues. However, their approach seemed driven less by the needs of individual patients, but more as a standard package of information delivered as 'advice' to patients. This was followed by offers of referral to services. By examining the data and comparing this to the key skills and knowledge in the competency framework it can be concluded that some are well utilised, whilst others much less so (Figure 49). In particular, the findings from the CARE measure and the interviews demonstrate that the empathic caring approach used by the HPs was highly valued by patients. HPs established a good rapport with patients and generally gave clear advice. There were several good examples of using social conversation where appropriate and giving the patient the right



amount of information at a pace and level appropriate to their mental capacity. Non-verbal communication, as measured by the SOLER findings, were also fairly well utilised.

**Figure 49: Observed utilisation of key competencies identified in literature review**



However verbal communication techniques to support behaviour change were less apparent, with few examples of effective questioning techniques to explore patients' knowledge or feelings. Similarly, picking up on patient cues was not a prominent feature. Barriers to effective communication were observed, in particular expressing strong opinion and offering advice too early. The most underutilised competencies were patient-centred approaches, such as discussion of outcome expectations, negotiating goals/targets and eliciting change talk.

**Implications:** The findings suggest that the HPs' good communication styles could be better utilised to develop brief negotiation counselling skills. There was little evidence of the skills and techniques used in brief negotiation. The following learning actions are recommended:

- Harness the demonstrated good communication style to develop brief negotiation and longer term engagement competencies
- Explore new training methods for patient-centred counselling skills to include elements of feedback/supervision
- Review Keep well structures and processes, in particular in relation to delivering the consultation

### **Delivering health checks 3: 'Buy-in' to Keep Well by Practice Nurses**

**Methodology:** The Keep Well coordinator in Inverclyde CHP, Sandra Barber, conducted an exploratory study, using qualitative methodology, of practice nurses' views of anticipatory care and their role with respect to social determinants of health. The fieldwork was conducted in 2010. 28 practice nurses working within Inverclyde at the time of the study were eligible; one practice declined permission for its staff to

participate; of the remaining 26 nurses, ten agreed to participate; one withdrew at a later stage, leaving nine nurses, who were interviewed between June and July 2010. The specific research questions explored in the study were:

- How widely understood is the concept of anticipatory care and the social determinants associated with Keep Well?
- How acceptable has Keep Well and the resultant evolution of the practice nurse role, been to practitioners in Inverclyde?
- What lessons can be learned to improve the implementation of new initiatives which rely upon practice nurses for effective delivery?

**Results:** The degree of practice nurse involvement in practice decision-making process before signing up to Keep Well differed within each practice. Those included in decision-making were more positive than those excluded, who generally considered it to be financially motivated. The opportunity provided by Keep Well to treat the patient 'holistically' was widely welcomed. There were few difficulties with the clinical application of Keep Well, most aspects of which were familiar to the participants, but the impact of longer appointment slots on workloads and waiting times was a slight concern. The ability to refer to patients to other services was well-received, as was the existence of a simple referral pathway to new types of services, eg literacy and benefits advice. Prior contact with service providers at training events was seen a positive step. Nevertheless there was a definite reluctance to broach these 'non-health' issues with patients, which eased as familiarity and confidence grew. There remained a view that barriers still existed to sustained engagement eg in terms of cost, location and patients' motivation.

Views about Keep Well varied; overall, participants felt that the new responsibilities it brought were worth the effort, both for them and their patients. Difficulties arose in the monitoring systems which participants had to use; frustrations with the electronic screens, reliability of IMT support systems and the sheer amount of information that had to be recorded were seen as detracting from patient encounters and reducing practice nurse capacity.

Keep Well was the main catalyst for introduction of the healthcare assistant (HCA) role to Inverclyde. This brought some uncertainties about professional boundaries and skillmix within the practice team. Although most, with some reservations, saw these developments as positive, especially in terms of HCAs relieving them of task-oriented duties, three of the four participants with HCAs in their team expressed a degree of caution with developing the HCA role in the context of Keep Well reviews, suggesting that clinical training and knowledge is required to do this effectively. There was general agreement that HCAs were capable of dealing with routine tasks around patient care, but despite practice nurse mentoring, they may not be able to pick up on other relevant health issues, with a general consensus that 'depth of care' may be adversely affected:

*"Healthcare assistants maybe don't have the same knowledge as we have... and GPs say it's a ticking box thing – but it's not, as you're building a rapport with the patient in that half hour and you could maybe just change one thing - but you could potentially change that person's life.." (PN1-8)*

Although understanding of 'social determinants' varied between participants, there was little evidence of any knowledge of national health policy. However, neither was there any evidence that this lack of knowledge prevented practice nurses from understanding public health needs, although for some also this brought concerns about raising issues over which they had no control:

*"...with Wave 4, there will be a lot in that age group that is unemployed and not working but there are no jobs. So unless you give everybody a job how are you going to sort it?"* (PN1-28)

Another commented that legislation would have a greater effect on the health of her patients in relation to alcohol than she could achieve through referral to services:

*"I think with alcohol if you increase the price and reduce the availability that's going to help far more people than me discussing alcohol and units."* (PN3-26)

**Implications:** Practice nurse attitudes towards Keep Well and social determinants of health appear strongly linked to their levels of understanding, confidence and prior inclusion in decision-making; enlisting practice nurses in the future shaping of the programme would therefore bring great rewards in encouraging ownership of its key aims and strategic direction. Regular meetings of Keep Well practice nurses to share experience and good practice should be promoted and accommodated within their contractual obligations. The structure and content of the Keep Well data collection screens should also be revisited to improve their user friendliness.

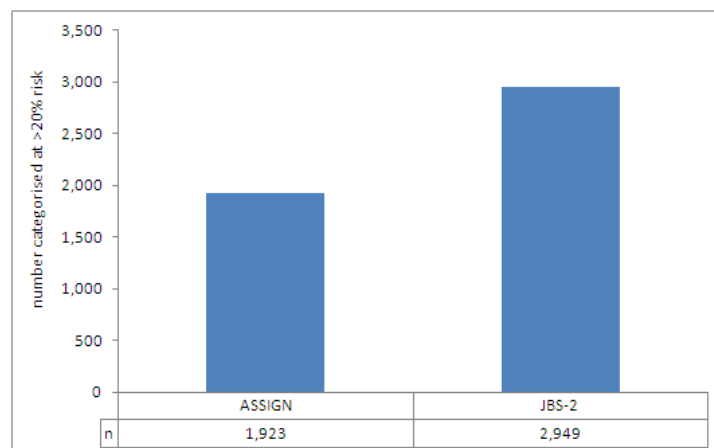
#### **Delivering health checks 4: Evaluation of ASSIGN in a real world population**

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**Methodology:** This work was commissioned from Professor Graham Watt at Glasgow University's Department of General Practice and Primary Care. It compared the impact of ASSIGN with JBS-2 in the Wave 1 Keep Well population.

**Results:** At the 20% risk threshold, JBS-2 classified 2,949 (27.3%) Keep Well Wave 1 patients at 'high' CVD risk, whereas ASSIGN classified substantially fewer individuals (1,923;17.8%) in this category (Figure 50).

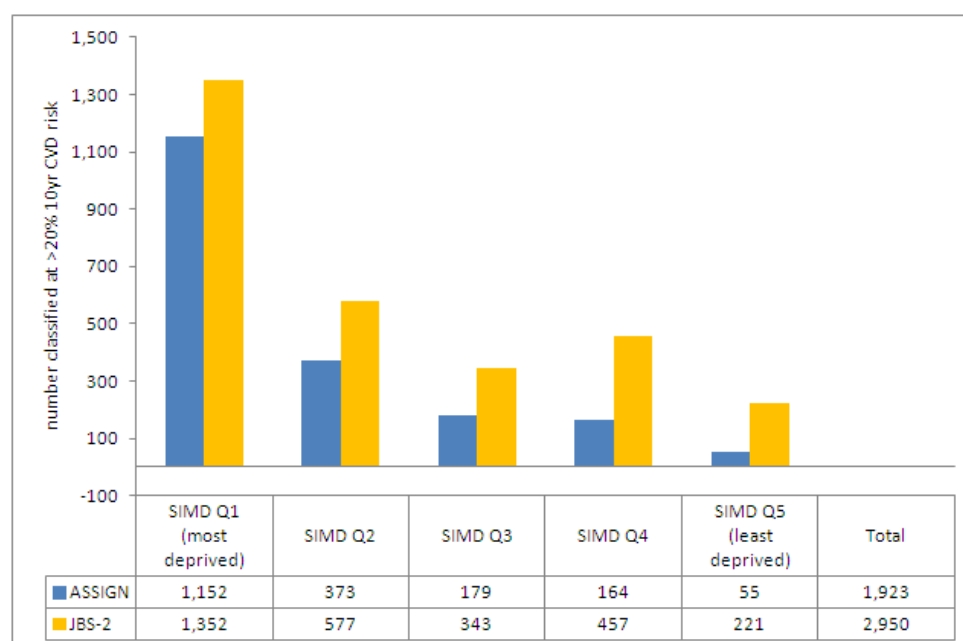
**Figure 50: ASSIGN vs JBS-2: Keep Well patients classified as >20% CVD risk**



The risk factor profile of those classified as being at high risk by either score was similar, whether ASSIGN or JBS-2 was used. Because ASSIGN classified fewer patients at high risk than JBS-2, there was a relative decrease in the percentage of patients requiring treatment for modifiable risk factors. However, the majority of those classified as at risk had modifiable risk CVD factors; over 70% had a total cholesterol >5mmol/l and HDL cholesterol <1.3mmol/l; over 80% smoked; and over 30% had a SBP measurement of >140mmHg.

When participants were stratified by deprivation quintile, ASSIGN and JBS2 had very different effects on the social gradient of CVD risk estimates (Figure 51).

**Figure 51: ASSIGN vs JBS-2: pts classified as >20% CVD risk, by SIMD quintile**



ASSIGN consistently classified fewer patients as being at high risk in each deprivation quintile. For both women and men, the absolute difference was greatest for patients in SIMD quintile 5. This difference in the number classified as being 'at risk' decreased with increasing deprivation until, in the most deprived centiles, the absolute difference was 5.5% for women and 3.5% for men. The net result was a shallower social gradient for the proportion of patients classified as being at high risk by JBS-2 (women: 19% to 27%; men: 27% to 34%) compared with ASSIGN (women: 3% to 22%; men: 9% to 31%).

**Implications:** In a large population drawn from Scotland's most profoundly deprived neighbourhoods, ASSIGN classified substantially fewer individuals as 'high risk' compared with JBS-2. Although this difference declined with increasing deprivation, its overall magnitude was unexpected, particularly as the ASSIGN risk score was specifically developed as a deprivation-sensitive tool on the grounds of social equity, to increase the number of individuals within more deprived subpopulations who were offered preventive therapies. If the findings of this study were replicated across Scotland, this objective would not be achieved. However, the JBS-2 score is known to consistently over-estimate CVD risk in European populations, partly because it was derived from the Framingham study, an American historical cohort established in the 1960s & 1970s, when CVD incidence was considerably higher than now.<sup>23</sup> The ASSIGN risk score may be susceptible to similar measurement bias, as it was based on the Scottish Heart Health Extended Cohort from the mid-1980s. Given the

changing patterns of CVD risk factors, there is a strong argument for investigating newer cohorts to redefine key risk factors and validate newer risk scores, including ASSIGN and QRISK-2. Accordingly, Keep Well will continue to evaluate the impact of ASSIGN and JBS-2 to monitor the numbers of patients classified as high risk. Longer term follow up of this cohort of patients to ascertain future CVD events will also be proposed.

### **Delivering health checks 5: Primary care responses to adult literacy issues**

**Methodology:** Literacy awareness, screening and referrals are a core part of the Keep Well programme in NHS Greater Glasgow & Clyde. As part of planning Keep Well Wave 2 in 2008, South West CHCP commissioned Baccus Consulting to undertake a piece of qualitative research to explore primary care professionals' development needs in this area. Its objectives were:

1. What is the level of awareness of adult literacy and numeracy issues within the primary care team?
2. What role does the primary care team have in supporting, signposting and referring adults with literacy issues?
3. What reasonable adjustments do the primary care team have to make to accommodate the needs of adults with literacy or numeracy issues?
4. What barriers and drivers do primary care teams experience in supporting adults with literacy and numeracy issues?

Focus groups and one to one interviews were conducted with primary care staff in three areas of South West Glasgow, as well as with a number of public health and health improvement staff from NHSGGC and the SWCHCP.

Primary care & community services: A total of 14 staff participated, including staff from three GP practices, two of which were participating in Keep Well, as follows:

*Practice 1:* 8 members of staff, including GPs, Practice Manager, Keep Well Nurse and Administration staff

*Practice 2:* 4 members of staff, including Keep Well Nurse and Administration staff

*Practice 3:* 2 members of staff (Practice Nurse and Practice Manager)

In addition, 4 members of staff with an area wide community remit were interviewed: a Dietician, Dietetic Manager from the primary care team and a Community Nurse in Oral Health and a Smoking Cessation service manager from the SWCHCP team.

A semi-structured discussion agenda was designed, exploring the following topics:

- Perception of prevalence of literacy issues amongst adults
- Characteristics of adults with literacy issues (e.g. age, gender)
- Identifying when literacy issues are at play
- Lay strategies for coping with literacy issues
- Implications of poor levels of literacy for patient care and patient journey through the healthcare system
- Estimating literacy needs
- Dealing with patients who are experiencing literacy issues – practical examples of overcoming barriers
- Levels of awareness of existing literacy services
- Referrals (if any) to literacy services
- Barriers to providing support for adults with literacy issues

- Examples of good/innovative practice
- Recommendations for future service development

Public health resource unit and health improvement staff: Four face to face interviews and two focus groups were conducted with health improvement staff at NHSGGC and South West CHCP. These explored:

- Challenges faced by health care providers
- Provision of literacy services in Glasgow
- Potential ways of supporting primary care staff to meet the needs of adults with literacy and numeracy issues

**Results:** The full report of this work is electronically embedded in this report (Appendix 3). Its main findings were:

- There was no agreed single definition of literacy and numeracy issues amongst primary care staff. Definitions of literacy issues varied from non reading and writing to seeing literacy as a resource for living
- Primary care staff were reluctant to acknowledge that the problems faced by their patients were due to literacy issues. Instead respondents argued that this was a social and cultural issue, in that some people are naturally less inclined to ask questions or challenge information provided to them
- Some primary care staff did not see literacy as a front line or medical issue. Consequently, staff questioned whether they should be addressing literacy issues at all.
- Literacy appeared to be an issue that staff were reluctant to name and even more reluctant to raise with patients
- The majority of primary care staff who took part in this research responded to literacy issues by compensating for patients' perceived lack of skills
- A reluctance to raise literacy issues, combined with a tendency to compensate for patients with literacy needs, suggested that patients' needs were not being addressed and patients were not being referred on to appropriate support services.
- Keep Well was seen as providing an opportunity to raise literacy issues with patients. However, even staff involved in delivering Keep well appeared to find literacy a difficult subject to raise with patients.
- The experience of delivering the literacy element of Keep Well appeared not to have impacted more widely; no interviewees had referred non-Keep Well patients on to a literacy service, even although they had identified a number of patients with literacy issues.

**Implications:** There is a strong association between low levels of literacy and poor health, so this is an important issue.<sup>24</sup> A large cohort study of 7,857 adults who participated in the second wave (2004-5) of the English Longitudinal Study of Ageing found that after adjusting for personal characteristics, socioeconomic position, baseline health and health behaviours, the estimated risk of death for individuals with low health literacy was 1.4 times that of participants with high health literacy.

Evidence from this report provides valuable learning on how the NHS can mount a better response to literacy. Although it focused on primary care professionals, there is no reason to believe that its key findings would not apply equally to secondary care settings. Its main recommendations, summarised below, should be implemented:

1. Training should address both attitudinal barriers and knowledge gaps. It is vital that training goes beyond 'spotting' patients with literacy needs; all staff should understand the broader meaning of health literacy as a person's ability to fully access services and fulfil their health potential.
2. Awareness raising training is already available to primary care staff. Therefore, the availability of training is less of an issue than the ability to access it. The interviews conducted with primary care staff suggested that many felt over-burdened with additional roles and responsibilities. There is thus the possibility that literacy training was seen as adding to an already busy workload; the authors suggested that it might therefore be helpful to integrate training on literacy as part of an existing package.
3. Disseminate good practice and identify 'literacy champions', who could be responsible for disseminating up to date information about local literacy support services. In Keep Well, the model of the Community Orientated Primary Care pilot potentially offers a more efficient and sustainable solution to these requirements, which apply to all health improvement services (see final 'Recommendations' section).
4. The Keep Well programme has provided an opportunity to explore literacy issues with patients, with clear links between clinical healthcare provision and the Learning on Prescription programme. Similar systems should be extended across primary and secondary care, with Service Directory support.

### **Delivering health checks 6: Delivering anticipatory care to marginalised groups**

By late 2009, NHS GG&C had identified four specific subgroups of patients who were eligible for the Keep well programme, but who remained unengaged after repeated engagement attempts. It was considered likely that these population subgroups required a more targeted type of approach, as well as a clearer understanding of their anticipatory care needs. These subgroups comprised carers, individuals of South Asian ethnicity and users of Criminal Justice or Addictions services. Different initiatives were established to explore and deliver the anticipatory care needs of these groups, two of which remain active (Table 45).

**Table 45: Keep Well anticipatory care pilots targeting defined subgroups**

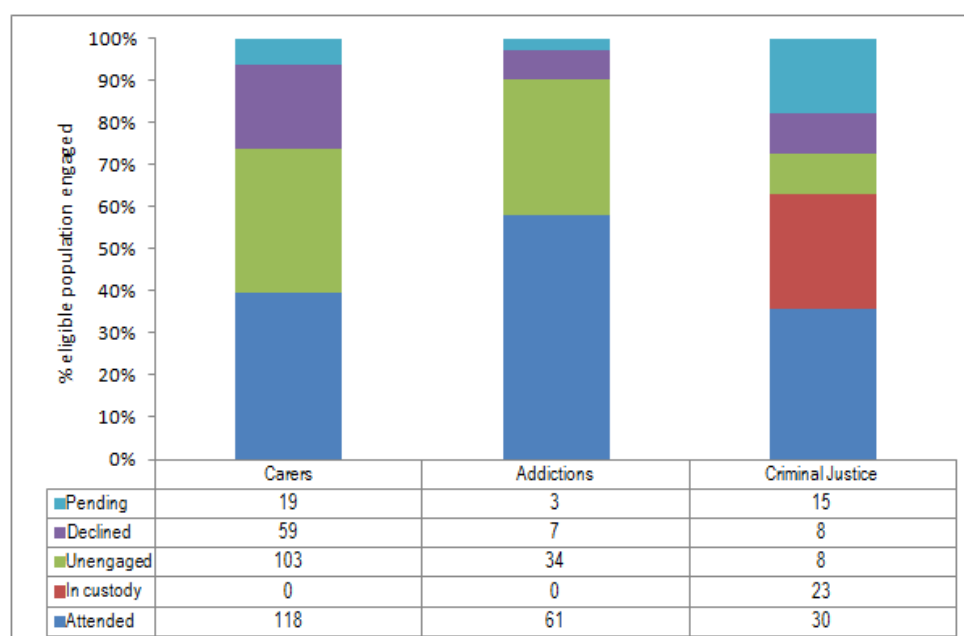
Population subgroup	Service	Location	Dates of operation
<b>Carers</b>	Equally well Anticipatory Care Pilot	North Glasgow CHCP, now extending to all of Glasgow City	March 2010 (ongoing)
<b>South Asian individuals</b>	SAAC Project	NW & South Glasgow	April 2010 (ongoing)
<b>Criminal Justice service users</b>	Equally well Anticipatory Care Pilot	North Glasgow CHCP	March 2010 – March 2011
<b>Addictions service users</b>			

**Methodology:** North Glasgow CHCP invested short term project funding in additional clinical nursing capacity to identify and deliver modified Keep Well consultations to individuals attending Criminal Justice, Addictions and Carers services. The pilot operated from April 2010 until March 2011. Dedicated Scottish Government funding was also allocated to NHS GG&C to establish the South Asian Anticipatory Care Project (SAAC) pilot project, to more clearly define and respond to the anticipatory care needs of South Asian patients in South and NW Glasgow City.

## Results:

North Glasgow CHCP Criminal Justice, Addictions and Carers pilot: 702 referrals were received, of whom 489 (70%) were carers, 111 (16%) were patients attending addictions services and the remaining 102 (14%) were criminal justice service users. Of the appropriate referrals, the uptake of Keep Well consultations was 133 (42%) among carers; 59 (55%) in addictions service users; and 36 (43%) in criminal justice service users. Further detail of engagement status is provided in Figure 52.

**Figure 52: Engagement of eligible carers, addictions & criminal justice service users in North Glasgow Anticipatory Care Pilot**



A total of 228 Keep Well consultations were completed; characteristics of those who attended these are shown in Table 46.

**Table 46: North Glasgow Anticipatory Care Pilot: characteristics of attendees**

	Carers	Addictions	Criminal Justice
<b>Gender:</b>			
Male: n (%)	35 (26%)	40 (68%)	30 (83%)
Female: n (%)	98 (74%)	19 (32%)	5 (14%)
Not stated: n (%)	-	-	1 (3%)
<b>Age:</b>			
Mean (95% CI)	52 (49.9-53.5)	48 (44.7 – 50.6)	44 (41.6 – 46.5)
<b>Residential deprivation:</b>			
SIMD Quintile 1*: n (%) (*most deprived)	124 (93%)	46 (78%)	24 (67%)



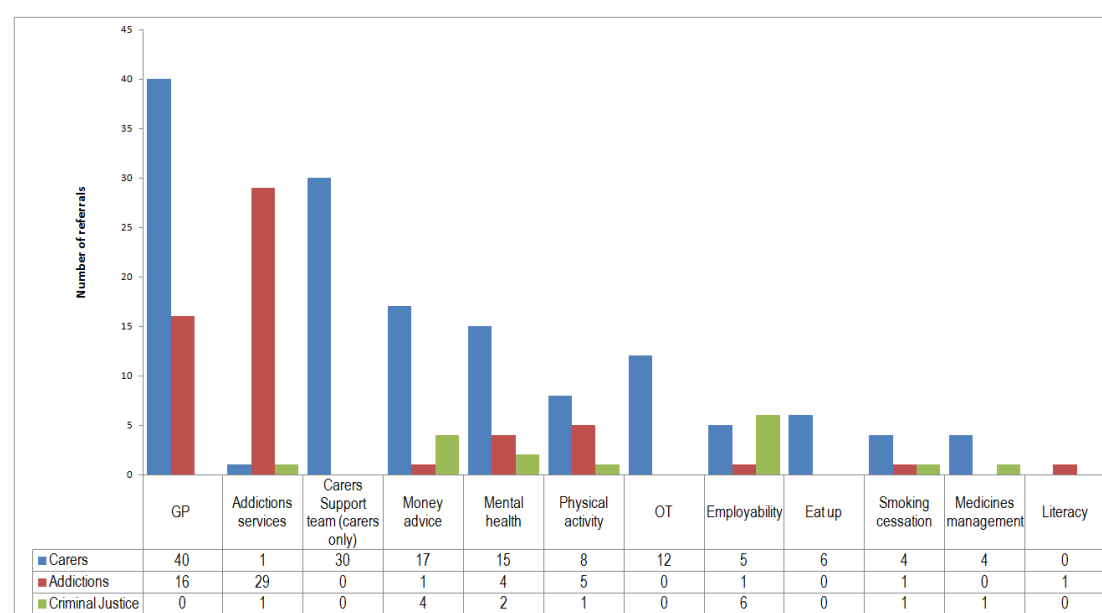
The consultations revealed evidence of considerable health need across all care groups (Table 47).

**Table 47: North Glasgow Anticipatory Care Pilot: identified health needs in attendees (n=228)**

	Carers	Addictions	Criminal Justice
Current smoker: n (%)	66 (50%)	31 (53%)	29 (81%)
Exceeds recommended amount of alcohol intake for gender (M/F): n (%)	10 (8%)	-	9 (25%)
Takes less than recommended amount of physical activity per week: n (%)	81 (61%)	27 (46%)	21 (58%)
Family history of premature CHD: n (%)	33 (25%)	1 (2%)	11 (31%)
Literacy issues disclosed: n (%)	2 (2%)	4 (7%)	2 (6%)
Unmet financial support needs: n (%)	14 (11%)	7 (12%)	6 (17%)
In receipt of benefits, but further help needed: n (%)	26 (20%)	4 (7%)	6 (17%)
Combined HADS score >12*: n (%) <i>*consistent with psychological distress</i>	28 (21%)	12 (20%)	4 (11%)

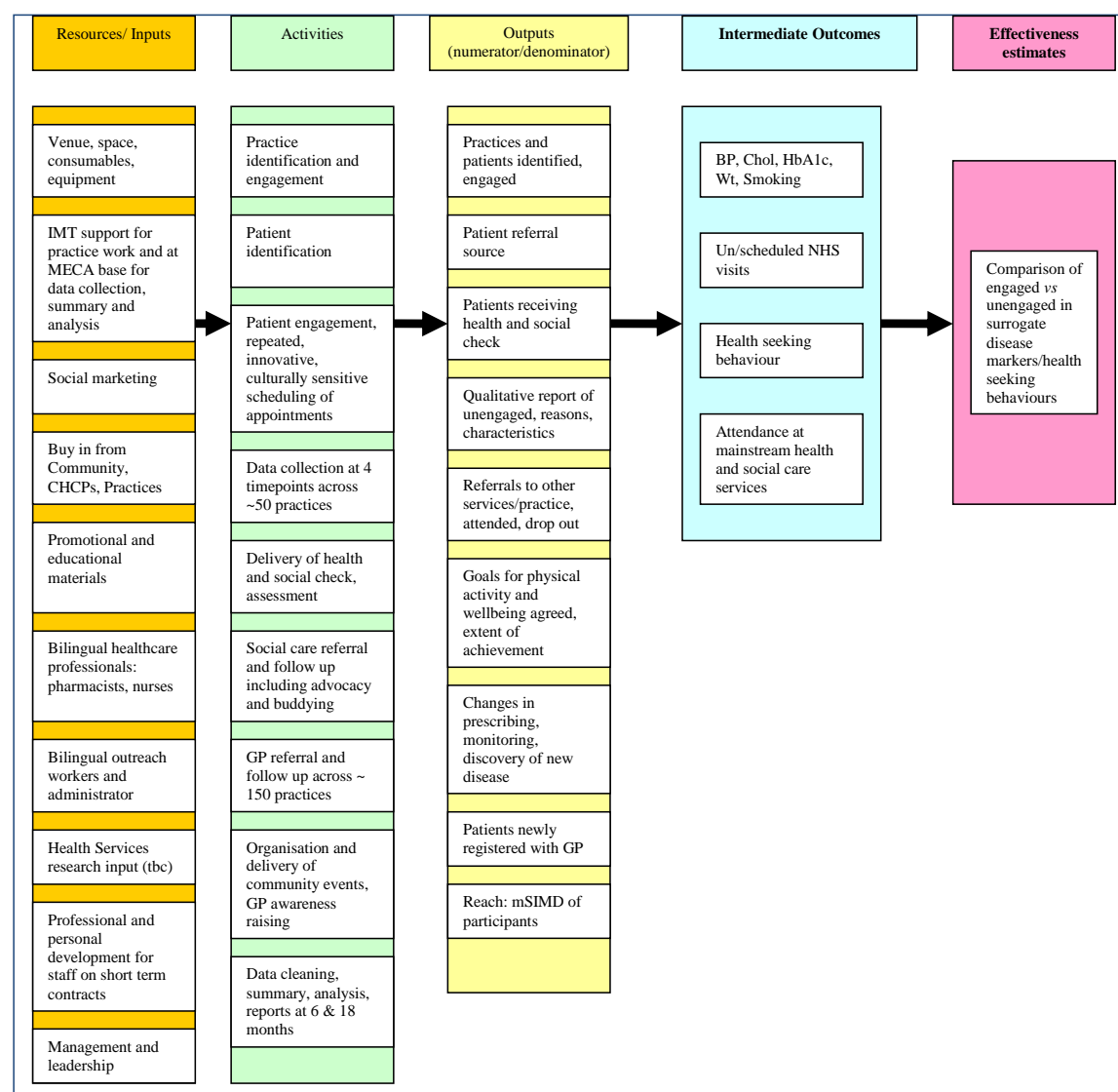
A total of 216 referrals were made, with the GP being the most common referral destination overall (Figure 53).

**Figure 53: North Glasgow Anticipatory Care Pilot: referrals**



**South Asian Anticipatory Care (SAAC):** The SAAC project is a pilot intervention to more clearly define and respond to the anticipatory care needs of GG&C's resident South Asian population in the South and NW sectors of Glasgow City CHP. It delivers targeted, culturally appropriate anticipatory care, beginning with a set of engagement approaches based on familiarity, trust and cultural understanding (Figure 54).

**Figure 54: Logic model describing SAAC project's inputs & intended outcomes**



The SAAC project recruits patients both from community venues used by minority ethnic communities and from general practice settings. SAAC commenced clinical work in May 2011 and since then has continued to deliver six clinics each week. By January 2012, it had completed 590 Keep Well consultations, an uptake rate of 49% of those invited. The SAAC project also delivered a productive set of rapid engagement encounters over the summer of 2011 (Table 48).

**Table 48: SAAC community engagement activity during June/July 2011**

Venue	SAAC Hotspot Practices	Other SE/West Practices	Signposted to KW	Brief Interventions
Glasgow MELA (18 <sup>th</sup> /19 <sup>th</sup> Jun)	43	29	12	15
Glasgow Central Mosque (22 <sup>nd</sup> July)	9	5	0	1
Hindu Mandir (24 <sup>th</sup> July)	1	4	2	0

The demographic characteristics of SAAC attendees are shown in Table 49.

**Table 49: SAAC Project: demographic characteristics (n=590)**

Observation	Number	%
<b>Gender</b>		
Male	284	48%
Female	306	52%
<b>Age group</b>		
35-39	111	19%
40-44	174	29%
45-49	107	18%
50-54	98	17%
55-59	57	10%
60-64	42	7%
Missing Age Data	1	-
<b>Residential deprivation</b>		
SIMD Q1 (most deprived)	144	24%
SIMD Q2	183	31%
SIMD Q3	92	16%
SIMD Q4	89	15%
SIMD Q5	64	11%
Missing postcode information	18	3%
<b>Preferred spoken language</b>		
English	151	26%
Urdu	163	28%
Punjabi	227	38%
Hindi	3	1%
Pushtu	3	1%
Bengali	1	-
Missing language data	42	7%

The data in Table 50 provide selected data on the clinical characteristics of attendees as at December 2011.

**Table 50: SAAC Project: clinical & risk characteristics of attendees (n=590)**

Observation	Number	%
<b>Weight:</b> Overweight (BMI 25-29.9) Obese (BMI 30 or more)	251 198	43% 34%
<b>Diabetes:</b> New diabetes diagnoses	16	3%
<b>Physical activity:</b> Does not meet current recommendations for physical activity	528	89%
<b>Hypertension:</b>  SBP > 140 <u>or</u> DBP > 90 BP not measured	120 51	26% 11%
<b>Global 10 year cardiovascular risk:</b>  Cardiovascular risk score (ASSIGN) >20%	25	5%
<b>Family history:</b> Family history of premature CHD Family history of diabetes	152 223	26% 38%
<b>Smoking:</b> Current smoker	74	13%

Referral activity has been extensive, with physical activity services being the commonest destination source; by December 2011, 133 patients had been referred to physical activity services, 28 to the Glasgow Weight Management Service and 19 to healthy eating services. The SAAC team has also generated a considerable amount of organisational learning about service gaps, which led to piloting of a new model of a community healthy eating group. It has also made a number of recommendations for enhancing the relevance and cultural acceptability of health improvement services to South Asian patients.

**Implications:** Both the North Glasgow Carers pilot and the findings of the SAAC project to date reveal extensive unmet anticipatory care needs in their respective target populations. Both programmes will continue to inform future delivery of the mainstreamed Keep Well programme. As a result, an anticipatory care service targeting carers based on the North Glasgow model is now being mainstreamed in Glasgow City. A detailed evaluation of the SAAC project's first 18 months of operation is currently being conducted. Further information is available about both the Carers and SAAC projects on request.

For organisational and cost effectiveness reasons, the Criminal Justice and Addictions pilots were discontinued in April 2011.

### 4.2.3 Health improvement pathways

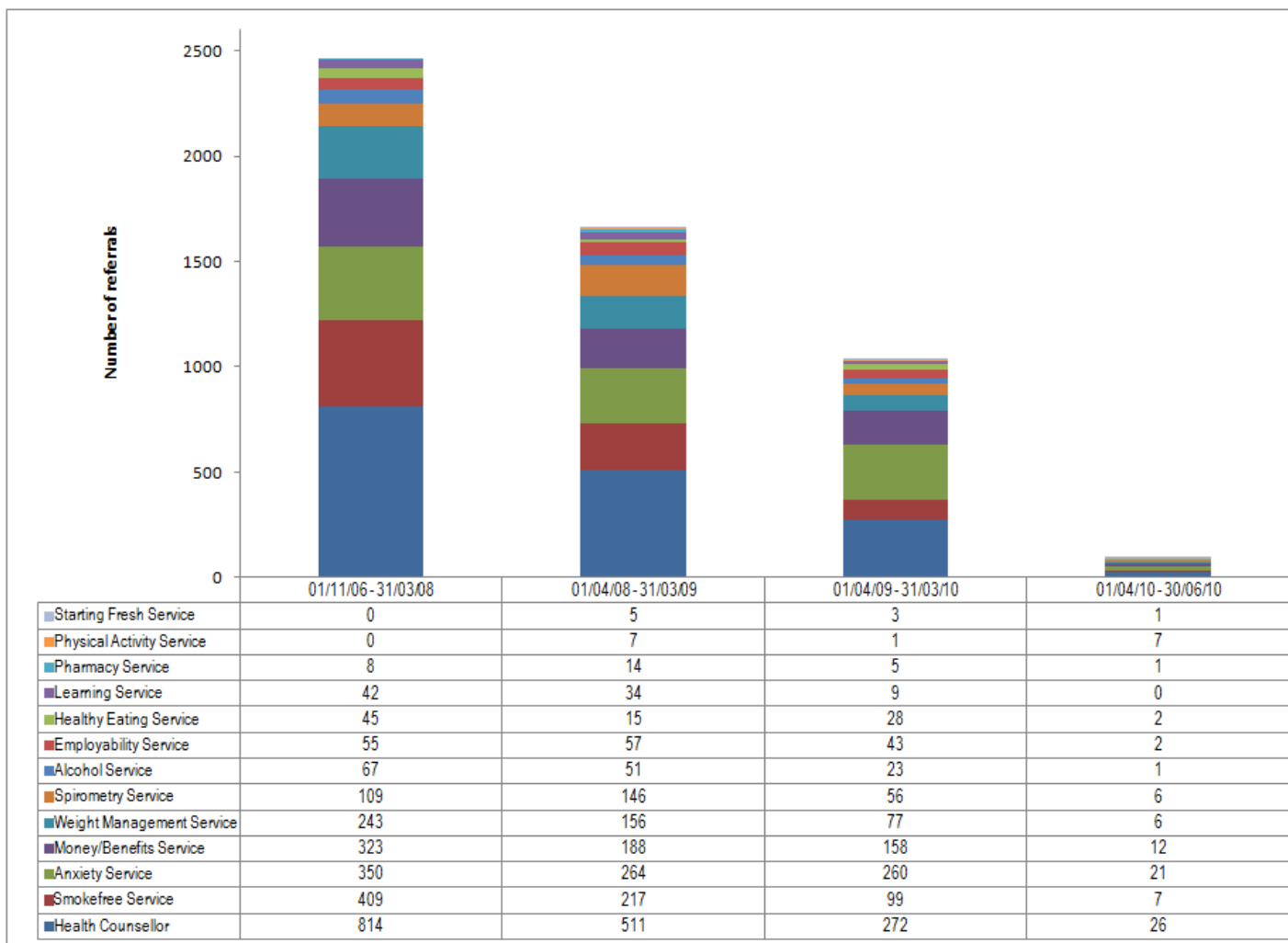
#### Health improvement pathways 1: Overall performance

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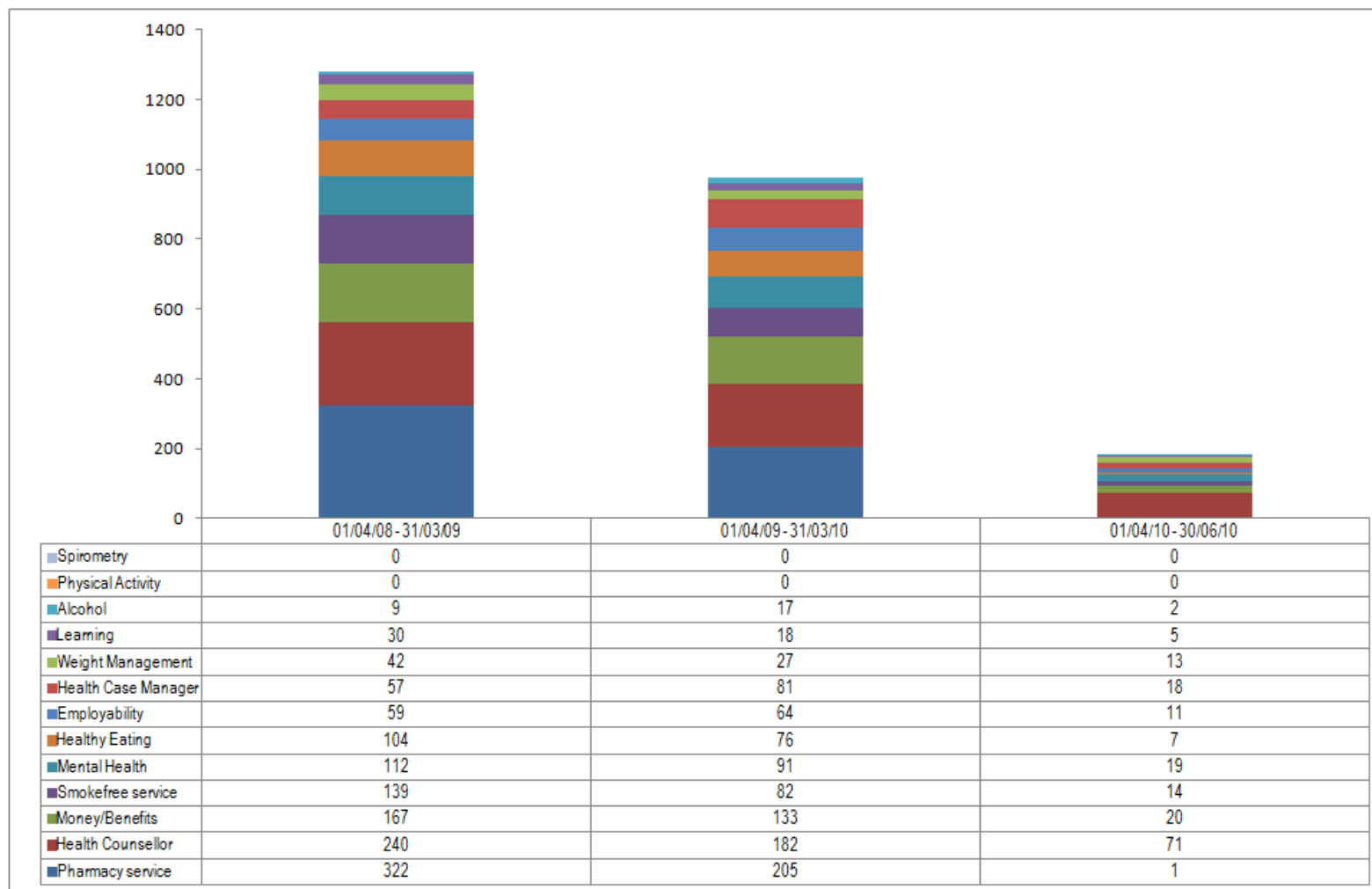
**Methodology:** Referral activity to all health improvement services from Wave 1 and 2 primary prevention practices was extracted from the Keep Well tracking tool in August 2010. Referral data from the tracking tool were also matched and analysed at individual patient level with data obtained from two key services (Smokefree services and Live Active), to quantify uptake and outcomes of referrals to these services from Wave 1 practices between January 2007 and May 2010.

**Results:** Overall outgoing 'referral' activity was extremely vigorous during Wave 1, particularly during its initial phase, however it declined sharply over the subsequent four years of its operation (Figure 55; overleaf). The absolute number of referrals showed a similar trend in the Wave 2 primary prevention pilot in SW Glasgow, however there were clear differences in the pattern and type of service referrals, with a more even distribution of referrals and physical activity and smokefree services collectively accounting for a smaller proportion of total referrals compared with Wave 1 health improvement referrals (Figure 56; overleaf).

**Figure 55: Referrals to health improvement services, Keep Well Wave 1**

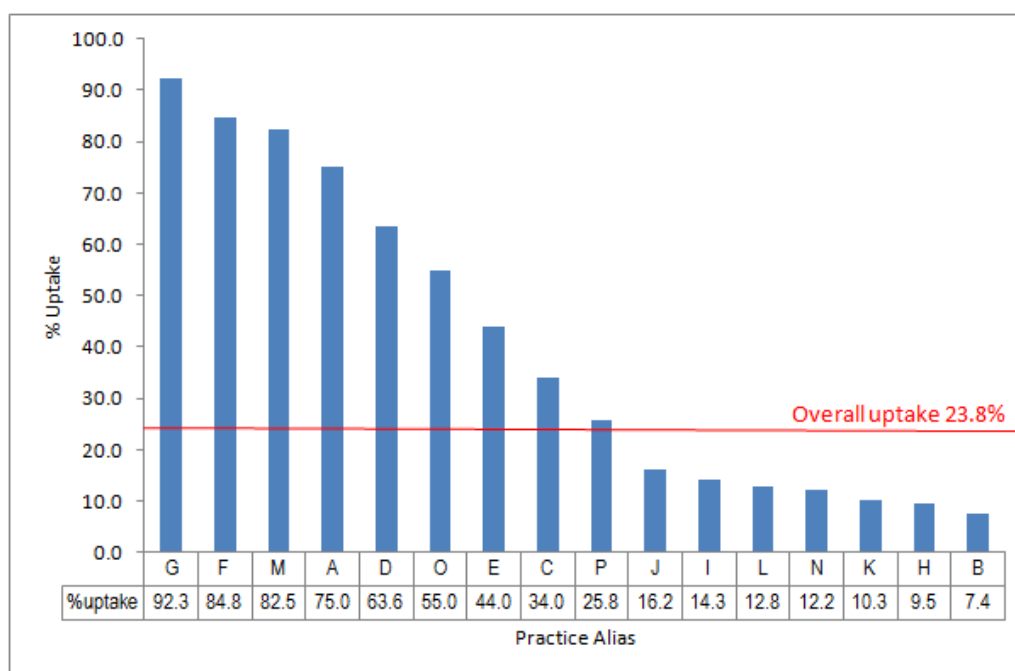


**Figure 56: Referrals to services, Keep Well Wave 2 (SW Glasgow)**

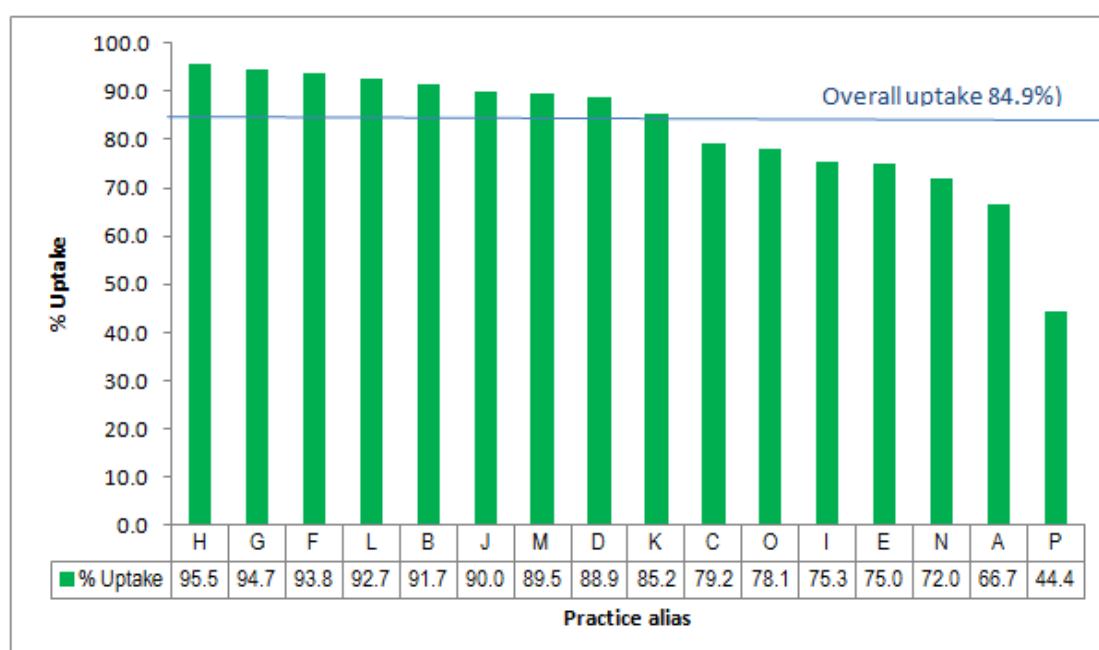


Between January 2007 and June 2010, there were 1,077 referrals to smokefree services and 630 to Live Active. Although there were many more referrals, uptake of smokefree services was much lower than for Live Active, at 256 (23.8%) compared with 535 (84.9%). However, there was enormous variation by practice (Figures 57 & 58). Uptake of smokefree services was similar in both CHCPs, at 113/465 (24.3%) in East and 142/611 (23.2%) in North Glasgow. However, Live Active uptake was lower in East, at 273/340 (80.3%), in contrast to North Glasgow, where 261/289 (90.3%) of referrals resulted in attendance.

**Figure 57: Wave 1: % of Smokefree service referrals resulting in attendance (n=1,077)**



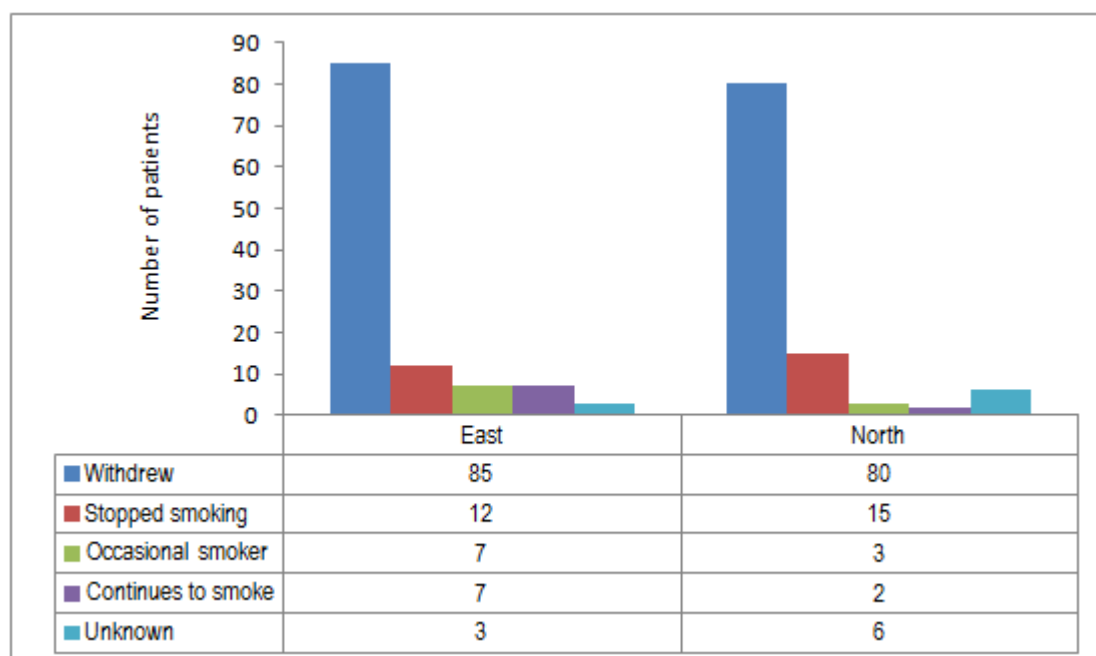
**Figure 58: Wave 1: % of Live Active service referrals resulting in attendance (n=630)**





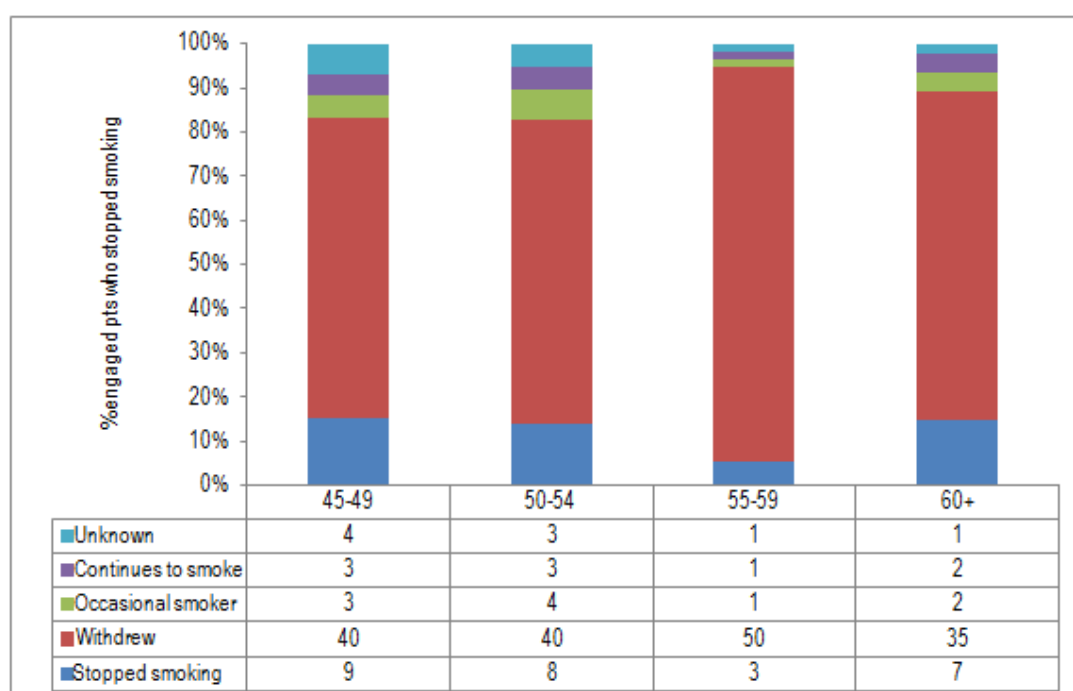
Matched data were available in 220 patients who attended smokefree services, of whom 27 (12.3%) successfully managed to stop smoking; the proportion of smokers who stopped smoking was lower in East Glasgow (12/114; 10.5%) compared with North Glasgow (15/106; 14.2%) (Figure 59).

**Figure 59: Keep Well Wave 1 Smokefree referral outcomes, by CHCP (n=220)**



18 (12.8%) of the 141 women who engaged with smokefree services stopped smoking, a slightly higher proportion than the 9 (11.4%) of the 79 men who engaged. The proportion of smokers who stopped was highest, at 15.3%, in those aged 45-49 (Figure 60).

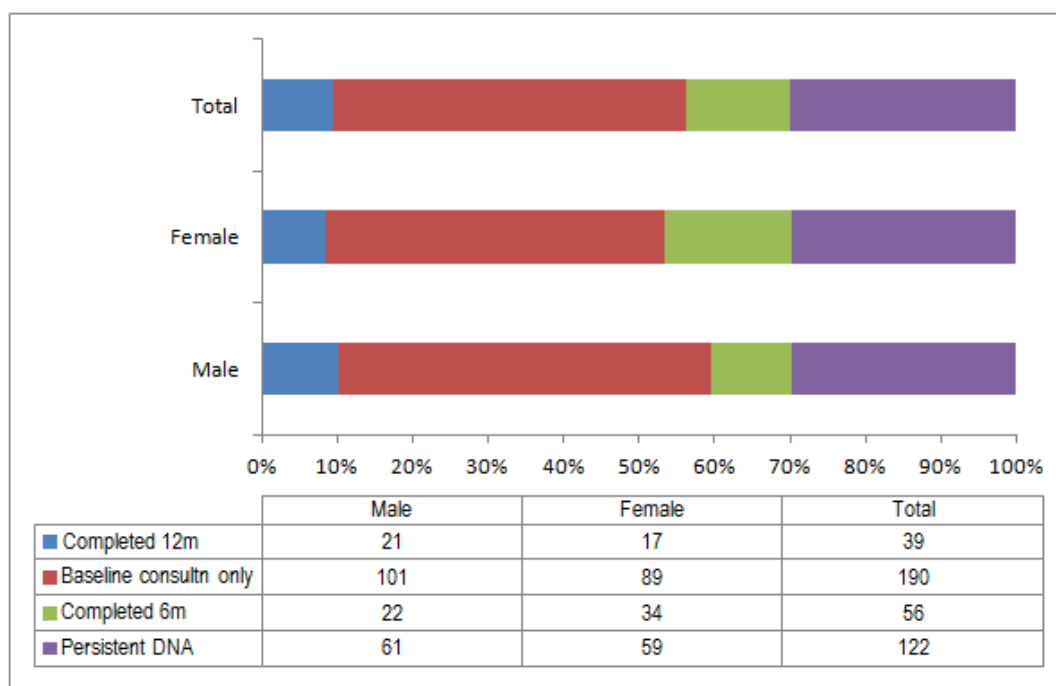
**Figure 60: Wave 1 Smokefree referral outcomes, by age group (n=220)**



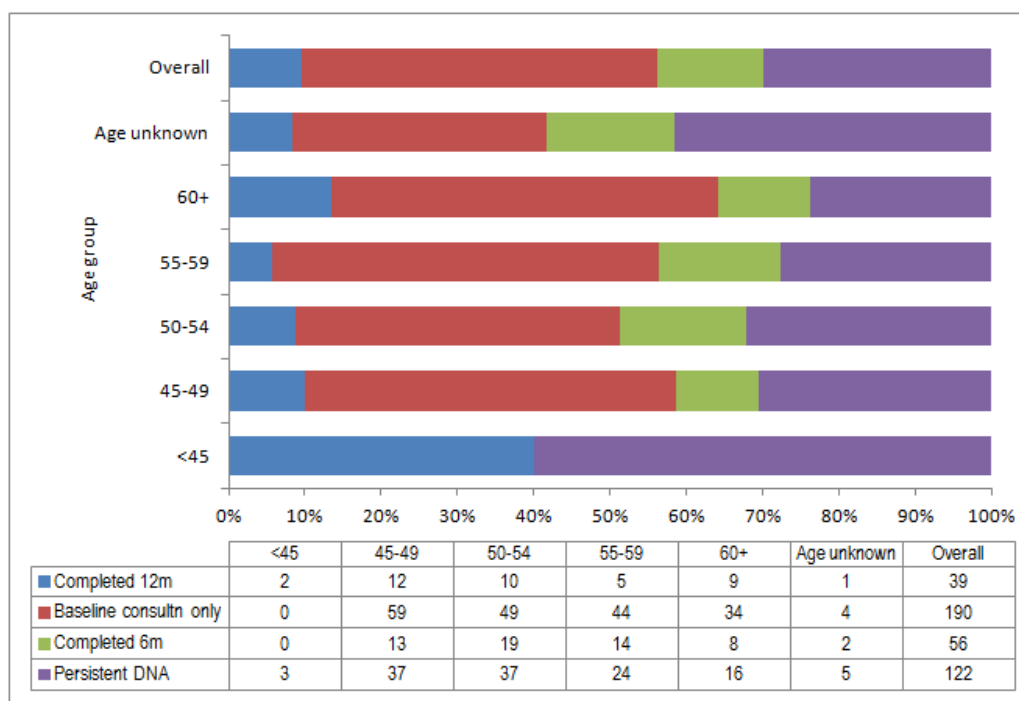
However, in interpreting these variations across age, gender and CHCP subgroups, it should be borne in mind that this sample is not adequately powered to detect statistically significant variations.

For the Live Active service, matched data were available in 407 attendees, of whom 205 were male, 199 female and three of unknown gender. Overall, 39/407 (9.6%) of all attendees sustained their engagement with the programme for 12 months or more, with some variations by gender and age group (Figures 61 & 62).

**Figure 61: Wave 1 Live Active referral outcomes, by gender (n=407)**



**Figure 62: Wave 1 Live Active referral outcomes, by age group (n=407)**



As shown in Figure 61 above, 21/205 (10.2%) of men maintained sustained engagement, compared with only 17 (8.5%) of the women. There were age-associated variations in the proportion of attendees in the Keep Well who sustained their engagement with the programme for 12 months or more, but no consistent linear association emerged (Figure 62). Excluding the small number of patients outwith the Keep Well eligible age group, this was lowest (5/87; 6%) in the 55-59 year old age group and highest (9/67;13%) in those aged 60 and older. Larger sample sizes would be required to investigate any age-associated variations with more precision. There was little difference between the two CHCPs in patterns of sustained engagement.

**Implications:** Although 'referral' activity has been extremely prolific in Keep Well', matched analysis with two core services demonstrates considerable variation in uptake of these services across different practices, particularly for smokefree services. In keeping with the variations in assessing stage of change in smokers, this suggests that some practices may be signposting many patients who are not actually ready to consider making the decision to stop. However, once patients do engage, a sizeable minority do actually make behaviour change. Earlier feedback to practices on these types of data is vital.

## **Health improvement pathways 2: Case management in Keep Well**

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**Methodology:** South West Glasgow CHCP established a Health Case Manager (HCM) role as a fundamental component of the programme. This role, a unique one within GG&C's Keep Well programme, was intended to provide 1:1 support for those with multiple or complex needs, including intensive support to encourage patients to take up their referrals to health and wellbeing services. FMR Research was commissioned in the summer of 2009 to explore the impact of both the HCM and local outreach worker roles on the patient journey through Keep Well. The methodology consisted of the following:

- analysis of the databases held by the Community Renewal team and consideration of their paper based records;
- 18 semi-structured interviews with a variety of stakeholders, including CHCP staff, Keep Well staff, those on the local steering group, the HCM/outreach workers and patients
- 3 focus groups, with programme providers and primary care staff (supplemented by individual interviews)
- 110 structured telephone interviews with patients, half who had had contact with HCM/outreach worker roles and half who had not.

**Results:** 23 clients were referred only to the HCM, 83 to both the HCM and outreach worker and 981 only to the outreach workers. Although the HCM caseload had steadily grown, only three clients (3%) had exited the service. The majority of HCM cases had also been active for more than 14 weeks (85;83%). The Service Level Agreement (SLA) with Community Renewal specified a waiting time guarantee for initial assessment of two working weeks from first contact. However, only 42 (39%) were contacted within two weeks, and it is unlikely that many would have completed an holistic assessment in this timeframe; 41 (39%) were not contacted for five weeks or more after referral. Data were missing for 9 clients.

Around Half of HCM clients who had attended appointments (50%, 26) had attended one or two only. Just ten individuals had attended five or more appointments. Nearly half (48;45%) of all HCM clients had made little progress, i.e. had not undergone an

initial assessment to explore the issues they wish to address and to agree the order of priorities for action. Based on assessments made by Community Renewal, just 11 individuals had made substantive progress against their objectives and had reached the final or exit stage.

Of those who had completed an initial assessment, 39 (67%) had issues around finance/debt/benefits, 21 (36%) around exercise and 18 (31%) had prioritised counselling. Money Matters was often a 'quick fix', a short intervention which could make a positive difference to people's quality of life/stress levels and so build trust in the service provided. Three-quarters of those referred for finance/debt/benefits advice (29 of 39 individuals) had progressed this issue and the majority of those who had not had only recently completed the holistic assessment stage of the service.

Although the HCM had a very low number of clients, the support provided was intensive, with a mean of 2 hours spent on each client at the nil stage of progress and a mean contact time with the 8 clients at final stage of 27.25 hours.

Whilst many stakeholders and HCM clients were very aware of the role played by the HCM, others were not clear, even amongst the referring practices. Patients with direct experience of the HCM were, however, clearer; 20 patients rated the support provided by the HCM, with a mean score of 8.8 out of 10. Of those who hadn't accessed HCM support, 8 (16%) stated that they thought they would have benefited from it.

**Implications:** There is no question that the HCM role is perceived to add value, but the findings of this research suggested that its efficiency and value for money appears is highly questionable. Supporting clinicians with understanding and managing complexity and helping patients to prioritise their goals should be regarded as 'core business' for Keep Well.

### **Health improvement pathways 3: Long term medicines service**

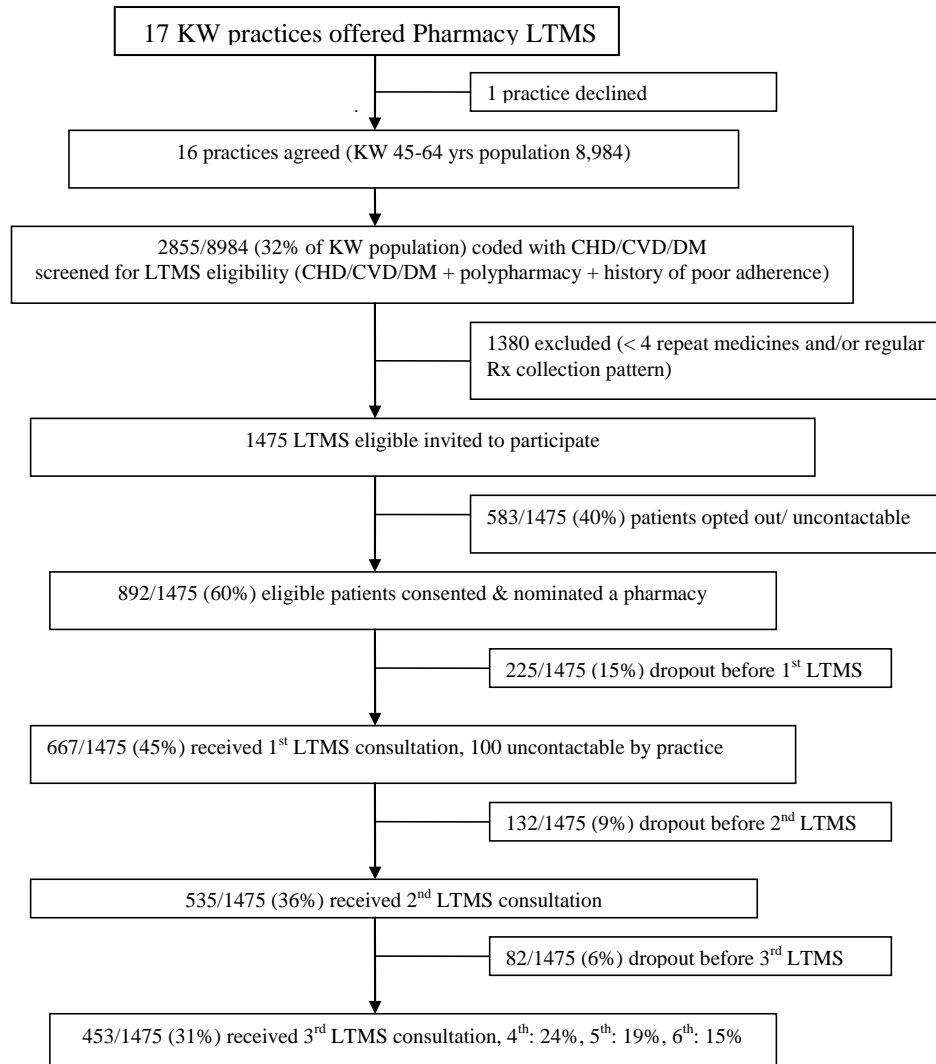
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The original Wave 1 programme commissioned a Community Pharmacy Long Term Medicines Service (LTMS), intended improve adherence in patients who struggle to take their CVD medicines regularly. Although interventions to improve adherence are complex, labour intensive and of variable success, this intervention was based on the hypothesis that if pharmacists are trained, supported within a governance framework, collaborate with general practitioners at every stage, consistently maintain uninterrupted supplies of enough medicines and support patients in remembering to take medicines on time every time, this would improve adherence and clinical outcomes.

**Methodology:** The LTMS operated in North, East and South West Glasgow, targeting individuals with CHD, CVD or diabetes, exposed to polypharmacy (receiving 4 or more repeat medicines) and showing a history of irregular ordering of medicines from their practice, indicating poor adherence. The service aimed to improve adherence with medicines and also improve uptake of other health and wellbeing services. Pharmacists initiated adherence improving actions, including explanation of the purpose of the prescribed medicines and the benefits of their regular use, re-alignment of quantities of medicines and telephone prompts to patients for their next supply of medicines. Controls (eligible patients who had not received LTMS) were selected from the same practices as the active intervention patients.

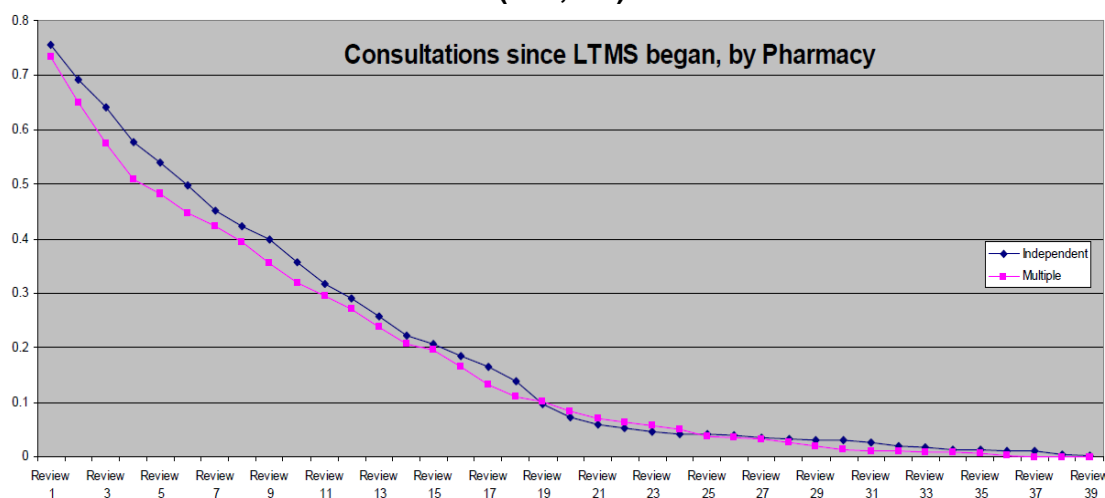
**Results:** During the period Oct 2007 to Oct 2008, over 100 pharmacists from 83 different pharmacies received additional training and delivered a total of 2,547 LTMS consultations (667 first, 535 second and 453 third) with an additional 352 consultations within the year (Figure 63).

**Figure 63: LTMS Overview**



As shown in Figure 64, there was considerable attrition in the patient population. In the 2 year period before the initial LTMS consultation, almost 70% of CHD, CVD, DM repeat prescription orders were for insufficient quantities and 70% of orders were too infrequent to enable full adherence. Following implementation, prescription ordering reduced to 35 % of orders in the intervention group. In the control group who did not receive LTMS, the pattern of erratic ordering did not change. The cost per patient who received the service was estimated at £100,000/ 667 = £149. The LTMS also encouraged referral onwards to other Keep Well services. In the sample of 106 patients having a total of 627 LTMS consultations, 21/627 (3%) of these consultations led to referrals for weight and physical activity; 15/627 (2%) led to the patient subscribing to pharmacy smoking cessation services; and 16/627 (3%) led to referral to another health improvement service.

**Figure 64: LTMS Cohort Attrition  
(n=1,061)**



**Implications:** The LTMS was commissioned in North, East and South West Glasgow at a time when the programme still maintained a strategic focus on optimising secondary prevention of CVD and diabetes. The evaluation methodology for the project was unconventional and it is thus difficult to ascertain with certainty any associated health gain, thus its cost effectiveness was similarly unclear. The high costs, large number of encounters with different sessional pharmacists and substantial attrition rate from the service also suggest that the model would require considerable redesign to make it acceptable and efficient. For all of these reasons, the decision was made not to re-commission the LTMS in April 2011.

#### **Health improvement pathways 4: Live Active Health Counsellor Scheme**

The Live Active Health Counsellor Scheme supports people to enhance their physical activity levels, via structured consultations at enrolment, six and twelve months, in combination with telephone support, letters and supported exercise sessions. The Keep Well Live Active Scheme also contained a number of enhancements, which included additional weight management and healthy eating components, more individualised support according to need, more community based venues and closer links with GP practices.

**Methodology:** An evaluation was commissioned from a private consultancy firm and was completed in early 2010. It comprised a telephone survey with participants and a focus group with Health Counsellors. Participants who had attended to varying degrees were invited to take part in the survey by letter. 15 interviews were conducted with three different groups: those who did not attend a baseline consultation, those who did not attend the six month consultation and those who did not attend the twelve month consultation. Ninety interviews were conducted with those who had completed the programme, i.e. attended all consultations.

**Results:** Participants were very positive about the health counsellor service, with a mean rating of 8.93 out of 10 and the role of staff being praised in making a difference to their participation and enjoyment. Positive impacts on health and behaviours were also reported, with people getting exercise, feeling healthier, losing weight, increasing in confidence and having fun/feeling good about themselves. These benefits increased with duration of engagement.

The two clear reasons for continuing to attend were because they enjoyed it and they felt it was improving their health and fitness. Few barriers to attendance or continuation of attendance were reported, however the sample was biased towards completers. The main reason for non-attendance was health reasons, followed by a feeling that it made no difference to their health; lack of support was also an issue, which is a concern as the biggest barrier was lack of confidence/motivation.

**Implications:** Although the evaluation described participants' experiences and the views of Health Counsellor staff, it did not provide any objective measures of behaviour change, such as eating or physical activity behaviours. Similarly, no clinical health outcomes, such as change in weight, lipid profile or blood pressure, were documented. A recent systematic review examined the evidence base for exercise referral schemes and concluded that although these schemes can increase the physical activity of sedentary adults and achieve a reduction in their levels of depression, more evaluative research is still needed.

### **Health improvement pathways 5: Group vs individual delivery models**

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**Methodology:** In early 2010, the NHS GG&C Keep Well Evaluation Group conducted a rapid literature review to determine whether group based interventions aimed at changing health-related behaviours differed from individually delivered interventions in their effectiveness and acceptability to patients. The background to this research question had arisen from informal observations of variations in uptake of group-based interventions, with the hypothesis that this may depend on the type and purpose of the group intervention. Accordingly, two secondary research questions were posed:

1. Do specific patient characteristics that determine effectiveness and acceptability of group based interventions (eg age, educational and literacy levels, self efficacy, social class, multiple deprivation, income, confidence)?
2. Is the effectiveness and acceptability of group based interventions dependent on the issue and type of behavior change sought (eg smoking cessation, losing weight, undertaking more physical activity)?

#### Types of studies sought

- i) Interventional: RCTs
- ii) Observational: Cohort Studies, Case control studies, Cross sectional descriptive studies
- iii) Qualitative studies with no comparative arm (for exploratory evidence of acceptability)

Medline, PsychInfo and Cochrane databases were searched over the last ten years, limited to publications in English language and in humans.

#### Types of participants

Community dwelling adults of either gender recruited from community based or health care settings

#### Types of interventions

Planned group based interventions aiming to improve health and/or reduce risk of disease through behavioural change at individual level. A wide range of methods, including information provision, advice, encouragement or cognitive behavioural therapy may be delivered over at least two sessions. (Groups are defined as two or more service users attending a facilitated session)

### Types of outcome measures

Uptake, behaviour change outcomes, acceptability

### Comparisons of interest (for interventional & observational studies):

- i) Groups versus self-help programmes
- ii) Groups versus individual 1:1 programmes
- iii) Groups versus other interventions
- iv) Groups versus no intervention

### Medline search strategy (limited to previous ten years):

- 1 Self-Help Groups/ (3630)
- 2 (group\$ adj5 individual\$).mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (17307)
- 3 "group based intervention\$".mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (51)
- 4 "group intervention\$".mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (1236)
- 5 "group work".mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (327)
- 6 "one to one".mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (7078)
- 7 "1 to 1".mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (128269)
- 8 Counseling/ (11149)
- 9 "one to one intervention\$".mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (20)
- 10 "1 to 1 intervention\$".mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (7)
- 11 "1:1 intervention\$".mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (717)
- 12 "individual based intervention\$".mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (8)
- 13 "individual intervention\$".mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (153)
- 14 "self-help programme\$".mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (24)
- 15 "1 to 1 programme\$".mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (7)
- 16 "1:1 programme\$".mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (102)
- 17 1 or 3 or 4 or 5 (5123)
- 18 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 (147251)
- 19 17 and 18 (305)
- 20 Health Promotion/ (27116)
- 21 Health Behavior/ (18118)
- 22 Health Education/ (18800)
- 23 "health improvement".mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (626)
- 24 20 or 21 or 22 or 23 (57829)
- 25 19 and 24 (46)
- 26 Psychotherapy, Group/ (2989)
- 27 "group therapy".mp. [mp=title, original title, abstract, name of substance word, subject heading word, unique identifier] (1085)
- 28 1 or 3 or 4 or 5 or 26 or 27 (8089)



29 6 or 7 or 9 or 10 or 11 or 12 or 13 or 15 or 16 (136179)  
 30 Behavior Therapy/ (7273)  
 31 8 or 14 or 20 or 21 or 22 or 23 or 30 (74119)  
 32 28 and 29 and 31 (30)  
 33 28 and 29 (100)  
 34 28 or 29 (144168)  
 35 31 and 34 (1552)  
 36 Comparative Study/ (742355)  
 37 Program Evaluation/ (27927)  
 38 Treatment Outcome/ (381691)  
 39 Patient Compliance/ (24026)  
 40 Patient Satisfaction/ (37606)  
 41 "Patient Acceptance of Health Care"/ (16034)  
 42 Comparative Effectiveness Research/ (70)  
 43 controlled clinical trial/ (34987)  
 44 Evaluation Studies/ (129901)  
 45 Randomized Controlled Trial/ (187946)  
 46 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 (1326105)  
 47 35 and 46 (833)  
 48 limit 47 to (english language and humans) (784)  
 49 36 and 48 (187)  
 50 evaluat\$.mp. [mp=title, original title, abstract, name of substance word,  
 subject heading word, unique identifier] (1121826)  
 51 compar\$.mp. [mp=title, original title, abstract, name of substance word,  
 subject heading word, unique identifier] (1906347)  
 52 effect\$.mp. [mp=title, original title, abstract, name of substance word,  
 subject heading word, unique identifier] (1920540)  
 53 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 50 or 51 or 52  
 (3805550)  
 54 35 and 53 (1168)  
 55 from 54 keep 1-1168 (1168)  
 56 from 55 keep 1-1168 (1168)

**Results:** The abstracts of 1,168 potentially suitable studies were screened for relevance. After removal of duplicates, 23 full text articles met the inclusion criteria and were read in full by a small working group, of which 19 were retained. Topic areas included smoking cessation, overweight & obesity, diabetes, cardiovascular disease and a small number of other health topics. The studies varied considerably in context, purpose, target population, intensity and assessed outcomes. Overall, there was inconsistent evidence on the comparative efficacy of group and individual interventions, irrespective of the topic area. Table 50 provides full detail of the studies reviewed.

**Implications:** Although there is no evidence pointing to the superiority of one modality over the other, the literature suggests that group treatment may introduce a number of processes that may increase the chance of success, including peer support and peer pressure. Unfortunately, however, few studies included formal measures of these social support mechanisms, which may be an important omission, because presence of social support has repeatedly been linked to long-term health outcomes, better immune function, lower blood pressures and reduced mortality.<sup>26</sup>

**Table 51: Individual vs group interventions for health improvement: summary of literature review findings**

First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
<b>Smoking Cessation</b>							
Stead LF	2009	Cochrane Systematic review	Recruited from any setting with the exception of trials recruiting pregnant women in antenatal care settings	Systematic review with subject lost to follow up and align discontinuing smokers. Effects expressed as relative risk for cessation. Meta analysis using a fixed effect model	The review considered randomised trials that compared group therapy with self help, individual counselling, another intervention or no intervention, including usual care of awaiting list control. It also considered trials that compared more than one group programme and trials with a minimum of two group meetings with a follow up of smoking status at least 6 months after the start of the programme. The review excluded trials in which group therapy was provided to both active therapy and placebo arms of trials of pharmacotherapies unless they had a factorial design. The main outcome measure was abstinence from smoking after at least 6 month follow up in patients smoking at baseline. The review used the most rigorous definition of abstinence in each trial and bio-chemically validated rates were available. Subject lost to follow up were analysed as continuing	Group therapy is better for smoking cessation compared with self help and other less intensive interventions. However, compared with individual intensive counselling there is no convincing evidence of superiority of group type interventions.	Most trials gave insufficient detail to be sure that randomisation was effective and a number of studies allocated families or friends to the same group which means that people in a particular group were more similar than would be expected by chance. The same principle also applies to patients treated in groups because each person's chance of success may be influenced by the group effect.

First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
					<p>smokers.</p> <p>A total of 53 trials met inclusion criteria for 1 or more of the comparisons of the review. 13 trials compared a group programme with a self help programme. There was an increase in cessation with the use of a group programme (N=4375, relative risk 1.98, 95% confidence intervals 1.60 – 2.46). There was statistical heterogeneity between trials in the comparison of group programmes with no intervention controls so an estimated pooled effect was not possible. The review failed to detect evidence that group therapy was more effective than the similar intensity of individual counselling. There was limited evidence that the addition of group therapy to other forms of treatment (such as advice from a health professional or NRT) produced extra benefit. There was a variation in the extent to which those offered group therapy accepted the treatment. Programmes which included</p>		

First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
					components for increasing cognitive and behavioural skills were no more effective than similar programmes without these components.		
Pisinger C	2009	General practice settings in Denmark		Cluster randomised controlled trial.	All 61 GPs in 4 municipalities in Copenhagen, Denmark were invited to participate. 24 were accepted and were cluster randomised to 1 of 3 groups: Group A, referral to group based smoking cessation counselling (n=10), group B, referral to internet based smoking cessation programme (n=8), group C, standard care (n=6). A total of 1518/1914 smokers were included and 760 returned a questionnaire at 1 year follow up. Self reported point abstinence was 6.7% (40 out of 600), 5.9% (28/476) and 5.7% (25/442) in groups A, B and C respectively. Only 40 smokers attended group based counselling and 75 logged in at the internet based programme. There was no significant additional effect of referral to group based programmes (odds ratio 1.05: 95% confidence intervals 0.6-1.8).	The Scandinavian general practice setting has limited transferability to the UK and the practitioners who elected to participate are likely to represent a highly motivated group.	This study underlines how difficult it is to achieve high rates of engagement with effective methods even in practices with motivated doctors.
Bauld et al	2009	Glasgow,		Observational	A total of 1785 service users who	Specialist led group	Further effort is

First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
		Scotland		study of administrative information linked with survey data.	<p>set a quit date between March and May 2007 were included and routine monitoring data analysed, linked with survey data. This included information about demography, deprivation, nature of the intervention and smoking status at 4 weeks determined by carbon monoxide readings less than 10. These data were supplemented by information about socio-economic status and smoking related behaviours obtained from consenting service recipients by treatment advisors.</p> <p>In the pharmacy based service, 18.6% of users (n=1374), were CO-validated as a quitter at 4 weeks. Compared with 35.5% (n=411) in the group based service. In a multivariable model, the group based service was almost twice as likely (odds ratio 1.98; confidence interval 1.50-2.62) as those who used pharmacy based support to have quit smoking at 4 weeks.</p>	based services appear to have higher quit rates than 1:1 services provided by pharmacies by the pharmacy services treat many more smokers.	required to determine what can be done to bring the success rates of pharmacy services up to those of specialist led groups and also to increase engagement with group based services.
McEwen et al	2006	London	Community based stop	Observational study.	Data were routinely collected from 1501 clients of a large London stop	In the same service with the same	This was a non-randomised study

First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
			smoking service.		<p>smoking service that offered both group and 1:1 treatment.</p> <p>25% of the clients were continuously abstinent 4 weeks post quit: 30% for those receiving group treatment and 19% for 1:1. (Fishers exact test <math>&lt;.001</math>). The difference between the specialist and community based treatment remained after all possible confounding factors were controlled for (odds ratio 2.27, <math>p &lt;.001</math>).</p>	management structure and training programme, group treatment offered by the specialist service yielded higher success rates than counselling by trained primary care nurses and pharmacists.	and is likely to have been biased by self selection of treatment type. Group treatment attracted a higher percentage of clients who were white or highly educated and used pharmacotherapy. However, even when controlling for these treatment types still predicted end of treatment abstinence although the protocols for group and 1:1 treatment were almost similar. Group treatment introduced a number of mechanisms that may have increased the chance of success,

First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
							including peer support and peer pressure.
Camarelles et al	2012	Unclear	Madrid, Spain	Randomised clinical trial.	<p>Randomised clinical trial of 106 smokers wishing to quit their addiction assigned to 2 types of intervention: short individual intervention and group intervention. Nicotine patches were administered as supplemental therapy when needed in both instances. Results were assessed by intention to treat analysis.</p> <p>Although smoking cessation rates decreased in parallel with longer follow up periods, the relative effectiveness was similar during both periods and there was no better response to any intervention at 3 months. (Relative risk 1.75; 95% confidence intervals 0.96-3.18.) Compliance with the group arm was low and less than 60% of smokers attended 5 of the 7 sessions.</p>	This paper was published in Spanish so it was not possible to make a detailed appraisal of the context or implementation methods of the study.	None.
<b>Management of Obesity</b>							
Wadden et al	1997	Philadelphia	Primary care physicians	Patients were recruited by	Acceptable candidates were referred to the family physicians	Highly limited.	Statistical analysis inappropriate (see

First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
				advertisement in local papers.	and participants had to pay \$800 for 1 year of treatment. 26 women participated and were randomly allocated to traditional group behaviour modification (32x75 minute sessions over 1 year). The other half were provided lifestyle modification by a physician in 10x20 minute structured visits. At the end of 1 year, patients in the physician group achieved the same weight loss as those treated by group behaviour modification.		figure).
Paul-Ebhohimhen V	2009	Systematic review conducted in Aberdeen, UK	Various	Systematic review of randomised controlled trials in adults aged 18 or older with a mean BMI greater than 28 kilograms per m <sup>2</sup> . Primary outcome measure, change in weight or BMI. Follow up for at least 1 year.	11 Comparison groups from 5 qualifying trials were obtained representing a total participant pool of 336. Significantly greater (p=0.03) weight change at 12 months was found in group based over individual based treatment and sub analyses showed that increased effectiveness was associated with the use of financial award and psychologist led interventions.	Group based interventions are more effective than individual based interventions among a predominantly female participant pool receiving psychologist led interventions.	Further studies to explore differences by professional group and interventions among men are required.
Befort et al	2010	Kansas City, United States	Rural community	Randomised control trial with	34 rural women with a mean BMI of 34.4 (standard deviation 4.6) were	Limited given our current range of	Small sample size and contrasting



First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
			based setting	allocation to group based treatment or individual telephone based treatment.	recruited. Weight loss was greater in the group allocation (mean = 14.9kg, standard deviation 4.4) compared with the individual intervention (mean = 9.5kg, standard deviation 5.2). Among the total sample 62% of participants in the group condition achieved a 10% weight loss goal compared with 50% in the individual allocation Group treatment was also trying to be more cost effective.	services and different type of context.	context.
<b>Management of Diabetes</b>							
Deakin TA	2009	Cochrane review conducted in UK	Various settings including primary and secondary care.	Cochrane systematic review.	<p>This review set out to assess the effects of group based (6 or more people), patients centre diabetes training on clinical, lifestyle and psychosocial outcomes, both in the short (4-6 months) and longer more than 12 months) term compared with routine care delivered on a 1:1 basis or a combination of the two. A meta-analysis was performed if there were enough homogeneous studies reporting an outcome at either 4-6 months, 12-14 months or 2 years.</p> <p>14 publications describing 11</p>	Highly transferable with numerous UK settings, for every 5 patients attending a group based education programme we would expect 1 patient to reduce their diabetes medication.	Group based training for self management in people with type 2 diabetes is effective by improving fasting blood glucose levels, glycated haemoglobin and diabetes knowledge. It also reduces systolic blood pressure levels, body weight and the

First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
					<p>studies were included, involving 1532 participants. The results of the meta-analyses in favour of group based diabetes education programmes were:</p> <ul style="list-style-type: none"> <li>• Reduced glycated haemoglobin at 4-6 months 1.4% (95% confidence intervals, 0.8-1.9, <math>p&lt;.00001</math>)</li> <li>• At 12-14 months 0.8% (95% confidence intervals 0.7-1.0, <math>p&lt;.00001</math>)</li> <li>• 2 years 1% (95% confidence intervals 0.5-1.4, <math>p&lt;.00001</math>)</li> <li>• Reduced body weight at 12-14 months (1.6kg; 95% confidence intervals 0.3-3.0, <math>p=0.02</math>)</li> <li>• Improved diabetes knowledge at 12-14 months (SMD 1.0, 95% confidence intervals 0.7-1.2, <math>p=0.02</math>)</li> <li>• Reduced systolic blood pressure at 4-6 months (5mm of mercury; 95% confidence intervals 1-10, <math>p=0.01</math>)</li> <li>• Reduce need for diabetes medication (odds ratio 11.8; 95% confidence intervals 5.2-26.9, <math>p=0.01</math>; NNT=5).</li> </ul>		requirement for diabetes medication.

First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
Gucciardi et al	2007	Toronto, Canada	Diabetes education located in an urban multicultural city setting.	Randomised controlled trial.	<p>87 Portuguese speaking adults with type 2 diabetes were randomly assigned to receive either diabetes education counselling only (control group) or counselling in conjunction with group education (intervention group). 61 patients completed the study of whom 36 were in the counselling only and 25 in the group component. Per protocol analysis was used and the theory of planned behaviour applied to description of behavioural mechanism that influenced nutrition adherence.</p> <p>Attitudes, norms proceed behavioural control and intentions towards nutrition adherence. Self reported nutrition adherence and glycemic control significantly improved in both groups over a 3 month period. Those also receiving group education showed greater improvement in all measures with the exception of glycemic control, where no significant difference was found.</p>	Culturally competent group education in conjunction with individual counselling may be more efficacious in shaping eating behaviours than individual counselling alone.	Inappropriate statistical analysis which may result in bias, requires longer term larger longitudinal studies.
Trento et al	2008	Turin, Italy	Unclear	Cross sectional	Receiving group care was	Limited.	None

First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
				questionnaire study.	associated with high internal control, reduced fatalism and increased trust in other.		
Zabaleta et al	2007	Narrative review, conducted jointly in Spain and UK.	A range of primary care settings.	Narrative review.	<p>The primary outcome were improvement in glycemic control was a difference of &gt;0.5% identified as indicating clinical important benefit. Comprehensive electronic searches of relevant databases identified only 3 of 21 studies that fully met the review inclusion criteria. These were:</p> <ul style="list-style-type: none"> <li>• Type 2 diabetes as principal diagnoses</li> <li>• Aged 18 or older</li> <li>• Structured group education intervention in a primary care setting</li> <li>• Glycosylated haemoglobin defined as an outcome</li> <li>• Controlled trials.</li> </ul> <p>The findings of the review suggested that there was insufficient evidence on the effectiveness of diabetes group education for type 2 diabetes in primary care. However, the characteristics of the three studies</p>		

First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
					included, raised important issues regarding the mode of delivery of diabetes education. More rigorous trials to assess the benefits of group education were strongly recommended.		
Trento et al	2005	Turin, Italy	Secondary care clinic	Randomised controlled clinical trial comparing 31 patients managed by group care with 31 managed by traditional 1:1 care.	The primary end point in this study was improved quality of life. Secondary end point included knowledge of diabetes, health behaviours, glycosylated haemoglobin and circulating lipids. After 3 years, quality of life improved among patients on group care along with knowledge and health related behaviours ( $p<0.001$ ). Knowledge added its effect to those of group care by independently influencing behaviours ( $p=0.004$ ). Whilst quality of life changed independently of either ( $p<0.001$ ). Among controls quality of life worsened ( $p<0.001$ ), whereas knowledge and behaviours remained unchanged. Glycosylated haemoglobin did not change significantly in either group.	Group care is applicable and cost effective in type 1 diabetes, improving quality of life, knowledge and behaviours.	Limited relevance to type 2 diabetes and describe secondary care setting.

First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
Campbell et al	1996	Newcastle, Australia	Community based diabetes education service in New South Wales, Australia.	Randomised controlled trial.	<p>Patients with type 2 diabetes were allocated to 1 of 4 programmes. A minimal instruction programme (n=59), an education programme based on an individual delivery model (n=57), a group education model (n=66), and a behavioural programme (n=59).</p> <p>Individual and group education programmes had higher nutrition rate than the behavioural and minimal programmes. The 4 programmes involved different amounts of patient contact time, delivery of format and instructional strategies. There were no significant differences between the programmes in either glycosylated haemoglobin or BMI.</p>	Limited.	Poor study design and inadequate power.
<b>Post Myocardial Infarction Patients</b>							
Mildestvedt T	2007	Bergen, Norway	Community based cardiac rehabilitation centre outside Bergen.	Randomised controlled trial and longitudinal study of predictor variables in a 4 week heart rehabilitation setting with 2	<p>A total of 176 (38 female) patients were included. The main outcome measures were dietary changes and smoking cessation. Motivational factors were tested for predictive power in the 3 dietary outcomes. Daily intake of fruit and vegetables, a low saturated fat diet</p>	Among this highly motivated group of patients no effect was found of adding individual counselling to group based interventions.	Based on longitudinal documentation, this cardiac rehabilitation programme improved long term maintenance of

First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
				years of follow up.	and weekly intake of fish dinners.  No significant difference in improvement of dietary maintenance was found between the 2 groups. Similarly there was no between group difference in smoking status change.		dietary changes and this maintenance is related to self efficacy.
Bagheri	2007	Tehran, Iran	Secondary care post myocardial infarction population.	Randomised controlled clinical trial.	62 patients with myocardial infarction were distributed into 5 sub groups; 31 patients to the control group and 31 to the 5 different sub groups. The group counselling programme was performed 2 days per week, each session lasting 1 hour. No counselling was performed in the control group. Quality of life was estimated in both groups using the MacNew Quality of Life Score before the group counselling programme and 1 month after its completion.  There was no significant difference between the main quality of life score of the case and control groups before the group counselling programme. Whereas there was a significant difference ( $p=0.001$ )	Limited.	Inappropriate study design.

First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
					between the mean quality of life score after the group counselling in both groups. There was a significant difference between the before and after group counselling in the case group, whereas in the control group it slightly decreased.		
Focht et al	2004	East Carolina, USA	Community based cardiac rehabilitation programme in East Carolina.	Randomised clinical trial.	<p>147 participants in a cardiac rehabilitation centre were randomised to either group based cognitive behavioural activity programmes vs a traditional cardiac rehabilitation programme. Changed in health related quality of life at 3 and 12 months were assessed using SF 36.</p> <p>Men in both exercise therapy groups and women in the group based intervention demonstrated more favourable improvements in quality of life compared with women.</p>	Improvements in health related quality of life among adults enrolled in cardiac rehabilitation differ as a function of treatment, gender and initial mental health status.	The effects of group therapy may be highly dependant on the characteristics of the group.
<b>Other health improvement topics</b>							
Johnson et al	2008	Narrative review conducted in USA.	Not applicable	Narrative review.	This narrative review was highly biased as it included only positive studies. It attempted to compare group vs individual delivery models but often these were mixed. Its		



First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
					overall conclusions were that structured interventions were superior to non structured interventions and quarterly monitoring produced the most positive outcomes. Interventions delivered to employees in a team format were as successful as interventions delivered 1:1. Single disease or health behaviour focussed interventions were more successful than multi-faceted interventions.		
Elliott et al	2007	Community based fire fighters	Prospective trial randomised at fire station level (PHLAME: Promoting healthy lifestyles alternative models' effects)		<p>This prospect of trial among 599 fire fighters was randomised at fire station level to 3 arms.</p> <p>1 – Team centred curriculum 2 – 1:1 Motivation interviewing 3 – Control group.</p> <p>Assessment included dietary behaviour, physical activity, weight and general wellbeing at baseline and 12 months. Both interventions were acceptable and delivered with high fidelity. The team based and individual 1:1 programme increased fruit and vegetable consumption and general wellbeing. Significantly</p>	Both the team based and individual 1:1 intervention promoted healthy behaviours. However, the team based curriculum was found to be more acceptable and innovative in listing psychological influences not accessed with individual formats.	

First author	Year	Location (i.e. country + urban/rural etc)	Setting	Study design	Summary of findings	Transferability	Comments
					less weight gain incurred in both compared with the control arm. A cross-sectional model was consistently with mediation differing between interventions.	In addition to differing content and format, the absolute time spent in the team sessions was greater than in the individual intervention. Peer teachers were thought to be more effective than individual workers by enhancing informational relevance and increasing the team's ownership and personal investment in the activity. The change process is likely to have differed in that the team programme increased dietary social report to reflect group norms and cohesion.	

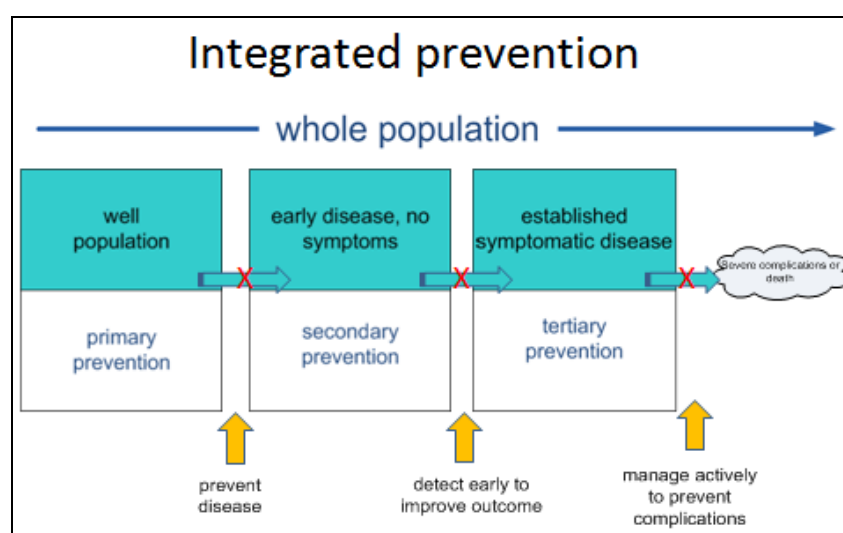
## 5. Conclusions

We face a ‘rising tide’ of preventable chronic disease in the UK, fed by powerful social drivers and increasing inequalities. Behavioural and biomedical interventions have very real potential to transform the health of populations, yet decades of evaluative research demonstrating the failure of large, expensive ‘heart health’ initiatives show that we lack delivery mechanisms to systematically deliver these powerful prevention interventions to the entire population.

The findings of this evaluation indicate three ‘critical control points’ that appear to explain the difference between Keep Well’s ‘real world’ performance and this (much greater) preventive potential. Optimising our performance at these critical control points, all of which are likely to be contributing to varying degrees, hold the key to effective deployment of the primary and secondary prevention components of anticipatory care (Figure 65):

- **engaging** the population subgroups at highest risk
- **changing** the health literacy, risk factors and behaviour of those who engage
- **sustaining** adherence to any changes after the Keep Well consultation

Figure 65: NHS GG&C Integrated Anticipatory Care Framework



Understanding our current performance at each of these ‘critical control points’ is critical to improvement and this report identifies many opportunities for focused improvement effort. The observation which stands out most starkly is variation, which is a prominent feature across the entire pathway, found in organisational systems, engagement efficiency, clinical management and, most crucially, in recognising and responding to need. The reality of this variation is that some parts of our anticipatory care system achieve very substantial, real change in their target populations, whereas others do not.

There is evidence of very considerable clinical, social and psychological need in the Keep Well population, with a high prevalence of preventable risk factors for future chronic disease and suboptimal health. The evaluation findings identify opportunities for responding more effectively and efficiently to these for a sustainable future.

However, the Keep Well programme is much more than a targeted clinical anticipatory care intervention. It contains multiple elements which need to work

synergistically together and is thus more about enabling multiple agencies and individuals to work together for sustained health gain. The rich organisational learning identified in this report has wide transferability across our local NHS. It highlights the importance of proactive, functioning relationships between clinicians and wider health improvement services. There is a need to improve strategic and operational linkage at all levels, involving those who deliver the clinical components of the intervention in fully realising the assets available in local communities and in shaping coherent and responsive change for local health improvement. Community Oriented Primary Care (COPC) clusters offer opportunities to do this effectively, generating wider indirect benefits to all partners (a separate paper on COPC is available on request and an interim evaluation report will be circulated to relevant stakeholders in mid June 2012).

Although there is widespread intuitive knowledge of strategies that increase engagement with healthcare, we found substantial variation in systematic application of this knowledge. Throughout the course of Keep Well, a prominent presumption has often been that it is patient-related factors, such as fear, apathy, health service avoidance and health service over-consultation, which represent the greatest barriers to engagement, and that the key to improved engagement was addressing these patient factors systematically. Although this was true to some extent, a more significant predictor of attendance is determined by practice-related factors, such as organisational systems, purposeful engagement approaches and delivering patient-centred healthcare. Development of improved consultation support packages, building on the learning from consultation development research described in this report are urgently needed and are now being created within Keep Well.

Outreach workers provided powerful insights into the mix of factors that can successfully engage disadvantaged populations in preventive interventions and thus offer a rich source of planning intelligence, if effective systems are established to capture and act on this.

Finally, more customised models of anticipatory care appear likely to be required for several defined subpopulations, building on the successes of the South Asian Anticipatory Care (SAAC) and Carers' pilots as highlighted in this report. More detailed evaluations of these interventions will be available in mid 2012.

## **6. Recommendations**

1. Outreach workers should be clearly recognised as a vital, permanent component of the anticipatory care workforce. Their strategic objectives, skills and competency set should be more firmly embedded and understood as part of a coordinated system, working in close alignment with practices and health improvement services in local anticipatory care systems, including their wider deployment beyond primary and secondary prevention to other components of integrated anticipatory care
2. NHS organisational systems for optimal engagement are clearly identified in this report and this transferable learning should be disseminated widely.
3. Tackling variation and feeding back performance data as close to real time as possible are clear priorities for intensifying the overall impact of anticipatory care – Keep Well is just one component of this set of interventions
4. Wider dissemination of the approaches used in the Drumchapel COPC cluster should be considered, in order to involve those who deliver the clinical components of anticipatory care in shaping change, enhancing the potential of clinical encounters to contribute more effectively to public health
5. Further development of consultation support packages for primary care professionals should build on the process evaluation of consultation competencies, literacy and practice nurse 'buy-in' studies described in this report. These should have three components:
  - patient interview/data collection/motivational tools
  - an evidence based practitioner training programme
  - clinical templates, including 'intelligent templates'
6. Health improvement services in Keep Well should be actively performance managed as part of a local 'whole system' anticipatory care network

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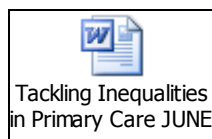
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## Appendices

Appendix 1: Tackling Health Inequalities Together: Event Report.



Appendix 2: Literature Review: Health Professional Competencies  
In Keep Well Planned Consultations



Appendix 3: Exploring primary care responses to adult literacy issues.

