Keep Well in NHS Highland

Mid-term evaluation of the Keep Well programme in NHS Highland

By: Imran Arain, Health Improvement Specialist - Mental Health

on behalf of the NHS Highland Keep Well Programme Steering Group

January 2015

Acknowledgements

This report was produced by

Imran Arain, Health Improvement Specialist –Mental Health

The following people provided invaluable contribution to the data collection, analysis and writing of this report. I am thankful for their help, support and contributions

Elaine Garman, Public Health Specialist and Project Director, Professional Lead Keep Well Programme

Angus MacKiggan, Public Health Business Manager and Keep Well Coordinator

Margaret Brown, Policy Officer

The Epidemiology and Health Sciences team provided support in designing, administering and analyzing the survey and Albasoft data for which I am thankful to the following colleagues for their valuable contributions

Susan Vaughan, Epidemiologist

Sara Huc, Public Health Support Officer

Ian Douglas, Health Intelligence Officer

I am thankful to my university supervisors, Professor Jo Booth and Dr Lisa Kidd, Glasgow Caledonian University, for their regular technical input, support and encouragement throughout the course of this study.

I am also thankful to the Keep Well steering group and the whole Keep Well team in NHS Highland for their views and contribution at different stages of the evaluation and report preparation

Abbreviations/ Glossary

BCC	Behaviour Change Communication
Cs	Contexts
CMO	Context Mechanism Outcome
CMOCs	Context Mechanism Outcome Conjectures
CPP	Community Planning Partnership
CVD	Cardiovascular Disease
GPs	General Practices
KW	Keep Well
Ms	Mechanisms
MI	Motivational Interviewing
MoU	Memorandum of Understanding
NVIVO	A software to analyse qualitative data
NHSH	National Health Service Highland
NRES	North of Scotland Research Ethics Committee
Os	Outcomes
PBS	Patient Booking Service
PDSA	Plan-Do-Study-Act
QOF	Quality Outcome Framework
SDH	Social Determinants of Health
SIMD	Scottish Index of Multiple Deprivation
SOA	Single Outcome Agreement
SRE	Scientific Realistic Evaluation
VOiCE	Visioning Outcome in Community Engagement

How to read refined CMOs (Context Mechanism and Outcome) in the Results section

Each CMO comprises three components which includes context, mechanism and outcome. A context may have a number of mechanisms and a mechanism may have a number of outcomes. Every context is linked to its correspondent mechanisms and every mechanism is linked to its corresponding outcomes. The CMOs are numbered' for example if a context has 5 mechanisms and linked outcomes; they are numbered as CMO 1 to 5. In all thematic topics analysis and commentary refer to the numbered CMO formula so that readers can identify the particular CMO configuration while reading the commentary. At the end of each thematic topic brief reflections are presented in the form of what works? For whom? How and in what circumstances?

List of Tables

List of figures

Executive Summary

Background

Keep Well is a national anticipatory care programme initiated by the Scottish Government in 2006 as part of the 2005 health policy 'Delivering for Health' (Scottish Government 2005). The programme was expanded further through Better Health Better Care (2007) and Equally Well (2008). Initially the programme was launched to pilot anticipatory care on a large scale in disadvantaged areas across Scotland, with a primary focus on cardiovascular disease. The main element of the programme is the Keep Well health check which is intended to identify individuals at greater risk of preventable ill health. Treatments and referrals to community and other NHS and voluntary services are offered and monitored with proactive follow-up.

The Keep Well Programme is part of a wider national strategy to tackle health inequalities in Scotland (Scottish Government 2005; Scottish Government 2007 Scottish Government 2008). The overall aim of the national Keep Well Programme is "to reduce inequalities in health". A range of policies underpins the Keep Well programme. A brief outline is presented in Table 1 which covers the period from 2003 onward.

Keep Well in NHS Highland adopted a slightly different approach to identifying high risk individuals compared with the national programme. The local programme is based on a holistic health enhancement approach. The main features of this approach are as follows:

- The development of a stand-alone programme that does not include primary care as a key delivery agent.
- An assets-based, participative approach to reducing inequalities.
- A culture shift from clinical to more holistic approaches to healthcare (building on evidence, including from Well North, and the success of community-led health initiatives).

Reaching and engaging those who are hardest to reach (this goes beyond the delivery of a one-off consultation

This report presents the findings from a process evaluation perspective and measures the performance and impact of the local KW intervention. The purpose of the evaluation is to inform decision makers and practitioners about how the programme is working and whether the programme has started making an impact. The overall aim is to develop, refine, test and explain Keep Well programme theories and the approaches applied in tackling health inequalities in CVD locally

Methodology and methods

The 'Scientific Realistic Evaluation' (SRE) methodology has been applied as an overall framework using a 'generative' theory development process. A multi-method, 'pluralistic', approach was used to collect data. This included a literature review to develop initial raw theories, discussions and observations to update theories, qualitative approaches which included 23 in-depth interviews, quantitative methods which were comprised of a self

administered survey and assessment of the KW health checks data to refine and develop Middle Range Theories (MRTs). The qualitative data were audio recorded, transcribed verbatim and thematically analysed using NVIVO10, and quantitative data were analysed in MS Excel. Analysis and interpretation were carried out in three stages by applying the SRE formula: Context+ Mechanism = Outcome. The main target respondents in the data collection process included service users, practitioners, managers, senior managers and partner agencies.

Results

The results showed good progress and improvement in most aspects of the programme. Although it is difficult to judge the impact of the programme at this stage, it is performing well and has started making some difference in building better relationships with service users, improved lifestyle behaviours, increased confidence and trust in the services and enhanced self efficacy and control. Training and skill development of staff and partners, community engagement and partnership working in some areas established a better understanding of the programme and a step closer to achieving holistic health enhancement. Special focus may be given to targeting vulnerable groups, mainstreaming and sustainability of the programme beyond 2017. There are clear opportunities to consolidate programme activities in areas where it is performing well and replicate successful mechanisms and outcomes in areas where it is not performing so well. These results are based on the following 8 local thematic topics which were developed through relevant literature review:

- Community involvement/engagement, empowerment and lifestyle
- Health Checks
- Health and Wellbeing
- Capacity (knowledge, and skills) of frontline staff
- Partnership and collaborations
- Referrals and patient management system to improve quality and effectiveness
- Rural issues
- Management Information System/ Information technology

The first few years of any complex public health intervention, like KW, are always challenging. It is important that new programmes allow an appropriate time for development, especially if specialist staff are required as it could take some time for staff to fully understand the programme and contribute more productively. Most programme components have direct or indirect connections and required to work in coordination with each other. There is interdependency among these components which is directly proportional to the quality and improved care services, for example a lack of partnership affects community engagement and a lack of community engagement could affect access to vulnerable people or the people most in need. Similarly, marketing and raising awareness of the programme can

directly impact on the use of services, trust and confidence of service users and partners. It could also impact on community engagement and the establishment of multi-agency partnerships. The use of modern technology could affect all of these components if the capture and recording of data are not of high quality, valid and are too time-consuming. Therefore, each programme component has triggering factors which influence the specific outcomes in that pathway. There is a need to clearly and explicitly understand the connections and triggers among all the components of the programme. This explicit understanding among programme practitioners and mangers could establish appropriate mechanisms by providing suitable conditions to achieve required outcomes.

Learning by doing has been found to be a useful strategy in the current programme and the practitioners are at different stages of their learning curve compared to the start of the programme. They are now acting more appropriately and proactively. As CVD health inequalities are complex issues, understanding and appropriate action by practitioners are fundamental in satisfying the service users and meeting the programme's aims and objectives. This has now started happening in the third year in most aspects of the programme, however, there are area based variations.

Electronic pen technology is important to capture useful data for future planning. It is in the early stages of its development and taking more time than expected. An initial pilot of the electronic pen in one selected area could have made a difference and might have reduced wastage of time in other areas. Such a strategy could have reduced frustration and anxiety among many practitioners. However, there is hope and belief that this technology could support practitioners in recording and transferring data with a degree of confidence and may save time compared to manual systems. In order to make this happen appropriate time and resources should be allowed for this technology to become fully functional in all areas.

Social marketing and awareness raising of the programme required special attention without which it would be difficult to reach the vulnerable people who are most in need. There is a good level of social marketing activities in Easter Ross which has been instrumental in increasing awareness about the value of health checks and onward engagement activities. Social marketing is not only important for raising the profile of the programme, but it could also help improve the confidence of service users, partners and the general public and enhance brand image which could positively impact on health checks and community based activities. Social marketing activities also link to community engagement and partnership development aspects which have been progressing, but they require a more aggressive approach to reap better benefits.

Service users' engagement in some areas is stronger than in others especially where community engagement has been used as the main mechanism to access potential service users. It is more effective to engage targeted communities and relevant multi-agency partners to offer health checks than relying on making contacts through Patient Booking Service. The PBS invitation letters are seen negatively by some service users probably because of the lack of trust and awareness about the KW programme and its approach and what benefits it could offer. This issue could be tackled by more aggressive marketing and publicity campaigns and

more involvement of local partner agencies, especially those working with vulnerable groups. The lack of involvement by vulnerable groups can also be tackled by increasing and extending partnership and collaborative ways of working. The very local third and private sector organisations are important links which have been exploited in some areas like Easter Ross.

The KW programme mainly focussed on lifestyle behavioural change advice and onward referrals during health checks. Advice and referrals on social determinants of health and health inequalities may require better understanding among practitioners, more networking and established contacts with relevant agencies. This area needs particular attention to make links with Community Planning/Single Outcome Agreement, housing, employment and other relevant agencies. There is good work going on in developing and sustaining partnerships through mutual agreement of services and referrals both in health and social determinant topics in some areas. This could be used as a baseline to exploit further opportunities, especially building networks with private and third sectors on a mutual benefit basis.

The KW practitioners have improved their knowledge and skills over time, about (1) the wide range of public health practices, including community development, co-production, asset based approaches and wider determinants of CVD and health inequalities and (2) community based projects and activities. This has not only empowered the practitioners, but also service users are being advised and referred to appropriate services. Third sector and newer practitioners may still require to upgrade their skills and knowledge especially about wider public health practices.

Sustainability and mainstreaming of the KW programme remain serious issues for stakeholders. However, due to the training and development activities, practitioners' knowledge and skills will stay in the community even if they are not working with the KW programme. They are still utilising their public health practice, knowledge and skills within that community in some form which itself sustains the various aspects of the KW contents. Furthermore, there is evidence that some practitioners are continuing health checks in their own area of work even if they are no longer employed by the KW programme. Third sector organisations also offer a potential avenue for continuing with the KW services through their workers for which local arrangements will be required in respective areas to agree on specific KW contents of delivery.

Conclusions

Although the Keep Well programme is developing rapidly in some areas, more focus on holistic health enhancement approach could consolidate and improve the specific outcomes. This evaluation does not explicitly focus on the overall impact of the programme which is not possible because the programme is still in its third year of implementation phase.

Recommendations and considerations

Recommendations

1. Development of specific social marketing guidelines or a local strategy, brief social marketing training to local leads/coordinators and some financial resources for social marketing campaigns should be allocated to local KW teams.

2. There should be a formal referral policy and referral system established to refer clients to appropriate onward services. This system should be designed for lifestyle specialist services, social determinants and relevant diseases in partnership with all major services. Community-based social and cultural services should also be included to increase social prescribing.

3. Alternative methodology to SIMD area based measure could be identified and piloted in a selected area in NHSH. Fischbacher (2014) provided a list of alternative methodologies some of which can be used for further discussions: for example 'smaller area census data' can be used to avoid whole postcode area.

4. The KW programme should establish partnerships with all major organisations which deliver services to vulnerable groups: for example housing and homelessness, mental health services, drug and alcohol services, learning disability service, prison service. This will support a targeted approach and holistic health enhancement using assets of the partners. Initial evidence from Easter Ross could be used as an example of how these partnerships could be established and sustained.

5. More formal and explicit links with CPPs and SOAs could be an effective and efficient way of implementing the KW programme. This could also achieve measurable outcomes in tackling health inequalities in CVD. Local community health development coordinators should be involved and given lead role in making explicit links with the KW programme.

6. A small local training budget for each geographic area could create better opportunities for the KW practitioners and local public, private and third sector organisations involved in delivering KW services. This budget could be used to upgrade knowledge and skills of KW frontline staff by identifying learning needs as most KW practitioners are at different levels of their learning curve. The specific learning needs assessment and skills development courses could cost less and may be more efficient in signposting the practitioners to improve knowledge and skills using local budgets.

7. There should be appropriate allocation of time, management support and resources allocated to all KW geographic areas to develop community engagement and development projects in partnership with public, private and third sector organisations. This would help all KW staff to develop infrastructure to support the programme aims and objectives.

8. There is a lack of formal and established pathways for specialist referrals and specialist community services, for example access to Community Mental Health, Psychological services (CBT), dietitian etc are crucial for practitioners and service users. Community-based lifestyle behavioural services should also be mapped and listed. More planned, organised and systematic lifestyle, community and specialist services referral systems and networks could support the delivery of a holistic health enhancement approach. To do this a mapped

specialist services pathway for all relevant topics should be developed and implemented to support practitioners working with service users.

9. Wherever possible Patient Booking Services should not be used to contact potential targeted clients. Investment should instead be diverted to community-based systems of identifying high risk groups. To do this a new methodology of targeting more rural vulnerable clients should be introduced. Fischbacher (2014) has discussed a range of options and different methodologies which could be used as starting point.

10. Innovative and creative ways of community engagement, such as the VOiCE toolkit used in Argyll & Bute should be encouraged across the area. This online software tool uses a Plan-Do- Study-Act (PDSA) approach, national standards of community engagement and automatically records proceedings and activities step by step. Practitioners should be offered brief training on the use of VOiCE and how to share learning online with their colleagues.

Considerations

1. Mapping of KW service users' access, engagement and referral journey could help practitioners to manage service users' journeys in a more organised way. This could also offer benefits to service users and reduce the chance that they might disengage. With this mapped development service users are more likely to be engaged with community or more formal services. This could also help to achieve the objectives of holistic health enhancement approaches.

2. Target-driven environments put pressure on practitioners, which could compromise the quality and delivery of a health enhancement approach. Therefore, this strategy should be reviewed and practitioners should invest more time in community-based activities and opportunistic health checks.

3. Dedicated KW practitioners could be employed to target specific vulnerable individuals. In order to make this happen relevant local third sector, community based and public sector organisations that work with vulnerable groups can be targeted by practitioners to offer holistic health enhancement interventions.

4. Explicit links should be established with new Community Health Co-ordinators who could be instrumental in raising the profile of the KW programme. They could also use the KW health checks as an entry point to many vulnerable groups in the community.

5. A list of the most relevant health promotion print material should be agreed and made available to all practitioners in a reference folder that can be used during health checks to facilitate the discussion. The print material should include lifestyle behavioural topics, disease topics mainly associated with CVD and the most relevant life circumstance topics. Selected print material can also be given to service users on the discussed topics.

6. To avoid any unexpected negative and stressful situations in the future, appropriate measures should be taken to improve the quality of the CHI data in order to eradicate where possible the potential issue of invite letters being sent to deceased people.

Chapter 1 Introduction and Background

1.1 Introduction

Keep Well is a national cardiovascular disease prevention programme implemented by NHS Boards. The programme is funded by the Scottish Government and was first initiated in 2006 with the aim of contributing to the reduction of health inequalities in Scotland. The focused approach is on anticipatory care by providing health checks, targeting those at particular risk of preventable cardiovascular disease (CVD), and offering interventions and follow-up through community-based and mainstream services. Several waves of the Keep Well programme have been implemented and evaluated since 2006 (NHS Health Scotland 2014). The current wave was initiated in 2012 with the additional aim of mainstreaming KW services as normal practice by 2016-17.

The NHS Highland Keep Well programme builds on the Well North philosophy of CVD prevention which mainly focused on community development and engagement aspects (Fyfe et al 2011) The main target groups include people aged 40-64 living in specific areas of deprivation and people aged 35-64 from the vulnerable groups described in the policy guidance.

This report presents the findings from a process evaluation perspective and measures the performance and impact of the local KW intervention. The purpose of the evaluation is to inform decision makers and practitioners about how the programme is working and whether the programme has started making an impact. The overall aim is to develop, refine, test and explain Keep Well programme theories and the approaches applied in tackling health inequalities in CVD locally.

The 'Scientific Realistic Evaluation' (SRE) methodology has been applied as an overall framework using a 'generative' theory development process. A multi-method, 'pluralistic', approach was used to collect data. This included a literature review to develop initial raw theories, discussions and observations to update theories, qualitative approaches which included in-depth interviews, quantitative methods which were comprised of a self administered survey and assessment of the KW health checks data to refine and develop Middle Range Theories (MRTs). The qualitative data were audio recorded, transcribed verbatim and thematically analysed using NVIVO10, and quantitative data were analysed in MS Excel. Analysis and interpretation were carried out in three stages by applying the SRE formula: Context+ Mechanism = Outcome. The main target respondents in the data collection process included service users, practitioners, managers, senior managers and partner agencies.

The results showed good progress and improvement in most aspects of the programme. Although it is difficult to judge the impact of the programme at this stage, it is performing well and has started making some difference in building better relationships with service users, improved lifestyle behaviours, increased confidence and trust in the services and enhanced self efficacy and control. Training and skill development of staff and partners, community engagement and partnership working in some areas established a better

understanding of the programme and a step closer to achieve holistic health enhancement. Special focus may be given to targeting vulnerable groups, mainstreaming and sustainability of the programme beyond 2017. There are clear opportunities to consolidate programme activities in areas where it is performing well and replicate successful mechanisms and outcomes in areas where it is not performing so well.

1.2 Background: National and Local Context

1.2.1 National context

Keep Well is a national anticipatory care programme initiated by the Scottish Government in 2006 as part of the 2005 health policy 'Delivering for Health' (Scottish Government 2005). The programme was expanded further through Better Health Better Care (2007) and Equally Well (2008). Initially the programme was launched to pilot anticipatory care on a large scale in disadvantaged areas across Scotland, with a primary focus on cardiovascular disease. The main element of the programme is the Keep Well health check which is intended to identify individuals at greater risk of preventable ill health. Treatments and referrals to community and other NHS and voluntary services are offered and monitored with proactive follow-up.

The main objectives of the programme are:

- to increase the rate of health improvement in deprived areas by enhancing primary care services to deliver anticipatory care to those aged 45-64(currently 40-64),
- identifying and targeting those at particular risk of preventable serious ill-health, including those with undetected chronic disease,
- offering appropriate interventions and services to them, and
- providing monitoring and follow-up.

The Keep Well Programme is part of a wider national strategy to tackle health inequalities in Scotland (Scottish Government 2005; Scottish Government 2007 Scottish Government 2008). The overall aim of the national Keep Well Programme is "to reduce inequalities in health". A range of policies underpins the Keep Well programme. A brief outline is presented in Table 1 which covers the period from 2003 onward.

1.2.2 Local Context

Keep Well in NHS Highland adopted a slightly different approach to identifying high risk individuals compared with the national programme. The local programme is based on a holistic health enhancement approach. The main features of this approach are as follows:

- The development of a stand-alone programme that does not include primary care as a key delivery agent.
- An assets-based, participative approach to reducing inequalities.

- A culture shift from clinical to more holistic approaches to healthcare (building on evidence, including from Well North, and the success of community-led health initiatives).
- Reaching and engaging those who are hardest to reach (this goes beyond the delivery of a one-off consultation).

Table 1: Relevant national policy documents on health inequalities linked to Keep Well

2003

Improving Health in Scotland – The Challenge

- Lifestyle approach focused on behavioural interventions
- Main target groups included early years, teenage, transition, workplace and community action
- Health Improvement policy actions

Partnership for Care

- Emphasis on integrated health care delivery
- Partnership between health and social care
- Service redesign through public involvement
- Health services based in the local communities

2005

Delivering for Health

- First time major focus on anticipatory care programmes
- Focus on health inequalities
- Preventative health improvement approaches

2006

Delivering a Healthy Scotland – Meeting the Challenge

- Focus on health inequalities through lifestyle behavioural changes
- Dealing with wider social determinants such as. education, employment, housing
- Focus on areas of deprivation
- Keep Well programme piloted for the first time

2007

Better Health Better Care

- Improvement through involvement
- Targeted anticipatory care programmes

2008

Equally Well: Report of the Ministerial Task Force on Health Inequalities 2008

- Systematic tackling of health inequalities across the sectors
- More emphasis on partnership working and integration
- Priorities include children and early years, heart disease, mental health, drugs and alcohol
- Sustainable economic growth through reducing health gap
- Explicit links with Community Planning Partnerships and Single Outcome Agreements

2009

Improving the Health & Wellbeing of People with Long Term Conditions in Scotland

- Focus on Long-term conditions
- Population-wide prevention, health promotion and inequalities
- Partnership, mutuality, self management, workforce development, integrated care, quality improvement and clinical information system

2011

Commission on the Future Delivery of Public Services (Christie Commission Report)

- Radical reform agenda through service redesign
- Preventative actions and tackling health inequalities and promoting equalities
- Emphasis on evidence based practice

Although the Keep Well health check remains one of the key activities, the main focus is on tackling the determinants of health and health inequalities in CVD through community engagement, partnership working and focussing on holistic health enhancement. To implement Keep Well in NHS Highland, five areas were selected using income and health outcome domains based on the 20% most deprived areas of Scottish Index of Multiple Deprivation (Douglas 2013). The specific targeted areas are described in Table 2 and the description of total and area-specific populations in table 3.

Table2: NHS Highland KW targeted areas

Inverness	**Caithness**	**Ross shire**	**Lochaber**	**Argyll and Bute**
Merkinch Kinmylies, Dalneigh, Hilton & Raigmore	Wick Thurso	Easter Ross	Kinlochleven	Dunoon Campbeltown Oban

Table 3: Total population of the targeted areas and the distribution of data zones in NHS Highland in the most deprived 20% of the national multiple deprivation (SIMD 2012) by Area

Area	Total number of data zones	Total Population 2011 (NRS)	Number of data zones in the most deprived 20% of the national multiple deprivation	Population of data zones in the most deprived 20% of national multiple deprivation	% of data zones in the most deprived 20% of national multiple deprivation in local area	% of population in the most deprived 20% of national multiple deprivation in local area
Argyll & Bute	122	89,590	11	6,971	9.0	7.8
North Highland	55	36,987	6	3,582	10.9	9.7
West Highland	56	40,459	1	612	1.8	1.5
Mid Highland	60	45,969	7	5,170	11.7	11.2
South Highland	121	98,955	11	8,475	9.1	8.6
NHS Highland	414	311,960	36	24,810	8.7	8.0

1.3 Target population criteria for the intervention

The main targeted population groups include:

- 40-64 year olds, identified as eligible using the income and health domains from SIMD, focusing on carers
- All other vulnerable groups as defined in guidance – aged 35 to 64

- Black and Ethnic Minorities groups only in defined areas

1.4 Delivery model and variations within NHS Highland

The overall aim of the Keep Well programme in NHS Highland is to reduce health inequalities using a holistic health enhancement approach. Although it was believed that the delivery of holistic health enhancement is possible through health checks, it was agreed that health checks should not be the only service delivery option. The logic model in table 3 outlines the major areas of expected outcomes.

Those identified as eligible for a CVD health check received a letter from the Patient Booking Service inviting them to make an appointment. However, Easter Ross did not use this option and health checks here were carried out using community engagement and partnership approaches. For populations outwith those identified as "specific vulnerable populations", CVD Health Checks were delivered by Community Teams although, where practical and possible, other models of delivery were considered, e.g. Practice Nurse, community pharmacies and Community Paramedic Model. When targeting groups specifically identified as vulnerable populations, delivery was by teams normally involved in their care going out to those populations. The contents of the check were the same regardless of which staff member delivered the checks. Health checks were offered to those aged between 40 and 64 in geographical groups and 35-64 years for vulnerable groups. 2140 health checks were delivered during 2013/14 and it is anticipated that 2,435 will be delivered in 2014/15.

Apart from the contents of the health check itself, NHS Highland's approach to KW varied across the areas. There were variations in terms of overall delivery of the KW services. The main justifications for this inconsistency were described as the difference in local area needs and requirements, and the availability of resources. In some areas the national Keep Well programme approach was followed to directly identify and carry out health checks, but in other areas this was not the case and a rather more holistic health approach was adopted. For example in Argyll and Bute, the first year of the Keep Well implementation period focused on community engagement and development activities to build community trust and confidence and no health checks were offered. Targeted areas in Inverness and Caithness directly offered health checks whereas Easter Ross used a mixed approach.

1.5 Resources deployed

Table 4 below provide details of the resources deployed across the targeted areas during 2013, 2014 and 2015.

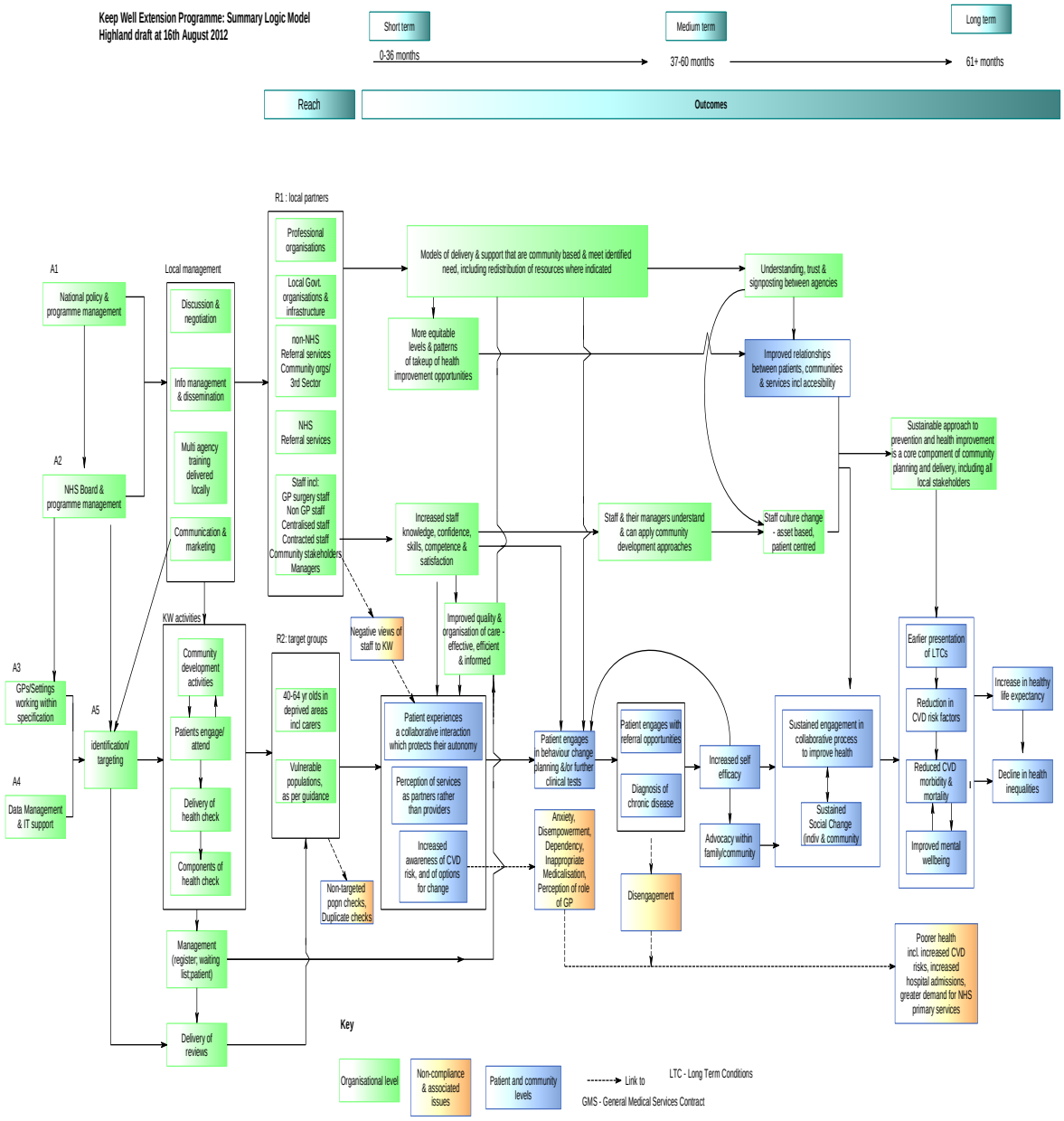
Table 4 NHS Highland Keep Well resources deployed in the programme

NHS Highland Keep Well Programme – Local Area Staffing Levels

Keep Well Area	Staffing Levels		
	2012/13	2013/14	2014/15
Argyll & Bute	0.7WTE Project Manager/ Practitioner/ Community Development Coordinator	0.7WTE Project Manager/ Practitioner/ Community Development Coordinator 0.4WTE Band 3 Health Care Support Worker 0.3WTE Band 3 Admin Support	0.7WTE Project Manager/ Practitioner/ Community Development Coordinator 0.2WTE Band 3 Health Care Support Worker (Campbeltown) 0.2WTE Band 3 Health Care Support Worker (Dunoon) 0.3WTE Band 3 Admin Support
Caithness & Sutherland	Local Coordinator – Band 7 Quality Improvement Lead (unfunded post) Ad-hoc arrangements using Healthy Working Lives or Smoking Cessation Adviser staff	Local Coordinator – Band 7 Quality Improvement Lead (unfunded post) Ad-hoc arrangements using Healthy Working Lives or Smoking Cessation Adviser staff Service Level Agreement with the Pulteneytown People's Project Centre in Wick for some Band 5 nursing time	Local Coordinator – Band 7 Quality Improvement Lead (unfunded post) Ad-hoc arrangements using Healthy Working Lives or Smoking Cessation Adviser staff Service Level Agreement with the Pulteneytown People's Project Centre in Wick for some Band 5 nursing time (part year only)
Easter Ross	Local Coordinator – Band 7 PH Practitioner (unfunded post) 0.5WTE Band 6 Nurse/Practitioner 0.8WTE Band 5 Health Improvement Advisor	Local Coordinator – Band 7 PH Practitioner (unfunded post) 0.5WTE Band 6 Nurse/Practitioner – part year 0.8WTE Band 5 Health Improvement Advisor	Local Coordinator – Band 7 PH Practitioner (unfunded post) 0.8WTE Band 5 Health Improvement Advisor
Inverness	Local Coordinator – Band 7 PH Practitioner (unfunded post) Ad-hoc arrangements using Healthy Working Lives or Smoking Cessation Adviser staff Ad-hoc arrangements using Health Improvement Nurse to target vulnerable groups	Local Coordinator – Band 7 PH Practitioner (unfunded post) 0.67 band 6 Nurse Ad-hoc arrangements using Health Improvement Nurse to target vulnerable groups Service Level Agreement with 7 Inverness GP practices (part year)	Local Coordinator – Band 7 PH Practitioner (unfunded post) 0.67 band 6 Nurse Ad-hoc arrangements using Health Improvement Nurse to target vulnerable groups Service Level Agreement with 7 Inverness GP practices
Kinlochleven	Local Coordinator – Band 6 PH Nurse (unfunded post) Ad-hoc arrangements using existing community nursing staff	Local Coordinator – Band 6 PH Nurse (unfunded post) Ad-hoc arrangements using existing community nursing staff – part year Use of Band 5 bank nurse to carry out fortnightly clinics for 3 month period	N/A – local project closed 31 March 2014

1.6 NHS Highland original logic model

Figure 1 NHS Highland Keep Well Logic model



1.7 Aims and objectives and the evaluation approach

To evaluate local approaches and measure performance, the national evaluation programme emphasised improving understanding of implementation modalities, diverse approaches and methodologies applied and measurement of practice variability. This includes the development and testing of local programme theories which could contribute towards further planning to tackle health inequalities in chronic disease beyond 2015 both at local and national levels.

1.8 Purpose

The purpose of the evaluation is to inform decision makers and practitioners on the operation of the programme and whether the programme has started making an impact.

1.9 Overall aim

To develop, refine, test and explain Keep Well programme theories and approaches applied in tackling health inequalities in Chronic Vascular Disease (CVD) in NHS Highland.

1.10 Objectives

- To evaluate community engagement and development approaches: how they impact on the outcomes and trigger behaviour change in tackling inequalities in health (cardiovascular disease).
- To assess experiences and practices of service users, partners and staff about the programme and the Keep Well health checks.
- To identify wider transferable lessons for the delivery of preventive, anticipatory care and health improvement interventions
- To measure knowledge, skills, attitude and practice of service users, frontline staff and partner agencies (Knowledge of Keep Well Programme and CVD, its wider links and knowledge and skills in behaviour change and motivational interviewing)
- To evaluate how specific outcomes were achieved, what was the mechanism, under what circumstances? *(This could cover current short-term and some process indicators for the medium term outcomes and may establish links to long-term outcomes outlined in the Logic Model)*

1.11 Specific Outcomes in Highland based on logic model

NHS Highland's Keep Well steering group agreed short-, medium- and long-term outcomes based on local approaches and the national Keep Well programme targets. Table 5 below presents specific outcome statements based on the logic model shown in the figure 1 above. These statements were referred to when initial raw theories and data collection instruments (topic guidelines for qualitative interviews and survey questionnaire for quantitative study) were developed.

Table 5 NHS Highland Keep Well Original Outcomes

Short Term (0-36 months)

- Models of community engagement applied to engage target groups – Were they effective?
- More equitable levels and patterns of take-up of health improvement opportunities
- Increased staff knowledge, confidence, skills, competence and satisfaction (Motivational interviewing, links between poverty, deprivation, health inequality and chronic disease)
- Improved quality and organisation of care effective, efficient and informed
- Patients' experience a collaborative intervention which protects their autonomy
- Perception of services as partners rather than providers
- Staff and partners' views and beliefs about KW and health checks
- Increased awareness of CVD risk, and options for lifestyle changes
- Patients engage in behaviour change planning and/or further clinical tests
- Increased self efficacy and advocacy within family and community
- Diagnosing of chronic disease
- Patients engage in referral opportunities
- Patients' engagement in lifestyle improvement activities
- Reduced anxiety, dependency and inappropriate medicalisation and increased empowerment

Medium Term (37-60 months)

- Staff and practitioners can understand and apply community development approaches
- Staff culture change – more geared towards assets based, patient centred
- Improved relationships with patients, communities and services including improved accessibility
- Improved understanding, trust and confidence between agencies
- Sustained engagement in collaborative process to improve health
- Sustained social change – individuals and community

Long-term (61 + months)

- Earlier presentation of Long-term conditions
- Reduction in CVD risk factors
- Reduced CVD morbidity and mortality
- Reduced burden of CVD on hospitals
- Improved mental wellbeing
- Increase in healthy life expectancy
- Decline in health inequalities

Chapter 2 Methodology and Approach

2.1 Evaluation approach

A discussion was held at the KW steering group about the evaluation approach. Both impact and process evaluation approaches were considered. However, it was agreed that a process or formative level of evaluation would be more appropriate rather than an impact or summative evaluation. One of the main reasons for this decision was that the Keep Well intervention in NHS Highland was in its third year and it could be difficult to assess the programme to calculate impact. Generally, impact evaluation is carried out to judge the extent to which a programme has achieved its overall aims and objectives; it is usually conducted towards the end of a programme. A formative or process evaluation was more appropriate as it could provide a structured understanding of how the programme was performing, how the observed outcomes were achieved and how the practices could be improved to achieve better outcomes in the future. The understanding was that the recommendations from this formative research work could contribute to the planning process for the 4th and 5th year of the programme implementation in NHSH.

2.2 The Process to be evaluated

The evaluation process focused on eight broader themes which were extrapolated from the literature review as mini-hypotheses and Keep Well theories. The original local Keep Well logic model outcomes were also considered while developing broader themes and hypotheses. The process was followed using the Scientific Realistic Evaluation Framework described in section 4 below. The 8 headline themes and the initial raw theories are presented in table 4 in section 8.

2.3 Methodology/ Framework

Scientific Realistic Evaluation (SRE) has been applied as an overall methodology and framework in this study**. Section 2.4 below** describes SRE and how it has been applied to the current study. The section also covers the methodological and epistemological understanding and relationship of SRE with realist philosophy, critical realism and how that relates to the current study.

2.4. Scientific Realistic Evaluation (SRE) and its application in the current study

SRE is an outcome based approach which is different from other mainstream evaluation approaches. It has an explicit philosophical ontology but is not itself a research technique. The SRE approach provides a framework to explore and explain "why and how programmes work" (Pawson and Tilley 1997). It does not pose the questions traditionally asked by researchers: what worked and what did not? Instead it focuses on how programmes work. What makes programmes work? Who played what role? How was a specific outcome (both negative and positive) achieved? What mechanisms were involved? Under which circumstances/context? Pawson and Tilley called their approach 'scientific realistic evaluation". According to Pawson and Tilley(1997) realistic evaluation is not a research technique or method but a theoretical research framework to measure process, outcomes and

impact using Context – Mechanism- Outcome- Configuration (CMOC) formula. This is an iterative process to test and refine a theory in order to develop a so-called "Middle Range Theory" that may have generalisable propositions (Pawson and Tilley 1997).

Tackling health inequities in CVD involves a complex interplay of many influencing and interacting factors, but in reality these factors and events are existing out there. There are complexities from identifying inequality related issues to prevent or reduce inequalities through a structured and systematic approach. It involves complicated social and cultural values, conditions and wider environmental interactions. Health inequalities are not only influenced by health issues: wider social, economical, cultural, spiritual and environmental issues are said to be triggering factors (WHO 2007). It is important to explicitly map and explain the triggering and blocking factors which might be responsible for reducing or perpetuating health inequalities. To assess, evaluate and explain the complex nature of inequalities, realistic evaluation provides an explicit and robust framework through the CMO formula. Furthermore, the challenge is not only to explore and explain the role and responsibilities of the agencies, but also to explain how and why specific outcomes were achieved. SRE framework influenced and helped to think "realistically" to map the real footprints of the happenings rather than counting numbers, casing and controlling them in groups and end up in looking what was achieved and what was not (Pawson and Tilley 1997). Realistic evaluation provided a useful framework to plan, organise and explain how health inequalities in CVD within primary care are addressed by using a systematic process of theory development and refinement.

In SRE an appreciation of context is vital in relation to attributing cause. Context is also important in terms of replicating the intervention in any future setting or in learning about possible generalisable causal pathways (Blamey & Mackenzie, 2007). Pawson and Tilley (1997) argue that only a tailored selection of methods can account for a profession's multiple ways of evaluating effectiveness, improvement and compliance in an initiative and advocate for the use of multiple data sources in the light of opportunity and need. Investigators applying a realistic evaluation framework initially consider possible context, mechanism and outcome configurations (CMOC) to describe and evaluate a programme, and then gather data. The results are then used to revise the initial CMOC propositions. The CMOC formula which is a fundamental proposition of realistic evaluation was adopted to evaluate Keep Well (KW) programme which is the second phase of this study. The process helped to explore how specific outcomes were achieved, and the role of the partners, multi-agency organisations, and policy managers. Under what conditions the KW implemented, what values influenced the programme, what factors triggered in forming a specific mechanism and achieving linked outcomes as realistic evaluation asserts that an intervention or program is likely to activate multiple mechanisms to achieve a range of outcomes (Pawson& Tilley, 1997).

Scientific Realistic Evaluation is based on three main components: context, mechanism and outcome (Context + Mechanism = Outcome). A brief description of these components and how they relate to Keep Well evaluation is presented in the following section.

Context

Context refers to those conditions in which the programme is introduced that are relevant to the programme mechanisms. A realist utilises the contextual thinking to address the issues of "for whom" and "in what circumstances" a programme will work. Context examples could be social norms, cultures, ethics, local values, norms , geographies. People's attitudes and behaviours can also be considered as context. In terms of Keep Well the potential context could be the local rural community culture, a map of the norms of the KW programme, the politics involved, the local policy for tackling health inequalities and its system of applications.

Mechanisms

Mechanisms refer to people's choices, decisions and capacities, describing how people react when faced with an intervention; they are the pivot around which realistic evaluation revolves. Identifying mechanisms involves developing propositions about what it is within the programme that triggers a reaction from its subjects. Health care interventions only work through the action of mechanisms, through a process of weaving resources and reasoning together. Potentially resources are pooled, generated and synergised through collaborations to achieve better outcomes. Pawson and Tilley (1997) argue that without this being the first item on the research agenda, all subsequent work on programme outcomes will remain a mystery. The example of mechanism within Keep Well programme implementation could be the partnerships and multi-agency collaborations, training and development of staff, social marketing of Keep Well.

Outcome Patterns

Outcomes in SRE language are the intended and unintended consequences of programmes, resulting from the activation of different mechanisms in different contexts. For example increase in turnover, decrease in numbers, good or bad. To build an outcome pattern requires understanding and explaining a number of variations: for example implementation versions, impact and process variations, socio-economic sub-group variations, temporal outcome variations, personal outcome variations, regional outcome variations, biological make-up variations and so on. The outcome patterns could be: increased knowledge of Keep Well among staff and targeted audiences, improved inclusion, access to services, self efficacy, empowerment, reduced social isolation.

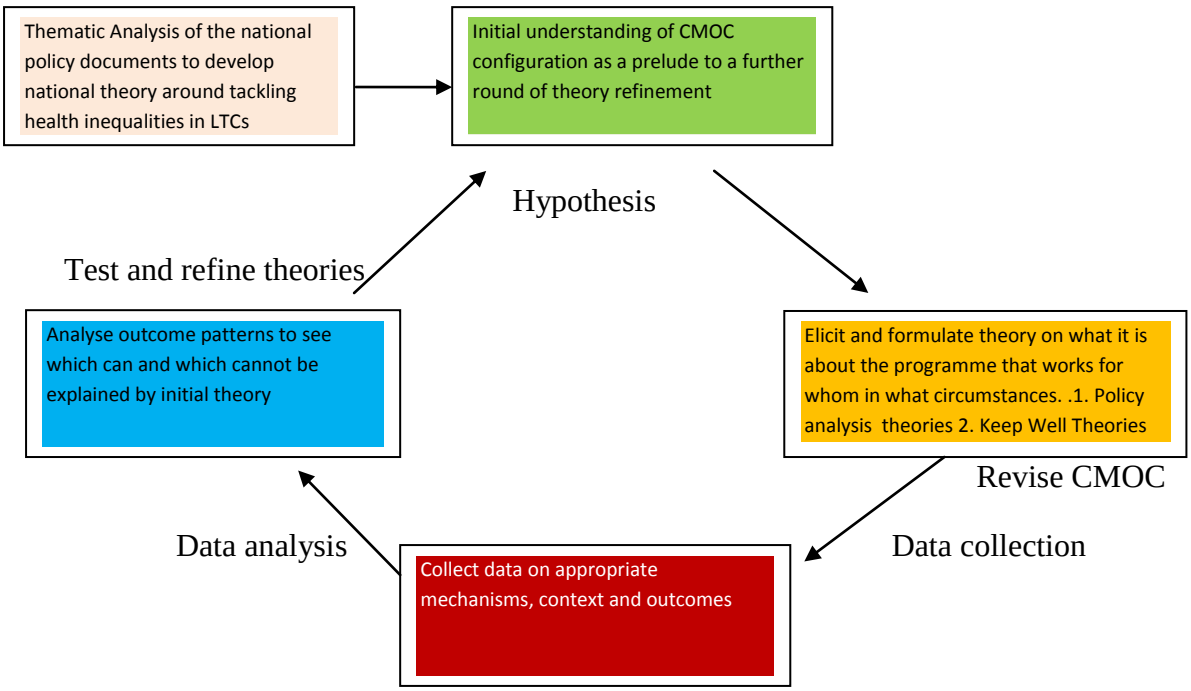
This is a unique outcome based scientific inquiry to explore and explain:

- how health inequalities in cardiovascular disease are tackled
- whether there is a connection between policy development at national level and how such policy is implemented at local level.

The initial theory was developed by carrying out thematic analysis of the national policy documents before Keep Well evaluation was conducted to test the developed hypotheses. Realistic philosophy and Scientific Realistic Evaluation propositions informed the whole

process of thematic analysis using, largely, a deductive approach. The basic structure and steps of inquiry do not differ from a normal scientific inquiry, but the difference is in the process of explanation. The process of the study is described in the following figure 2 which is conceptualised in line with the realistic evaluation methodology.

Figure: 2 Representation of basic scientific inquiry as applied to current study using SRE



2.5. Theory refinement and policy implications

SRE involves a process of theory building and theory testing. Each evaluation begins with a set of theoretical propositions based on the realistic evaluation "mantra" of "what works for whom under what circumstances" and ends with more refined propositions for future testing. Investigators examine how the data collected can be marshalled for the purpose of providing a cumulative body of information on the programme's effectiveness. The transition from case-specific CMO configurations on to middle range theory represents a shift to a more generalisable position through the transformation of individual items of data into overarching statements. Essentially, the task is to test and refine middle range theories that describe the working of a programme in a particular setting in order to generate "transferable lessons" of interest to others beyond the original programme (Pawson & Tilley, 1997). Pawson and Tilley explicitly state that realistic evaluation is a systematic process of inquiry that generates distinctive research designs and strategies; it takes forward the logic of ideas which then connects different components to make sense out of it.

The SRE approach has particular implications for policy and programme evaluation and the roles of participants (Pawson and Tilley 1997). Therefore, rather than comparing changes for participants who have undertaken KW services with a group of people who have not, as is done in randomised controlled or quasi-experimental designs, a realistic evaluation compares contexts, mechanisms and outcomes within programmes. It asks whether KW programme components work differently in different localities (or with different population groups who have differing socio-economic status, or for men, women etc) and, if so, how and why. A realist approach argues that different stakeholders will have different information and understanding of how programmes are intended to work and whether they in fact do so. In this approach data collection processes, document analysis, interviews, focus groups, questionnaires should be constructed to collect the particular information that those stakeholder groups will have, and thereby to refute or refine theories about how and for whom the programme 'works' in specific local contexts (Pawson and Tilley 1997).

2.6. Generalisation and SRE

Generalisation of research findings is always important. In fact one of the major questions generally raised about the robustness of methodology of any research design is about generalisability and validity (Pawson and Tilley 1997,TBCS 2012). Evidence Based Practice (EBP) is built around experimental designs considered to be "gold standards"(Pawson and Tilley 1997,TBCS 2012). However, Scientific Realistic evaluation challenges the traditional experimental/quasi-experimental designs in relation to generalisation and validity on the basis of following arguments:

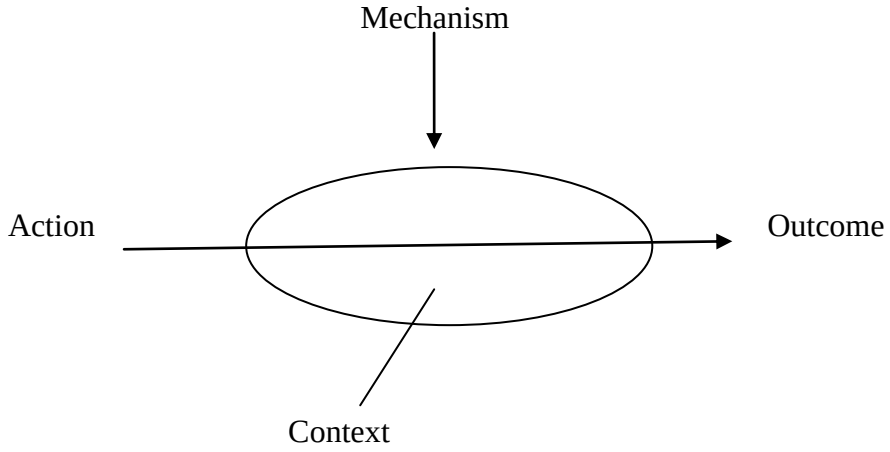
- Inconsistent results of the experimental designs (Pawson and Tilley 1997,TBCS 2012)
- Constant conjunction of events does not fully describe all that happenings on the ground, there is need to express and explain the events to understand the natural causal law (Bhasker, 1975,TBCS, 2012)
- They largely ignore the context - change theory and implementation theory (Bhasker, 1975,TBCS, 2012)
- In experimental studies generalisation is based on assumptions of data causation ignoring the facts and effects of contextual factors and without an understanding of the underlined mechanisms (Bhasker, 1975, Pawson and Tilley 1997,TBCS 2012) .
- They answer only a part of the question that what worked well and what did not (Pawson and Tilley 1997)
- They largely fail to answer: how it worked, why it worked and for whom it worked under what circumstances? (Pawson and Tilley 1997)

The argument is how programme outcomes could be generalised if the findings of the programme do not consider questions of why and how the programme worked? Therefore, realistic evaluation is robust and more useful to explore and explain the true footprints of tackling health inequalities in CVD with possible generalisable middle range theories.

2.7 Scientific Realistic Evaluation: roots with realist philosophy

The roots of Scientific Realistic Evaluation can be traced back to the realist tradition in the philosophy of science to Bhasker (1975), and Harre (1972;1986). Scientific realism and realistic evaluation have many commonalities and are mainly concerned with reality of social happenings considering context and mechanism of events in pursuit of outcome as shown in the figure 3 below. So, to develop knowledge and understanding about the mechanism through which an action causes an outcome and about which context provides the ideal conditions to trigger the mechanism, the consideration of context and mechanism is fundamentally important. (Pawson and Tilley 1997; Elster, 1989, Robson 2002). According to scientific realism the world is composed of generative mechanisms and the generative process should be explained in the context of real and observed environment (Robson 2002).

Figure 3: Representation of scientific realistic explanation



Scientific realism is directly linked to Roy Bhaskar's Critical Realism. Bhaskar accepts the existence of the thing in itself and says that it is knowable, but nonetheless asserts that there are "structures" and "mechanisms" which exist beyond empirical reality and which are difficult to know (Bhaskar, 1975). Critical Realism posits that the world is structured in terms of three overlapping and complex but, distinctive domains:

1. the real world: such as generative mechanisms; tendencies; powers,
2. the actual: such as happenings of the events, and
3. the empirical: such as experience and practices (Bhaskar, 1975).

Pawson and Tilley (1997) developed realistic evaluation framework for evaluating programmes based on a critical realist perspective, a philosophy that draws on a mixed-methods approach. There are many schools of realism and most of them have similarities (Elster, 1989, Robson 2002). As an overall understanding critical realism is concerned with the social world as the starting point for analysis. The key feature of critical realism is its emphasis on the mechanics of explanation (Bhaskar 1975). A critical realist standpoint contends that all programmes involve interplay between individual and institution, between social structures and human agency, of micro and macro social processes and that all programmes also involve disagreement and power play (Bhaskar 1975). For critical realists it

is not sufficient to simply explain the existence of social phenomena, it is also important to understand the rationale underlying the existence of these phenomena (Bhaskar 1975, TBCS 2012). Scientific realism and realistic evaluation can provide a robust model of scientific explanation which avoids both positivism and relativism (Robinson 2002).

2.8 Methods

A multi-method pluralistic data collection approach was used to accumulate data. Experienced evaluators know that the practical value of social sciences depends upon its ability to deliver useful knowledge about the causes of social problems and the effectiveness of policies and programmes designed to eradicate them. The complex nature and diversity of social phenomena make it difficult, if not impossible, to extrapolate conclusions based on a single set of methods or studies no matter how well designed or intelligently analysed. The causal process which seems to be so essential in one set of studies may prove less important to another. The programme that works well for one set of groups may be less effective to another if the circumstances differ. Evidence suggests evaluation studies may be more reliable and could achieve better cumulative results through a multi-method approach (Patton 1997, Pawson and Tilley 1997) Therefore, this study tried to apply a range of methods using a SRE framework to connect more conclusive causal outcomes. Four diverse methods were applied which are discussed briefly here.

2.8.1 Document assessment

Document analysis is a form of qualitative research in which documents are interpreted by the researcher to give voice and meaning around an assessment topic. Generally analyzing documents incorporates coding content into themes and using those themes for further analysis. In the current study Keep Well programme evaluation reports, discussion papers including national and local, design documents, monthly/quarterly/annual reports, minutes of the meetings, training records were analysed, which contributed towards the development of 'raw' theories in building a first picture of CMO formula.

2.8.2 Observations and verbal communications

The field observation is another method for collecting qualitative data. The objective of the observation is to collect data in a "natural setting." As with most qualitative data collection methods, the individual identified as the observer is the instrument for the data collection. The observer notes things such as what people say, do, their locations, etc. In the current study participation in meetings, client-provider interactions, communication with partner organisations and observation during partner agency interviews also provided a valuable insight in understanding and developing CMO approach in refining relevant theories.

2.8.3 In-depth interviews

In-depth interviews are useful for collecting detailed information about a person's thoughts and behaviours or exploring new issues in greater depth. Interviews are often used to provide context for other data, such as outcome data, offering a more complete picture of what

happened in the programme and why. The primary advantage of in-depth interviews is that they provide much more detailed information than what is available through other data collection methods, such as surveys. They may also provide a more relaxed atmosphere in which to collect information, people may feel more comfortable having a conversation about their programme as opposed to filling out a survey. In-depth interviews are also recommended by Pawson and Tilley (1997) to explore and search for context –mechanism and outcome propositions. These were conducted with four major types of stakeholders (see detail in Table 6)

2.8.4 Self administered survey and relevant quantitative data

Surveys provide a snapshot of attitudes and behaviours, including thoughts, opinions, and comments about the target survey population (*Punch 1998).* This valuable feedback is the baseline to measure and establish a benchmark from which to compare results over time. They are conducted in non-intimidating environments, especially if they are self administered as in this study. Survey results provide information about what motivates respondents and what is important to them; they gather meaningful opinions, comments, and feedback (*Punch 1998).* Conducting surveys is an unbiased approach to decision-making. Unbiased survey data is collected to make decisions based on analyzed results. While paper surveys have long been used to gather information, online surveys provide a more efficient way to collect data. Survey Monkey™ was also used as an additional method in this study to increase the response rate. The self administered survey and Albasoft KW data used in this study provided important information about the patterns and trends on behavioural and community engagement aspects of the study. This statistical information was useful to evidence a range of raw theories which also complemented qualitative data. From an SRE perspective, the surveys and other forms of statistical information provide very valuable information to refine theories and achieve scientific rigour. However, the objective of this survey and other statistical information was not to achieve scientific rigour, but to refine theories with a degree of confidence. More detail is available under sections 6.5 and 7.1 about the demography, geography and process of survey administration.

2.9 Constructing sample and selecting interviewees

A 'realist' inquiry aims towards selecting a purposive sample. This is because 'raw' theories are already developed in the form of many mini- hypotheses and refinement of these hypotheses or theories is helpful to anticipate that what type of sample is required, in which geographical area. This judgement of sample selection is important to provide relevant information. However, there is no set rule about the sample selection method, it would depend upon the nature of the study and information required to answer the research question.

At the time of finalising the methodology for this study, it was realised that using a wide range of stakeholders to gather information to evaluate Keep Well would be the best means to achieve conceptual power rather than population representation. Therefore, a sample of four major types of stakeholders for qualitative in-depth interviews was selected. Twenty-six interviews were planned to include samples from each targeted group, however saturation

was achieved in 23 interviews and the rest of the interviews were called off. The geographic and demographic detail of the interviews is provided in table 6 below.

Table 6 Study Sample – In-depth interviews

Geographic Areas		**Stakeholders category**				
		Service users	**Practitioners (All Females)**	**Coordinators/lead (All Females)**	**Trainer/policy/Manager (All Females)**	**Partners (All Females)**
Inverness	Merkinch Kinmylies & Dalneigh Hilton & Raigmore	2 M=1 F =1	2	1	2	0
Caithness	Wick Thurso	1 M=1	3	1	0	1
Easter Ross	Easter Ross	2 F =2	1	1	0	1
Kinlochleven	Kinlochleven	0	0	0	0	0
Argyll and Bute	Dunoon Campbeltown	1 F=1	1	1	1	1
		6	7	4	3	3

2.10 Survey design and its characteristics

In order to triangulate and achieve better understanding of clients and to observe behavioural patterns and trends, a quantitative research element in the form of a self administered postal survey was added to the study. This included 1223 clients who received health checks during the second year of Keep Well from April 1, 2013 to March 30, 2014. The survey was administered to 1102 of these service users; the rest could not be accessed due to the unavailability of their addresses at the time of survey administration (for example service users from the prison, gypsy travellers and homeless population groups). The reason for selecting clients from 2013-14 was because in some areas such as Argyll & Bute health checks were not offered during 2012-13 as these areas focused on community engagement activities during that first year. Therefore, to make the survey more representative across NHSH all second year clients received the survey through postal letters.

A total of 264 service users completed and returned the questionnaire; a response rate of around 24% which is similar to other postal surveys carried out with vulnerable groups in Scotland (NHS Ayrshire and Arran 2014). A large majority of respondents preferred postal

surveys rather than the online Survey Monkey ™ option. Table 7 shows the geographic distribution of the respondents. The gender distribution of the respondents reflects a higher response rate among females compared to their male counterparts. Table 8, below shows the comparison of male and female response rates in the survey as compared to the health checks.

Table 7 Geographic distribution of self administered postal survey response count and rate

Location	Count	%
Merkinch	21	8.1
Kinmylies & Dalneigh	54	20.8
Hilton & Raigmore	2	0.8
Wick	54	20.8
Thurso	21	8.1
Easter Ross	22	8.5
Kinlochleven	5	1.9
Campbeltown	59	22.8
Other areas	21	8.1
Total	**259**	

Note: 5 people did not answer this question, total 264

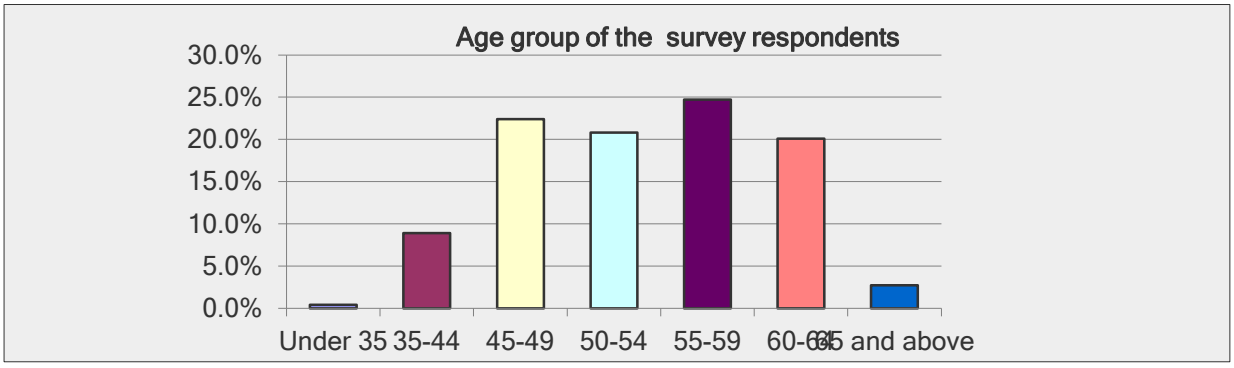
Evidence shows that women have better health seeking behaviour in CVD related issues compared to men (Tong et al 2014) Survey responses and health checks attendance reflected and confirmed this phenomenon as shown in the table 8. The percentage of men dwindled in the survey response, nearly 9%, which shows men's reluctance to engage with the KW service and respond to health related matters. Five year age bands showed (Figure 4) that the majority of the KW service users fall within the age criteria set for the intervention which is 35-64 for vulnerable groups and 40-64 for other targeted populations.

Table 8 Gender distribution of attendance (%) at health checks as compared to survey response rate

Attendance at health checks n (where gender known =1174 (total= 1223)		Survey respondents (where gender known) n = 255 (total 264)	
Male	Female	Male	Female
44	56	35.3	64.7

Note: 9 survey respondents did not provided details of their gender also gender was not know for 49 who attended health checks

Figure: 4 Percentage of specific age groups responding to the survey



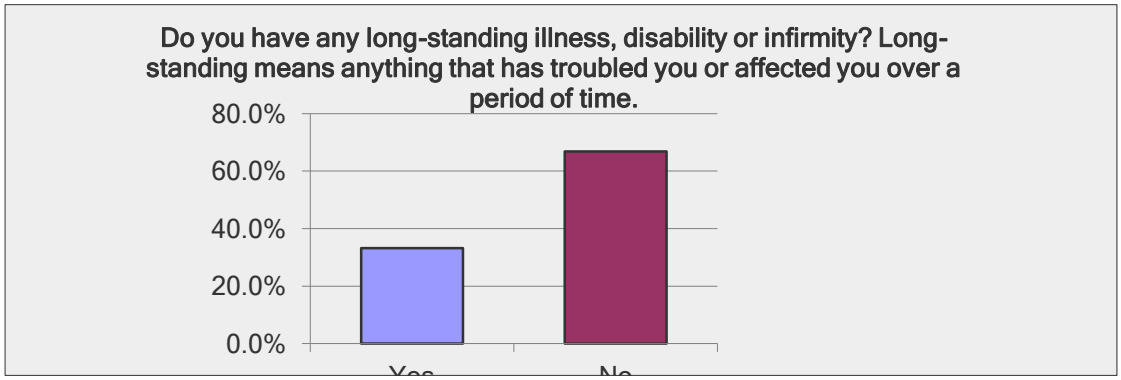
The educational attainment and employment status of people could play important role in making decisions about health and lifestyle behaviours (Tong et al 2014). Research has shown people with higher educational level and employment status are more likely to engage with health services and adhere to health related advice and information. They are more likely to adopt and sustain new health behaviours (MacKian 2003). Table 9 shows % of specific type of qualification gained and employment status achieved by the survey respondents. A large majority of 72% respondents are employed and approximately 46% have college level or higher qualifications as compared to 5.4% unemployed and 11.6% with no qualification. This could mean most survey respondents may not be from the most deprived backgrounds and this could have impacted positively on the survey results in terms of the KW health checks and onward engagement process.

Table 9 : Qualification and Employment status of the survey respondents

Qualification (n= 259)		**Employment status (257)**	
	%		**%**
No qualifications achieved	11.6	Employed	72.0
O' Levels / 'O' Grades / Standard Grades / GCSEs	17.4	Unemployed	5.4
A' Levels / Highers	15.4	Retired	11.7
College / Diploma / NVQ	27.4	Carer	1.9
University (e.g. BA, BSc)	13.5	Student	0.4
University Post Graduate (e.g. MA, MSc, PhD)	4.6	House wife / house husband	2.7
Prefer not to answer	2.3	Other (please specify)	5.8
Other (please specify)	7.7		

Long-term illness could also affect people's ability and behaviour in accessing appropriate health and social care services. In the survey 32.2% people believed that they had some kind of long-term illness or infirmity as compared to 68.8% who believed that they did not have any long-term condition (Figure 5). This means that about a third of the population may be at higher risk of CVD due to their vulnerability.

Figure 5: Survey respondents with long-term illness or disability



Note: 8 survey respondents did not provide detail for long-term conditions, % age of this question based on n= 256

2.11. Ethical approval

A proportionate ethical approval was received from NRES Committees – North of Scotland and NHS Highland Research Management Committee for both the qualitative and quantitative parts of the study before the survey was administered. Please see Annexes 1 and 2 for reference.

Chapter 3 Process, analysis and data reduction

3.1 Document assessment

To develop 'raw' theories 11 selected national and local Keep Well evaluation reports were assessed along with NHS Highland's Keep Well design paper, logic model, annual report, local quarterly updates, training plan and minutes of meetings. As a result, 7 Keep Well programme theories were developed based on 8 thematic areas. Table 4 presents initial Keep Well theories. Documents were assessed using close reading techniques and pencil marking on the main themes and using word files to extract major themes. The aim was to develop broader concepts and ideas.

3.2 Observations

Observational data were also used to refine theories. This ongoing method offered a valuable learning and understanding opportunity about aspects of Keep Well programme. Frequent meetings with the programme coordinator, Albasoft (the IT company which holds Keep Well data), programme director and informal discussions and email correspondence with practitioners and the national evaluation adviser provided very useful information about the Keep Well programme and its various contexts. A daily diary was prepared and maintained, regular notes taken in all relevant meetings and discussions which helped to understand the programme and to update and refine theories at various stages of the assessment process. The aim was if there was something new available after every major interaction with stakeholders, raw and refined CMOCs were updated.

3.3 In-depth interviews

In-depth qualitative interviews were the main building blocks of the whole evaluation process. Therefore, a careful design, execution, recording, analysis and interpretation of the qualitative data were fundamentally important. To conduct in-depth interviews topic guidelines were prepared for four major types of targeted stakeholder. Each topic guideline was prepared keeping in mind the role of the respondent type and what information could be expected from that specific participant. Initial set of CMOCs, which were developed through literature and document reviews, were also considered while preparing topic guidelines. This process helped to search for explicit ideas, themes and specific information while interviewing to refine theories. The whole process was followed keeping in mind the 'realist' interview philosophy. Realist interview philosophies build upon a "teacher-learner relationship". From a "realist" perspective this provides the evaluator with the opportunity for a careful mapping of 'who knows what' as the organizing framework for data collection. This framework is then presented to participants, introducing its two key strategies: "the teacher-learner function" and "the conceptual focussing function" (Pawson and Tilley 1997).

The teacher-learner relationship is fundamental to exploring information in an interactive way because respondents should not be treated as only answer machines (Pawson and Tilley 1997). In the teacher-learner relationship the interview respondents were first briefed about the concept of CMO and how this formula could link causal factors and then encouraged to

answer questions in terms of CMO thinking. Both evaluator and respondent take turns in becoming teacher and learner, as respondent tells about programme ideas and the evaluator tells about preconceived theories about the programme. The information is conceptualised and analysed based on the respondent's ideas of the programme and the evaluator's theories of the programme. The mutual understanding and agreement on ideas and theories could provide valuable information.

All interviews were audio recorded with written consent from participants. Transcriptions were saved on NHS password protected computers. Real names were removed at the time of transcription production to ensure the anonymity of the data. Interview duration ranged from 20 to 68 minutes depending on the participant's role in the Keep Well programme. Interviews were conducted over a period of 4 months, during May- August 2014. The longer gap between interviews allowed time between transcription preparation and the next interview. This time was used to review CMOCs and then go back for the next interview if more information was required in refining and updating theories.

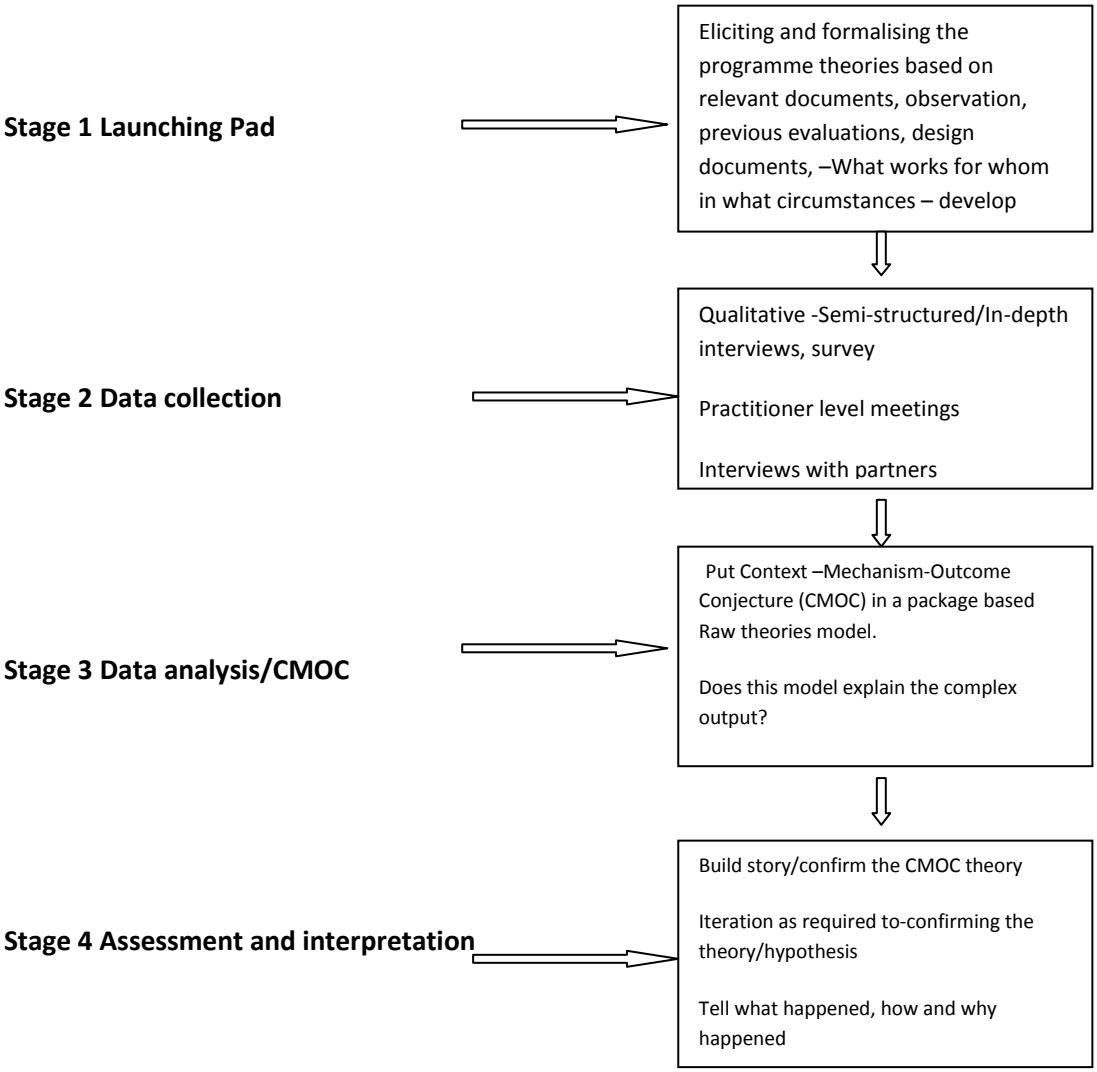
3.4 Survey

Both paper and Survey Monkey ^{TM} questionnaires were designed and pre-tested by two service users. The comments were incorporated wherever it was appropriate. The questionnaire included questions which illustrated trends and patterns in behavioural changes, community engagement and personal experiences of the clients after having the health check. To allow behavioural changes to happen, a minimum period of 3 months was given to all targeted respondents, the maximum period calculated was 15 months. Two weeks were given to participants to return the postal or online survey. A self addressed prepaid envelope and Participant Information Sheet (PIS) were also included in the mail-out. The PIS provided information about the evaluation and the research process (see Annex for PIS). Participants were offered two options to complete the survey: either to return the completed paper copy or to go online to complete the survey through Survey Monkey ^{TM}. A unique code was also given to every participant to reduce the chances of duplication as some participants might have completed both the online and paper versions. The paper copies returned were entered in the Survey Monkey ^{TM} for analysis. The demographic and geographic detail of the survey is provided in the tables 6, 7, 8 and 9 above.

3.5 Contribution of survey and Albasoft data in the refinement of 'raw' theories

The survey and Albasoft data were useful and powerful sources to refine many relevant CMO theories. In some cases this data provided information to support the qualitative information, but in other cases survey and Albasoft data were used as the basis to refine raw CMO theory. The quantitative data also served as a useful source of evidence to validate and complement the qualitative data in many thematic areas.

Figure 6: Study process and steps applied in the study



3.6. Before the first stage of development and analysis

The conceptual thinking and idea development started with the following first picture (Table 10) of CMO Configurations in which the only outcomes presented were those based on the local logic model. The search for contexts and mechanisms followed through the process. This is only a hypothetical picture of CMO to develop clear understanding and guide the process for further exploration.

Table 10: Conceptual NHSH KW programme CMO configuration in abstract form

Context	Mechanism	Outcome
Something about the NHSH KW interventions Something about the NHSH KW interventions Something about the NHSH KW interventions Something about the NHSH KW interventions Something about the NHSH KW interventions Something about the NHSH KW interventions Something about the NHSH KW interventions	Something about the NHSH KW interventions Something about the NHSH KW interventions Something about the NHSH KW interventions Something about the NHSH KW interventions Something about the NHSH KW interventions Something about the NHSH KW interventions Something about the NHSH KW interventions	<u>Service users</u> Enhanced self efficacy Increased control over Improved confidence Empowered Identified high risk groups Engaged in the process <u>Practitioners</u> Improved relevant knowledge and skills Improved confidence Empowered <u>The KW programme</u> Improved health and wellbeing of target groups Reduced exposure to risk taking behaviour Reduced CVD Reduced 'health gap'

3.7 First stage analysis

The SRE framework requires understanding, describing and explaining the real footprints of the Keep Well programme rather than only describing the broader themes explored in the research process. Therefore, a full explanation of the causal origins of the key developments was important in order to link mechanisms to outcomes taking contextual factors into consideration. To do this a literature review was carried out to assess relevant studies and reports. This included 11 local and national Keep Well evaluation reports and NHS Highland Keep Well papers.

The objective of this stage was to inform the first stage of theory development. Pawson and Tilley (1997) argued that 'raw' theory development is the first stage of making initial sense for causal links to outcomes. The process helped to describe how different layers of social reality interact throughout an intervention. Real phenomena such as policy, practices,

individual thoughts and actions, financial activities, the management and team culture might all have a part to play in the development and improvement of a system or care service. So, there was a need to observe and tease out all crucial factors that could influence or make connections to extrapolate causal inferences. Initial theoretical statements provided a structure on which the whole assessment was built. This was not a particular requirement of the SRE framework, but it helped to guide the further evaluation research process with a clear understanding of the relevant and important themes and the KW programme.

Table 11 presents the outcome of the first stage of analysis in the form of 17 Keep Well theories under 8 thematic headings. The theoretical understanding is crucial before these statements are put into SRE framework and tested.

Table 11 Keep Well Programme Theories

1. Community involvement/engagement, empowerment and lifestyle:

Community involvement and empowerment, using lifestyle approaches as a vehicle, has been a good way of identifying those at higher risk of preventable long-term conditions i.e. CVD

Higher levels of reach and engagement are possible in practices with high levels of deprivation.

KW supports organisations to operate and offer inequality sensitive care to improve patient outcomes in areas of greatest need.

2. Health Checks:

The Keep Well health check is an effective way of identifying a target population at high risk of cardiovascular disease. Clinical health checks are useful interventions to reduce the risk of cardiovascular disease and to improve health among people living in areas of deprivation.

Universal cardiovascular health checks are unlikely to impact on cardiovascular disease outcomes including mortality

Improved trust in health services, increased self-efficacy, and improved health competence, improved staff level understanding of health inequalities and more inequality sensitive practice in all patient interactions. System level outcomes such as reorienting primary care towards more inequality focused delivery.

3. Health and Wellbeing

Targeting and delivering a health and wellbeing programme, rather than focused health checks, offer better patient outcomes in terms of reduced stress and anxiety and improved confidence, self efficacy and overall wellbeing.

The interventions that comprise Keep Well and health and wellbeing advice have the potential to impact positively on health more widely than CVD, if they are systematically rolled out and adopted.

4. Capacity (knowledge and skills) of frontline staff:

Improved knowledge and skills of frontline staff on the risk factors of cardiovascular disease(clinical and non-clinical), impact of wider social determinants, motivational interviewing/behaviour change communication and community development approaches are important in tackling health inequalities in CVD.

Staff culture change towards non-dependency and geared to assets based approaches could improve self confidence and self efficacy among clients

Lack of appropriate skills and knowledge among frontline delivery staff could be a barrier to engaging target audiences in services

5. **Partnership and collaborations:**

Public, Private and Third sector partnerships offer better, efficient, and effective services to involve and engage vulnerable groups. This could help people to engage in a meaningful way in Keep Well services

Improved understanding and partnership among patients, communities and services could improve mutual trust, accessibility and create enabling environments for sustainable engagement

Engagement of GPs and other partners in the delivery of health checks could help build overall trust and increased access for a range of vulnerable groups

6. **Referrals and patient management system to improve quality and effectiveness**

Patients/Clients are satisfied, happy and engaged when referred appropriately and dealt with properly throughout the system from the initial offer of KW checks through screening and referrals to a range of community and departmental services.

7. **Rural issues**

The problems of rurality decrease engagement opportunities and increase accessibility issues which could impact negatively in tackling health inequalities

8. **Management Information System/ Information technology**

Improved, faster and easier to use MIS/IT systems are helpful in the effective, efficient delivery of quality KW services. They could reduce wastage of time; improve confidentiality and satisfaction for staff and patients.

3.8. Second stage analysis

Development of initial CMOCs and scheme CMOCs testing – Identifying potential CMOs

To identify initial CMOCs initial theories in the form of statements (presented in table 11 above) were used as the first step. These hypotheses are extrapolated from the review of the relevant documents and used as guiding principles in the development of CMOCs. Each hypothesis searched for connections from the literature using conceptual ideas and close reading techniques. The process continued until saturation was achieved and many little hypotheses in form of CMO transformed in table form. In some cases it was difficult to make any connection between a hypothesis and the CMO approach. For example there was no explicit theory link for some aspects of KW such as referrals and vulnerable groups, but a CMO approach was developed based on the literature review and conceptual ideas. The initial CMOCs are presented in the form of tables in the results section before refined theories are presented with commentary and discussion. Initial CMOCs are presented in abstract format as the explicit links were not clear at this stage. 'Abstraction' is also an important concept in SRE that helped to further move on to transform and refine CMO configurations in a clearer way after testing process.

3.9. Third stage analysis

Development of transcripts based CMOCs

Interview transcriptions had rich data which was gathered with some preconceived ideas through the development of topic guidelines for each stakeholder type. The thematic topic guidelines were prepared keeping in mind the initial theoretical statements presented in table 11. This process helped to collect the most relevant information which corresponded to a particular theory or thematic topic. The aim was to test the 'raw' theories and refine them wherever new information was available. If no new information was available raw theories were believed to be middle range theories: this did not happen in this study.

Before developing transcript based CMOCs in the MS Word files a test of thematic analysis was conducted using NVIVO 10 to explore any inconsistent themes. Table 12 below shows preconceived theories and new themes explored and coded under 18 nodes. There were 7 sub-nodes under 4 codes, but these were merged after a consistency check as there were no new unexpected theories. The aim of the NVIVO 10 based analysis at this stage was to manage a large set of qualitative information in a logical way to inform more confidently the development of CMOCs in making connections to their corresponding thematic theories. This stage was not anticipated but, due to the complexity involved in the thematic categorisation of the data it was very helpful to code data under preconceived theories and create new nodes before looking for any inconsistencies or unexpected information.

Interview transcriptions were read thoroughly and coded, tables of CMOs produced in Microsoft Word files and memos were written using relevant and corresponding theory and thematic topic. To avoid any confusion, all specific themes were picked one by one and analysed in all 23 transcriptions before developing a CMOC for that particular theme. Contexts, mechanisms and outcomes were coded before CMO tables were generated in the copied transcriptions in table form. The original transcripts were kept safe for further reference in case of any confusion. This process was very time consuming, but interesting as it started making connections. The whole process of analysis and interpretation of qualitative data was carried out by using analytical vision, background knowledge, referring to observational notes, brainstorming and connecting outcomes with appropriate mechanisms. A number of outcomes and mechanisms overlapped and there was also confusion in some cases in deciding which outcome was best linked to which mechanism. This problem was consistent with previous evidence (*Porter and O'Halloran 201, Rycroft-Malone et al 2010)* However, in most cases a link was established, but in some cases the links are still abstract. Pawson and Tilley (1997) described this process as normal which has potential to contribute in the next relevant evaluation to further refine CMOs.

Table 12 KW Theories and coding scheme to analyse interview transcriptions

Aspect	Theory	Codes
Community involvement/engagement, empowerment and lifestyle:	Community involvement and empowerment, using lifestyle approaches as a vehicle has been a good way of identifying those at higher risk of preventable long-term conditions i.e. CVD	**KW 1**

	Higher levels of reach and engagement are possible in practices with high levels of deprivation.	**KW2**
	KW supports organisations to operate and offer inequality sensitive care to improve patient outcomes in areas of greatest need.	**KW3**
Health Checks:	The Keep Well health check is an effective way of identifying a target population at high risk of cardiovascular disease. Clinical health checks are useful interventions to reduce the risk of cardiovascular disease and to improve health among people living in areas of deprivation.	**KW4**
	Universal cardiovascular health checks are unlikely to impact on cardiovascular disease outcomes including mortality	**KW5**
	Improved trust in health services, increased self-efficacy- and improved staff level understanding of health inequalities and more inequality sensitive practice in all patient interactions. System level outcomes such as reorienting primary care towards more inequality focused delivery could improve patient outcomes	**KW6**
Health and Wellbeing	Targeting and delivering health and wellbeing programme, rather than focused health checks, offer better patient outcomes in terms of reduced stress and anxiety and improved confidence, self efficacy and overall wellbeing.	**KW7**
	The interventions that comprise Keep Well and health and wellbeing advice have the potential to impact positively on health more widely than CVD, if they are systematically rolled out and adopted.	**KW8**
Capacity (knowledge, and skills) among frontline staff:	Improved knowledge and skills of frontline staff on the risk factors of cardiovascular disease(clinical and non-clinical), impact of wider social determinants, motivational interviewing/behaviour change communication and community development approaches is important in tackling health inequalities in CVD.	**KW9**
	Staff culture change towards non-dependency and geared to assets based approaches could improve self confidence and self efficacy among clients	**KW10**
	Lack of appropriate skills and knowledge among frontline delivery staff could be a barrier to engaging target audiences in services	**KW11**
Partnership and collaborations:	Public, Private and Third sector partnerships offer better, efficient, and effective services to involve and engage vulnerable groups. This could help people to engage in a meaningful way in Keep Well services	**KW12**
	Improved understanding and partnership among patients, communities and services could improve mutual trust, accessibility and create enabling environments for sustainable engagement	**KW13**
	Engagement of GPs and other partners in the delivery of health checks could help build overall trust and increased access for a range of vulnerable groups	**KW14**
Referrals and patient management system to	Patients/Clients are satisfied, happy and engaged when referred appropriately and dealt with properly throughout	**KW15**

improve quality and effectiveness	the system from the initial offer of KW checks through screening and referrals to a range of community and departmental services.	
Rural issues	The problems of rurality decrease engagement opportunities and increase accessibility issues which could impact negatively in tackling health inequalities	KW16
Management Information System/ Information technology	Improved, faster and easier to use MIS/IT systems are helpful in the effective, efficient delivery of quality KW services. They could reduce wastage of time, improve confidentiality and satisfaction for staff and patients.	KW17
Other themes		KW18

3.10. Reporting positive and negative outcomes

The study of negative outcomes was not anticipated when designing the methodology, but the negative cases were crucial to the development and refinement of theories. The process helped to understand what happened as a result of an effort to achieve certain objectives, what was the actual outcome, how and why it could impact on the programme. Negative outcomes provided a valuable picture of the contexts and mechanisms which were useful to conclude and make causal links. This procedure was not empirically described by Pawson and Tilley (1997) but, was discussed by Byng et al (2005) briefly as a pragmatic strategy in their research while dealing with outcomes. Similar issues were seen in this study which led to the observation and reporting of negative outcomes along with positive outcomes. Also, this study was not explicitly designed to develop hypotheses about certainties neither it was described by Pawson and Tilley (1997), it is about probabilities and is deterministic in nature as described by Byng et al (2005).

3.11. Development of tested CMOCs

Informal discussions with KW stakeholders and observations about the programme implementation process started the testing process of the theories. A full diary was maintained about all the discussions and meetings which provided useful information in the process of theory refinement. Data collection was organised around thematic areas and the developed raw theories. The logic model and local KW programme's aims and objectives were the main sources of shaping data-gathering tools in the form of topic guidelines for the qualitative part and a questionnaire for the quantitative part. A range of sources including qualitative, quantitative, observational and secondary data contributed to testing, refining, confirming or rejecting the theories. There were confusions in refining and confirming the outcomes by linking it to a specific outcome probably because of the multiple links of mechanisms to outcomes. In some cases outcomes were achieved through multiple mechanisms for example M3, context 1, KW programme Training and Development configuration presented 3 mechanisms and it was unclear which mechanism was responsible for the outcomes presented in the linked box. This may require further investigation to link outcomes more clearly.

The refined theories as shown in the results section are in a different format compared to the raw theories which are in table form. This is because the refined form of theories are tested

and confirmed with a degree of confidence. There is still an element of abstraction in the refined theories which could continue to exist as indicated by Pawson and Tilley (1997). In fact from a 'realist' philosophy perspective all theories are subject to change with the availability of new information. This process might never end. However, there was a need for a more refined and confirmed theory which is validated by latest available information which was achieved in this study.

3.12. National and local raw theories in form of CMO

The national negative CMO configuration is presented in table 13 to understand the problem of cardiovascular disease as a broad concept using CMO configuration to guide further development process for the Keep Well at local level.

Table 13 National LTCs (CVD) CMO theory

Context	Mechanism	Negative Outcomes
High level of national prevalence of LTCs in deprived areas which mainly include CVD, diabetes, cancer and mental health problems	High unemployment , low educational level, poverty, access problems and range of other socio-economic issues (impact of social determinants) Unhealthy lifestyles i.e. tobacco use, alcohol and drug misuse, unhealthy diet, low physical activity levels etc Lack of involvement by and engagement with communities	Higher CVD mortality and morbidity in areas of deprivation Higher rates of premature deaths Low self-esteem and confidence Low life expectancy

3.13. Overall NHS Highland Keep Well Programme CMO theories

The local Keep Well programme theories presented below in table 14 are broader ideas of Keep Well programme in form of CMO configuration as a first step in the thinking process which presents a systematic structure of the KW programme. There is no intention to refine these broader conceptual CMO configurations; the objective is to start the process by presenting abstract ideas and to generate clearer CMOCs later after the testing process. The first CMO shows absolute abstract form, but a clearer picture can be observed in the second and third CMO configurations in table 15 and 16 respectively.

Table 14 Theory 1

Context	Mechanism	Outcome
Tackling health inequalities policy locally agreed to mitigate and reduce the effects of CVD. Willingness of Health Boards to work with national government	Delivery of local KW programme using clinical and non-clinical (health improvement) approaches Local targeted KW programme endorsed by Health Board and	Early identification of CVD Reduced CVD Reduced health inequalities in CVD

	local multi-agency partners to tackle CVD inequalities.	Improved health and mental wellbeing

Table 15 Theory 2

Context	Mechanism	Outcome
Predominantly rural areas. Higher risk of CVD in hidden pockets of deprivation in small rural areas Accessibility challenges Feelings of lack of control, low confidence and distrust of the health services Fear of being stigmatised, victimised and controlled by powerful medical professionals	Selection of 5 most deprived areas in NHS Highland based on SIMD, and Keep Well national guidelines Keep Well programme implementation using community settings as the main driver Holistic health enhancement approach as a major driving force Application of community development approaches	Meaningful engagement of vulnerable groups Improved relationships and communications between service users and services Increased service users' confidence, trust and self efficacy Improved control and service user empowerment Increased opportunities of early identification of CVD

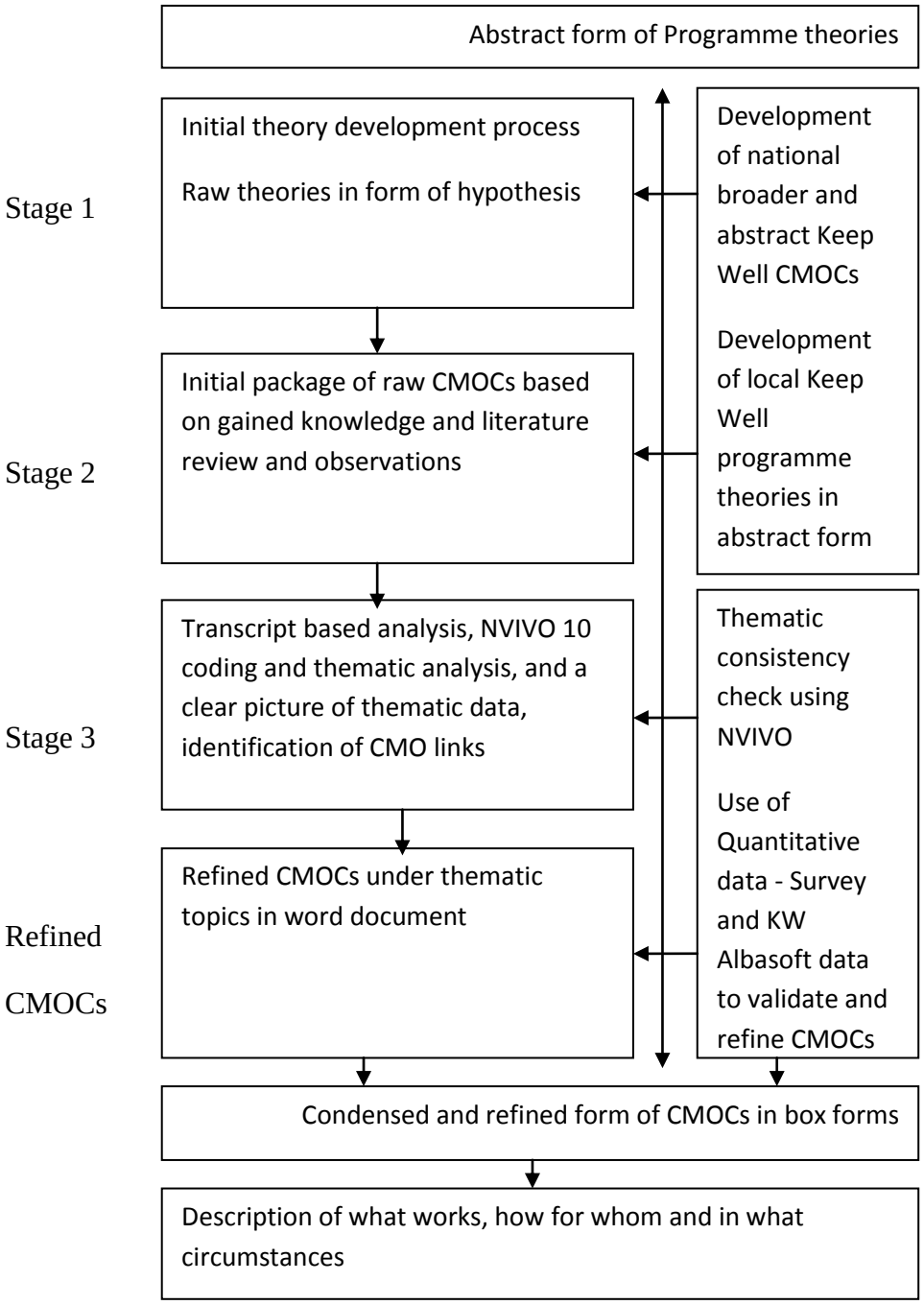
Table 16 Theory 3

Context	Mechanism	Outcome
High level of accessibility challenges, low level of vulnerable groups' involvement in health promotion activities	Local provision of KW health checks using community involvement and development approaches Engagement of vulnerable groups, individuals and families through community and voluntary sector organisations Engagement of vulnerable people through primary care services (e.g. GPs, community nursing, health improvement nurses)	Easily accessible opportunities for vulnerable groups i.e. mobile KW clinics on the doorstep, range of professionals delivering KW health checks Social inclusion activities Increased engagement of vulnerable groups i.e. prisoners, homeless people etc Improved lifestyle

3.14 Stages and process of theory development

Figure 7 shows the study process starting from an abstract form of raw theories at stage 1, developing initial scheme of CMOCs at stage 2 and transcript based CMOCs at stage 3 after NVIVO based analysis. Finally, the condensed and refined CMOCs are presented in boxes after qualitative and quantitative data analysis and thematic description. Parallel to the stage wise analysis and development of refined theories the national and local thematic data contributed in updating the CMOCs. Finally the refined shape of CMOCs and what works, how, for whom and in what circumstances evolved.

Figure 7: Stages of theory development and testing processes



Chapter 4 Results

4.1. System and data management

4.1.1 Initial CMOCs under test

Aspect	Context	Mechanism	Outcome
Information Technology System improvement and data management	Available resources for the new management and communication system Keep Well current Management Information System(MIS) New MIS, electronic pen, developed to improve the data management system	Discussion between frontline staff and system improvement managers to make MIS more practical Training of KW staff on the new IT/Pen data system/MIS KW staff willing to implement new MIS Management believed in the benefits of the new data management system and supported the new MIS	Electronic pen developed and used Increased support for staff New system is easier to use and improves efficiency and effectiveness. New IT/MIS could increase access of the patients. New system saves time and reduces the risk of confidentiality issues. KW staff feeling more empowered and confident. Improved quality and organisation of care, effective, efficient and informed.

4.1.2 Refined and tested CMOCs

The first and second CMO configurations proposed a number of positive and negative outcomes based on 4 mechanisms. The mechanism 1 and 1a outcomes proposed implementation of the e-pen and practitioners' beliefs about the expected results of the e-pen. The mechanism 2 and 2a outcomes related to lack of evidence and frustration of practitioners about how this system could help to improve their practice. The management believed that the new electronic system could bring positive outcomes for staff and patients. It was expected that the new system will improve quality and organisation of care, reduce data management time and improve staff confidence. However, a few practitioners were of the view that the new system had also created some challenges and issues. The main issues indicated were: lengthy forms, transfer of data from the e-pen to the system, internet speed in some areas and the inability of the e-pen to fully capture written information and as a consequence more time required to make corrections. The practitioners also viewed it as more time consuming and virtually no improvement in confidentiality and efficiency. There

was also a belief that, as the new system was in the initial stages of development, more time was required to learn from practice and assess benefits which it could offer latter.

There was understanding among almost all practitioners piloting the use of digital pens to capture and transfer client information that the technology could have been an effective and efficient use of resources. Although the electronic pen was not fully functional in all the areas at the time of the in-depth interviews with practitioners, most respondents believed that the use of digital pens could save time, improve quality of the data recorded, improve confidentiality and could empower practitioners when it became fully functional. A few respondents were negative about using the electronic pen, but this negativity was attributed to problems of not being able to go online to transfer recorded information on to the system.

Practitioners were positive about the idea that it could improve patient outcomes as saved time can be used to see more patients and robust data recording means more reliable health intelligence available to improve the planning and development process. This is how a practitioner described this mechanism to achieve better outcomes for patients

"It saves time for patients because if you take less time in paper work it saves more time for patients so you would be able to possibly see more clients in the same space of allocated time because you don't have time commitment for paper work" (Practitioner 4) .

The practitioners believed that it may not improve confidentiality but it has potential to improve data quality captured for example as seen in this quote;

"I don't think it is more confidential because you are still writing on a piece of paper and you still have to do storage of the record of the paper document, but I suppose it could reduce human error in terms of when you are in-putting your data in the computer … (Practitioner 2)

Context 1 Replacement of manual data record to a new Management Information System – the electronic pen	
↓	↓
Mechanisms	**Mechanisms**
M1. Discussion between frontline staff and system improvement managers to make MIS more practical M1a. Willingness of KW practitioners to learn and implement the new e-system	M2. Management and practitioners' belief that it could save time, improve quality, confidentiality and empower staff M2a. Practitioners attended training and started implementing the new e-system
↓	↓
Outcomes	Negative O**utcomes**
O1 e-pen management information system piloted across NHS Highland O2 Practitioners are positive about the benefits of the e-pen system O3 Belief that the new system could capture	O1 Lack of explicit evidence as to how it could empower practitioners O2 Lack of evidence that it could be more confidential O3 Frustration among practitioners due to

more reliable data, save time and improve quality	internet and pen pusher related issues in the transfer of data

4.1.3 What works, for whom, how and in what circumstances?

What works?

1. New technology: e-pen management information system could improve patient outcomes

2. User friendly: most practitioners are happy with the use of the new e-pen system but, frustration prevails due to the slow implementation process

3. Forward planning: almost all practitioners and management believe it will improve the system when it is fully functional in the future. Advance planning in anticipation of the challenges to the system implementation are fundamentally important

4. Training and ongoing support during pilot period: to implement a new management information system, comprehensive training and ongoing support is crucial

For Whom

Practitioners, Programme and local coordinators, Managers. May improve outcomes for patients

How

1. Quality improvement: the e-pen management information system could improvement efficiency and effectiveness by reducing the chances of human error, decreasing time to manage data, more secured data using modern information technology

2. Practitioner empowerment: although there was lack of evidence and mechanism to empower practitioners, some practitioners and management argued it could empower practitioners through the mechanism of improved trust in the captured data and more time invested in patients rather than filling forms.

In what circumstances

1. When users are willing to adopt change and are positive about the new change

2. When jointly discussed and agreed, users lead discussion and contribute to the new development and implementation

3. Strategic management and professional support: Management offer support, encouragement and users are offered ongoing professional support

4. Users believe that electronic pen could offer better patient outcome in terms of time saved on data management which could be utilised for direct services

4.2 Raising awareness about Keep Well - Social Marketing

4.2.1 **Initial CMOCs under test**

Aspect	**Context**	**Mechanism**	**Outcome**
Marketing and raising awareness	Marketing of Keep Well Programme Keep Well marketing and awareness raising plans Marketing resources i.e. funding and expertise hired or existing KW national and local websites used to raise awareness KW programme is part of the Scottish Government's tackling health inequalities policy agenda i.e. Better Health Better Care, Equally Well, Christie Commission Report all mentioned Keep Well programme and its main aims and objectives	Leaflets, posters and campaigns designed and developed KW staff attitude about marketing Discussions at Steering Group about raising the profile of the KW KW programme might have a well developed marketing strategy KW programme staff might not value marketing due to their belief or lack of knowledge about marketing or not believing the strength of the marketing. KW programme might not have a well developed marketing strategy. Media mix strategies might have been used to advertise and publicise Keep Well Programme. Good level of knowledge and understanding among referrals, partner/Third sector agencies about Keep	Distribution of print materials, marketing campaign launched and continued throughout the KW implementation phase. Vulnerable groups contacted and awareness about KW raised Regular KW talks organised for staff and community groups Many organisations or community workers in targeted areas might not know about KW services due to lack of information or KW did not reach them. Lack of awareness of KW programme and its benefits. More partners are aware of the Keep Well programme and its benefits. New partnerships were developed More service providers offering Keep Well services. Increased referrals from partners Increased number of service users aware

		Well and its benefits.	of KW health checks and accessing services

4.2.2 Refined and tested CMOCs

The first and second CMO configurations under the marketing theme proposed a range of outcomes which are presented under each linked mechanism. M1 proposed outcomes based on national policy influence as most actions at local level are driven through national policy actions. This mechanism might have offered the opportunity to raise the profile of the KW programme locally. M2 related to local marketing opportunities and shows how local organisations were useful in publicising and advertising the KW services in the local community. M3 and M4 focussed on lifestyle and KW holistic health approaches respectively and their contribution in raising the profile of the KW programme to improve performance and increase the number of KW service users. M5 proposed negative outcomes and negative impact which KW programme might have suffered due to the absence of a formal social marketing strategy.

Marketing and advertising of the KW programme remained a weaker area in NHSH programme as only 12.7% people in the postal survey said that they had decided to have KW health check after they attended a local community health event, seen a poster/flyer or online information. The main reasons extrapolated from this were the absence of a formal social marketing strategy and of guidelines for practitioners and partner agencies. In some cases marketing through print materials distributed in targeted areas produced negative outcomes and might have impacted on the programme promotion. According to one practitioner, leaflets were distributed offering specific services which were not actually offered during health checks. For example see this quote

"Leaflets were sent out for health checks but we did not do the cholesterol checking which was not good communication and a few people asked about that why we are not offering cholesterol checks. I don't think many people know about Keep Well" (Practitioner 4 Caithness)

In the postal survey about 35% people suggested that the best way to let people know about these health checks is flyer/poster/online information and 29% people said community event or health fayre. This is very encouraging and shows that more aggressive local marketing campaigns could have attracted many more eligible clients.

CMO 1 &2

Context 1 Improve the profile of the Keep Well in NHSH Highland. Marketing and advertising the programme using a range of resources	
↓	↓
Mechanisms	**Mechanisms**
M1. KW mentioned in all the major policy documents. i.e. Equally Well , Better Health Better Care	M2. Marketing KW by resourcing to other local community based projects. i.e. Shirlie project in Easter Ross and Argyll Volunteer Action in Campbeltown
↓	↓
Outcomes	O**utcomes**
O1. KW influenced through national policy O2. Action plans are generally based on national demonstration and strategically rolled out projects	O1. An opportunity to work jointly O2. Improved trust of service users due to direct links with their primary service organisation O3. Increased number of KW users

CMO 3 &4

Context 1 continue Improve the profile of the Keep Well in NHSH Highland. Marketing and advertising the programme using a range of resources	
↓	↓
Mechanisms	**Mechanisms**
M3. Marketing KW through community based social and lifestyle activities, word of mouth and leaflets. i.e. food and health activities in Easter Ross and Argyll and Bute	M4. Promoting KW as a holistic health enhancement project among wide range of public and third sector organisations. i.e. workplaces, voluntary sector
↓	↓
Outcomes	O**utcomes**
O1. Improved general public trust and confidence due to direct community engagement and publicity activities. O2. About 8.5% people in the survey said they became interested in the KW health checks after attending a local event or road show O3. More "happy clients" (self referred) O4. More people willing to be involved	O1. Opportunity to take KW to a range of services and offer needs-based health checks O2. Promoting KW as a holistic health improvement project could be perceived as positive rather than promoting only health checks O3. Holistic health enhancement approach could engage people with trust building relationship

CMO 5

Context 1 continue Improve the profile of the Keep Well in NHSH Highland. Marketing and advertising the programme using a range of resources
↓
Mechanism M5. Absence of social marketing strategy for NHSH KW programme
↓
Outcomes O1.No formal actions or guidelines for practitioners and promoters O2. KW programme may be missing opportunities due to lack of professional marketing support O3. Lack of consistent messages to raise the profile of the programme could lead to confusion among referrers and service users

Discussion with practitioners suggested that there was a good level of marketing and adverting activities carried out in some areas. However, these activities were locally led and focussed on limited use of formal social marketing tools and techniques during campaigns. One of the successful examples was resourcing local Third sector organisations to promote KW programme and thereby reaching out to their clients. For example KW Easter Ross team developed a partnership with the Shirlie project, which is focused on holistic health improvement for vulnerable groups in targeted areas. This partnership allowed partners to exchange and develop two way referrals and involve vulnerable clients in more meaningful ways. This can be seen in M2 and its linked outcomes. As part of this programme health checks were seen positively as part of a community based holistic health approach and offered to all willing clients. Survey results also supported this approach as about 16% of respondents said the KW health checks should be provided by Third sector organisations and 31% believed that this service should be provided by community health coaches. This shows that people have good level of trust and confidence in local community based resources.

Community based lifestyle activities and word of mouth were seen as successful local marketing strategies to promote the KW programme. In Campbeltown and Easter Ross, KW teams engaged community groups in food and health development activities as a mechanism to engage with targeted communities. This might have improved people's confidence and trust about KW as can be seen in M3 and M4 and its linked outcomes. This mechanism has potential to engage communities and certain groups in health improvement dialogue. KW Argyll and Bute organised more than 10 community based diverse social, and food and health activities in partnership with local organisations in Dunoon and Campbeltown which played a significant role in raising the profile of the programme locally.

Mechanism 5 and its linked outcomes were explored as probable negative outcomes of the KW programme. Absence of such professional support and lack of a social marketing strategy could have contributed towards delivering inconsistent messages. Social marketing campaigns are successful when messages are delivered consistently over a period of time

using a wide variety of multimedia approaches in targeted areas with a clear niche marketing strategy as in case of KW targeted areas. A practitioner brought attention towards this issue and said;

"… it could raise the profile of the project, I think there could be someone who could regularly do it in the media like a consistent gold standard message will be valuable" (Practitioner 3,)

4.2.3. What works, for whom, how and in what circumstances?

What works?

1. Reference to KW in national policy documents could influence the agenda locally and may provide better opportunities to raise awareness and willingness among partners to support each other

2. Joint working partnerships, especially with organisations working with vulnerable groups

3. Promotion of KW through lifestyle activities could improve the profile of the KW without doing much work on publicity or advertising

4. Consistency and branding of the KW messages could raise the profile of the project

5. Happy (satisfied) clients can be used as advocates (word of mouth)

For Whom

Clients, practitioners, KW programme management and researchers to develop evidence based examples

How

1. An informal social marketing strategy, probably niche marketing, using the KW criteria – Easter Ross is a good example

2. A dedicated or designated person supporting the KW programme promotion across the sector

3. Promote KW across the sector using lifestyle and social and community care interventions

4. Embed KW social marketing actions within the programme implementation plan – Easter Ross model could be a starting point

In what circumstances

1. When management understand the value of social marketing, support and encourage staff

2. Introduce KW programme to community based groups

3. Integrate KW with other services as part of a package, not as a one-off activity

4. When the KW practitioners use social marketing tools and monitor progress

5. Only raise awareness and carry out marketing activities about the services that are available to the targeted groups

4.3. Accessibility, engagement and advice

4.3.1 Initial CMOCs under test

Aspect /Theory	Context	Mechanism	Outcome
Patient engagement and advice **Theory** Higher levels of reach and engagement are possible in practices with high levels of deprivation. KW supports organisations to operate and offer inequality-sensitive care to improve patient outcomes in areas of greatest need.	Keep Well programme targeted 40-64 age groups in areas of deprivation 5 areas in NHS Highland selected based on SIMD Local clinics in community settings may stigmatise KW clients CPP, GP practices, Nurses and Third sectors directly or indirectly involved to support and deliver programme Delivery of lifestyle advice Smoking Diet Physical activity Social groups/social inclusion Alcohol advice Dental advice	Delivered through GP practices GP practice is suitable delivery of KW health check-ups Clinics established at different venues are more accessible to rural communities Pharmacy, community nursing and community workers may offer open and easy access to KW clients Partnership working may help achieve better outcome Meetings and discussions at the steering group Patients referred to smoking cession, physical activity, diet and nutrition, leisure and sports, drug and alcohol services and engaged well throughout the process	Year on year increase in the number of referrals and medical check ups GP-led delivery is a problem for mainstreaming the programme if GPs are not willing after the funding runs out Consistent and coherent programme delivery (Qual) Partnership developed which supports Keep Well programme delivery. Improved communication and sign posting Improved referral system Improved lifestyle changes. Improved overall health and wellbeing Contribution to reducing risk factors which may help to reduce CVD related morbidity and mortality

			Contribution to tackling health inequalities

4.3.2. Refined CMOCs after testing

Access to health checks and services in a specific setting or environment forms the basis of health improvement and recovery journey for patients. The setting and environment play a pivotal role for patients to get involved or adopt a particular health seeking behaviour.

The first and second CMO configuration under this theme proposed two mechanisms: community-based venues (M1) and health centre-based venues (M2); and their linked outcomes compare the added value or negative impact. Most service users felt relaxed and more confident when attending health checks in a community-based environment and could easily relate community venues to their health and wellbeing. There is evidence of increase in trust and confidence which might have empowered patients through this mechanism as opposed to a health centre venue. For example, the overwhelming majority of about 76% people in the postal survey supported the view that KW health checks should be provided by practice/community nurses, 31% said community coaches and 16% also supported community based Third sector organisations. M1 and M2 in the following boxes are compared to clarify this link and the outcomes achieved (positive or negative). Both service users and practitioners were positive about health checks in local areas or in workplace environments. A practitioner described this situation:

"I think yes, in many cases it could be more trusting and benefiting as they don't like hospital environment, feel confident in their local centre or venue. People feel more relaxed in their local area rather than coming to a hospital or GP clinic. Also for example workplace health checks are more relaxing and informal as they feel better in their own area, it tends to be more successful , it's not only that they are coming for health checks with a thoughtful mind because their colleagues are coming and that is why they are also coming" (Practitioner5,)

Outcomes achieved through M1 are convincing and may have contributed to empowering patients to get involved with a degree of trust and confidence with KW service and onward referrals.

The third and fourth CMO configurations focused on areas of deprivation with the same M1 and M2 repeated but the outcomes are different in this changed context. The outcome linked to M1 showed an increased number of clients who are willing to attending KW health checks in a community-based setting. However, through the M2, health centre-based service users are still coming for health checks, but are not necessarily relaxed or confident. This may be due to a perception that they are treated as sick or might be self-stigmatised. Another outcome observed under M2 was that more affluent people were attending the health checks. This was a surprising outcome as KW services were targeted to reach vulnerable, low income and deprived communities however; this outcome was tested and confirmed for validation

and found correct. This theme will be further explored under the themes Patient Booking Service and referrals. There may be negative implications for people living in areas of deprivation as many of them might not attend health checks in a health centre-based environment and, even if they do attend, they may not feel confident and relaxed and might avoid engaging with the service in the future.

CMO 1&2

Context 1 Access to Health Checks	
↓	↓
Mechanisms	**Mechanisms**
M1. Community-based venues i.e. village hall, community centre , local third sector office venue. A social environment	M2. GP, Health centre or hospital venues. A clinical environment
↓	↓
Outcomes	O**utcomes**
O1.More vulnerable groups feel confident and relaxed in attending health check services O2. People can easily relate community based venue to their health and wellbeing O3. Improved trust in KW services may empower patients to get involved	O1.Majority of the clients do not like health related venues because they feel the venues are intimidating in some way. O2.Lack of confidence and feeling guilty about their own health issues. O3. Lack of meaningful relationship with patients to empower them

CMO 3 & 4

Context 2 Areas of deprivation/ Five areas in NHS Highland selected based on SIMD	
↓	↓
Mechanisms	**Mechanisms**
M1. Set up community based venues to deliver health checks	M2. GP practice or health centre-based health checks
↓	↓
Outcomes	O**utcomes**
O1. Increase in the number of health checks delivered O2. Patients are more willing and satisfied with health checks and onward referrals	O1.Patients may not be very happy but still attend services O2. More affluent communities are more likely to attend health checks

CMO 5&6

Context 3 Local clinics in community settings may stigmatise KW clients 2. Partners and third sector involved in the delivery of health checks 3. Delivery of lifestyle and social determinants advice and referrals	
↓	↓
Mechanisms	**Mechanisms**
M1. No evidence of stigmatisation due to local health checks venues in local community based settings 2. Relationship between service provider and patients	M2.Comprehensive advice on a range of lifestyle topics M2a. Appropriate referrals
↓	↓
Outcomes	O**utcomes**
O1. Increased number of health checks O2. Patients happier and more willing to take up advice and onward referrals and to engage with a range of services O3. Patients may feel empowered through the mechanism of good relationship and trust	O1. Improved behaviour to adopt healthy lifestyle O2. Due to comprehensive advice and skills of staff about lifestyle topics clients enjoyed a range of options. O3. Patient moved on to adopt new health behaviour

CMO 7&8

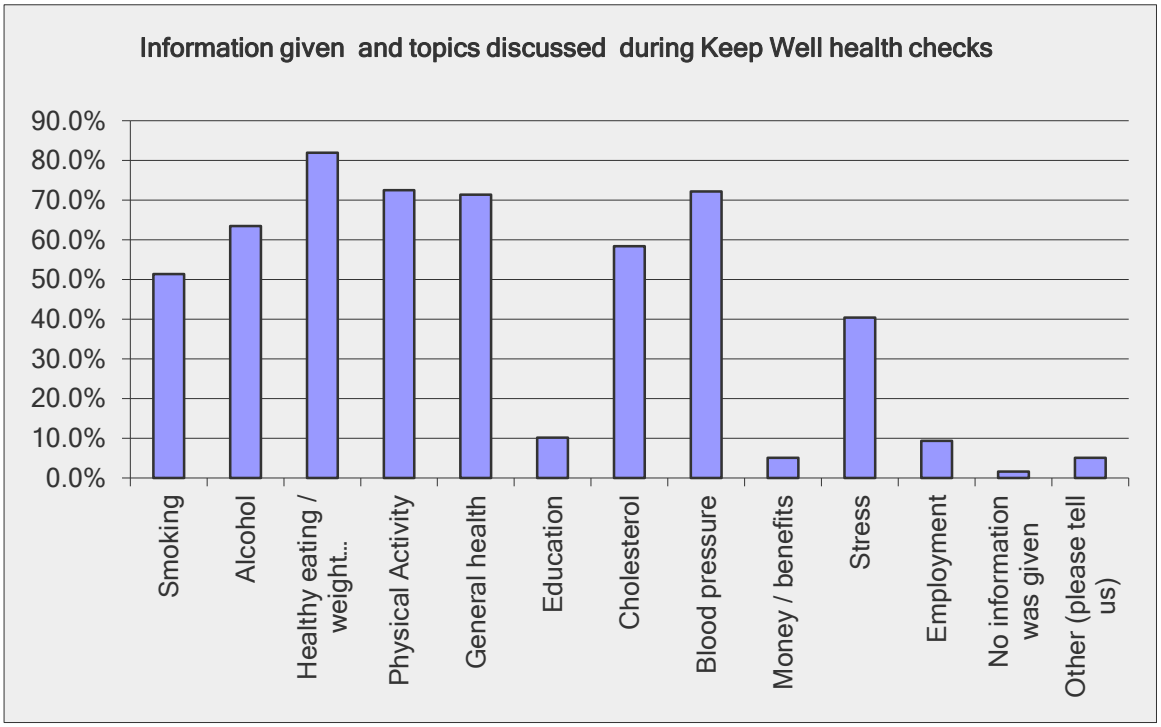
Context 3 continue Local clinics in community settings may stigmatise KW clients 2. Partners and third sector involved in the delivery of health checks 3. Delivery of lifestyle and social determinants advice and referrals	
↓	↓
Mechanisms	**Mechanisms**
M3 Two way referrals	M4 Danger of over-emphasis on lifestyle factors
↓	↓
Outcomes	O**utcomes**
O1.There is no established system of referrals to Keep Well or from Keep Well to other important topics i.e. mental health, psychological services, Welfare system etc. In this situation clients might struggle to be appropriately referred	O1Too much emphasis on lifestyle factors could negatively impact when dealing with social determinants of health and health inequalities O2. Staff might overlook the impact of social determinants of health and might not support patients appropriately

The fifth, sixth, seventh and eight CMO configurations relate to the perceptions of stigmatisation, third sector involvement, lifestyle and social determinants advice mechanisms

and their linked outcomes. Under context 3 four mechanisms and linked outcomes were observed and tested; two of them proposed positive outcomes and two generated negative outcomes. The theory that people might feel stigmatised while attending a health check in their local area or community centre was rejected as all service users and most practitioners believed that community settings are seen as positive and easily accessible (M1 and linked outcomes). Service users felt happy, satisfied, and confident and may have been empowered due to improved self esteem and confidence. This was also confirmed through the survey results as the majority of service users said KW services should be provided through community linked staff.

The delivery of lifestyle advice during health checks could have both positive and negative consequences for patients. Positive outcomes are described in M2 and linked outcomes and negative outcomes in M4. The main reason extrapolated for negative outcomes was that there may be an over-emphasis on lifestyle behavioural advice which may have miss an opportunity for advice on social determinants of health. It is important to analyse the potential implications and dangers of too much focus on lifestyle behaviours. Survey results also showed that more attention was given to lifestyle behavioural dimensions during health checks, as figure 8 shows fewer than 10% service users were involved in money/benefits and employment related discussion.

Figure 8: Percentage of survey respondents given lifestyle and social determinants advice/information during their health checks



The M3 also proposed negative outcomes due to a lack of established referral systems in most target areas. Practitioners' knowledge about local formal and informal services is important in this context. In the absence of a proper referral system service users are more likely to be referred to lifestyle specialist services which are usually available, for. example

smoking cessation, food and health, physical activity. However they are less likely to be referred directly to community mental health, psychological services and to services aiming to tackle or mitigate the wider social determinants of health for example employment, housing, benefits. This was confirmed through survey data where approximately 55% (n= 109 of total 199 respondents) service users who replied to the survey neither agreed nor disagreed or disagreed/strongly disagreed to the statement that they were appropriately referred after the health checks.

Currently there are challenges for practitioners in dealing with service users who should be referred to mental health, psychology, diet and nutrition services, or for support around the social determinants of health such as education and employment services. A service user showed his frustration in this quote:

"The only thing I observed and a bit annoyed , I was asked if you want to be referred to other services one of the services was dietitian but it took that long to get to the dietitian and by the time I met with dietitian everything I wanted to know was covered by the nurse…" (Service user 7)

4.3.3. What works, for whom, how and in what circumstances?

What works?

1. Community-based health checks settings are more likely to be used by vulnerable groups compared to health centres or GPs.

2. Third sector partners, especially those working with vulnerable groups, are a crucial link in making bridges between services and vulnerable groups

3. Well established referral systems could make a significant difference in encouraging and empowering patients to take control of their own lives

4. Well balanced and needs-based advice on lifestyle and social determinants of health is key to achieving better outcomes for patients

For whom

KW practitioners, Vulnerable and targeted KW service users, Partner agencies

How

1. Establish community-based health check settings in partnership with Third sector before carrying out health checks

2. Design and deliver a holistic health improvement approach rather than providing only lifestyle behavioural advice

3. Develop a robust two way referral system in collaboration with all major referrers in public and Third sectors – Easter Ross model has the potential to be replicated

In what circumstance

1. When practitioners are fully supported with all the required resources

2. Ongoing professional support offered to project leads in their own geographic areas

3. Strategic and policy commitment

4. Robust referral and partnership development plans and strategies developed and implemented

4.4 Vulnerable groups and accessibility

4.4.1 Initial CMOCs under test

Aspect	Context	Mechanism	Outcome
Vulnerable groups targeting	Vulnerable groups have multiple access and deprivation related issues Areas of deprivation Low educational attainment Unemployment Social isolation Lack of awareness about KW services	Patients' belief that they are (not) eligible for a preventative approach to health Advertising and publicity campaign to target vulnerable groups i.e. homeless, people with mental health conditions, people with drug and alcohol issues Keep Well staff might have targeted people in wide variety of settings and campaigned to other professional groups	(Not) engaged with the service More vulnerable people engaged in the service More vulnerable people accessing Keep Well Health Checks through specific targeting Increased number of vulnerable people engaged in KW checks

4.4.2. Refined CMOCs after testing

The first and second CMO configurations related to the selection of NHS Highland's KW intervention areas which were based on income and health outcome domains. The Scottish Index of Multiple Deprivation (SIMD) was partly applied to select eligible areas. The CMO under this theme proposed negative and positive outcomes linked to M1. There are problems with the application of SIMD in rural areas as in rural settings it is difficult to separate out the low income population or households from affluent households as, in a typical postcode area, there may be significant numbers of households living in deprivation. As a consequence there is a potential for incorrect selection which could mean more ineligible clients may have received a health check. However, this incorrect selection was rationalised, to some extent,

by using local public health intelligence in the selection of KW intervention areas as can be observed in M2 and linked outcomes. This is not to say that most vulnerable households were reached but this process helped to increase the chances of reaching people who are most in need and are the real targets of the KW programme.

CMO 1 &2

Context 1 Selection of Keep Well intervention areas to target vulnerable groups	
↓	↓
Mechanisms	**Mechanisms**
M1. Income and health outcome domains were used to select areas of deprivation	M2. Local intelligence was also used called "urban rural data classification" to select specific areas where there was a history of low income, deprivation, accessibility challenges and previous health improvement and community engagement activities.
↓	↓
Negative Outcomes	O**utcomes**
O1. Potential of large number of affluent households selected as it is difficult to apply SIMD for targeting vulnerable groups especially in rural areas	O1. A targeted area approach means more high risk groups and people with health improvement needs are reached in specific areas.

CMO 3 &4

Context 2 Patient reach and engagement	
↓	↓
Mechanisms	**Mechanisms**
M1. Argyll & Bute and Easter Ross applied community engagement approaches to involve people in selected deprived areas. Easter Ross did not use Patient Booking Service (PBS). Targeting specific vulnerable groups	M2. PBS used to invite eligible patients
↓	↓
Outcomes	O**utcomes**
O1. Eligible patients could have been directly targeted O2. More people from deprived households might have come forward for health checks	O1.More vulnerable people in the most deprived households may not have responded to the invitation due to lack of confidence and trust

O3. People feel more confident and relaxed if involved in community engagement activities rather than direct health checks O4. People might have improved self esteem and feel empowered through the mechanism of better relationship and inclusion	O2. People from vulnerable groups might not give value to a letter due to their perception of the health checks O3. More affluent people could have come forward for health checks O4. Increased "health gap". O5. Incorrect addresses: in one area 40% of invitation letters were returned undelivered

The third and fourth CMO configurations proposed both positive and negative outcomes. Positive outcomes are categorised under M1 and Outcome1 where a community engagement model was used to reach vulnerable groups rather than Patient Booking Services (PBS). For example, Easter Ross used community engagement approaches to reach vulnerable groups. Argyll and Bute also used community engagement approaches, but targeted populations were also invited for health checks using PBS service which raised the question of appropriate targeting.

CMO 5 & 6

Context 2continue Patient reach and engagement	
↓	↓
Mechanisms	**Mechanisms**
M3 Access through dedicated staff to target vulnerable groups	M4. Access through partnership approach i.e. clients of mental health and drug and alcohol service
↓	↓
Outcomes	O**utcomes**
O1. Specific targeting O2. More eligible people health checked O3. Contribution towards reducing health inequalities	O1. Low cost, specific targeting O2. More eligible patients' health checked O3. Synergism achieved

Most KW practitioners believed that they were seeing affluent people especially in areas where invitations were sent out through Patient Booking Service (PBS). This is partly because the Scottish Index of Multiples Deprivation had been used to stratify deprived areas using income and health outcome domains. However SIMD is not helpful in rural settings where communities are more heterogeneous and it is not possible to separate out most deprived households using SIMD. This evidence is consistent with the previous evidence which concluded that people from a deprived background are less likely to engage with services due to a range of reasons, for example low confidence, believing that health checks service would not help, accessibility issues. This can be observed in context 2, M2 and its

linked outcomes 2. The affluent households are more likely to respond to a health check invitation letter. According to survey data approximately 79% of service users decided to opt for a health check after they had received an invitation letter through PBS which could mean many of them could be affluent people. Another main reason mentioned for not engaging with the health check service through the PBS was that many service users associated Keep Well health checks with current welfare reform policy and viewed it as an effort to stop their benefits.

Almost all respondents believed that the best way for services to engage meaningfully with eligible patients was to carry out community engagement activities by employing dedicated staff to target specific groups of vulnerable people. For example one of the practitioners said;

"…and we have also got somebody whose job is to target vulnerable groups so she works with gypsy travellers and she works with homeless people and services and she is working with ethnic minority groups. So we do have someone whose role is to work with vulnerable people as opposed to having a clinic"(Practitioner 4, Easter Ross).

This type of strategy may be useful in some areas but a different approach might be needed in other areas. This is because when the social context changes, mechanisms for delivery and outcomes could also change.

Access to GP registers to invite eligible patients could have helped reduce the chances of more affluent people coming forward for the health checks. For example a practitioner described this learning from the Well North project which can be observed in the following quote;

"We were able to go through anyone on the disease register and it was small register and also we said that if they visited their GP within the last 6 months we would not invite them for a health check. We also said that if somebody had not been to their GP for a long time, more than two years, we would invite them first which is different to the way we are doing it now for KW health checks"(Practitioner 2,)

These types of strategies could be useful to explore further in the next two years on pilot basis starting with one or two GP practices and extending it to others if successful.

The fifth and sixth CMO configuration proposed to employ dedicated staff to target vulnerable groups and community-based third sector organisations as mechanisms. It was a more explicit niche strategy, especially in Easter Ross, to target vulnerable groups through dedicated staff whose responsibility was to explore ways and means to identify vulnerable groups as seen in the M3 and M4 and their linked outcomes 3 and 4. This model has the potential of reaching more eligible populations and could offer valuable positive outcomes for service users and the KW programme in contributing towards reducing health inequalities by more appropriate targeting.

4.4.3 What works, for whom, how and in what circumstances?

What works?

1.Selection of targeted vulnerable population to reduce inequalities in health could be based on using local health intelligence, previous history of similar projects and lessons learned from them and partly with the application of SIMD

2. Community engagement and involvement approaches in targeting vulnerable groups

3. Employing dedicated staff to target specific groups of vulnerable people, for example homeless population, people with drug and alcohol issues, people with mental health conditions.

For whom

Policy managers, managers, practitioners, service users and partners

How

1. Selection of targeted areas should be based on robust criteria keeping in mind the targeted population groups and the aims and objectives of the programme

2. Partnership working and integration of services could add value in community engagement and involvement to achieve meaningful outcomes for service users

3. Commitment of financial resources to employ dedicated staff to target vulnerable population as in Easter Ross

In what circumstance

1. When professional public health intelligence support is available and used in the selection of geographic areas

2. Appropriate time given to practitioners to design and develop partnerships and collaborative ways of working

3. Organisation and senior management is willing to invest in anticipatory care services and its infrastructure development

4. Partners are willing to collaborate and staff understand its value and work hard to meet minimum quality standards

4.5. Role of partnerships, collaboration and integration

4.5.1 Initial CMOCs

Aspect	Context	Mechanism	Outcome
Multi-agency partnership and collaboration Theories Public, Private and Third sector partnerships offer better, efficient, and effective services to involve and engage vulnerable groups. This could help people to engage in a meaningful way in Keep Well services Improved understanding and partnership among patients, communities and services could improve mutual trust, accessibility and create enabling environment for sustainable engagement Engagement of GPs and other partners in the delivery of health checks could help build overall trust and increased access for a range of vulnerable groups Higher levels of reach and engagement are	Working partnership and collaborations to effectively deliver Keep Well Existence of national and local policy and action plans which emphasise the need for effective collaborative partnerships among public, private and third sectors. i.e. Christie Commission report, Better Health Better Care GPs were involved by the end of 2nd year of the programme implementation	Local groups and partnerships support the delivery of Keep Well for e.g. CPP/SOA, Third sector and GPs. Partnership agreement between range of partners for service delivery Communication and regular discussions in the departments Integration of health and social care may support the development of wider partnerships to support the delivery. Partners may not adhere to partnership agreements. Fear by GPs of increased demands by the Health Board Perception by Health Board management that programme could be mainstreamed without GPs. Lack of involvement of local cancer screening and other relevant programmes Partnership with community groups and clients – use of	Improved referral network. Evidence of partnership and collaborative work. Policy and practitioners Increased awareness about the Keep Well Programme and CVD risks Improved access for patients and partners Lack of support from some partners Keep Well may fail to develop good and meaningful partnerships Lack of agreement with GPs to deliver Keep Well might have negatively impacted on KW programme outcomes in the first two years Outcomes in terms of increased health checks may have been compromised Referrals from the GPs and other relevant screening programmes may also have been compromised

possible in practices with high levels of deprivation.		co-production approach	Patients/clients feel partners rather than passive receivers of services

4.5.2 Refined CMOCs after testing

The CMO configuration under context 1 established two mechanisms, M1 and M2, which proposed a series of linked outcomes as described in O1 and O2. It is interesting to infer from specific mechanisms how community based organisations can be used to win the trust of vulnerable groups and to reduce unnecessary layers of administrative and management processes. The combination of both clinical and community-based health services could produce better outcomes for service users. Even simply using local networks and social groups (M2) could generate a series of positive outcomes (O2).

Partnerships are seen as pivotal in taking forward a holistic health enhancement approach using KW health checks as a starting point. They are established for mutual benefits with the overall aim of achieving improved outcomes for service users as can be seen in both Outcomes 1 and 2. Practitioners, coordinators and managers viewed partnerships as a vital mechanism in achieving better outcomes for service users. This is how a policy level manager described the benefits of the multi-agency partnerships developed to support KW programme;

"I am sure there are community groups and partners who really work with KW teams in referring people , supporting , encouraging and empowering people to attend services" (Manager 1 , Inverness)

Partnerships, especially with very local organisations, are also useful in accessing the vulnerable groups. This is mutually beneficial for KW and the local organisations. KW practitioners viewed this as 'learning by doing' through the mechanism of working with these communities and local organisations. One manager gave his/her views of progress in working with local partners:

I believe we could use them better and I think there are more partnerships out there in the communities that we perhaps did not clock in the beginning and did not understand in the beginning and it's only by going in to communities and working with communities that you find out what the networks are. I think partnerships particularly local partnerships or networks are really important helping to reach people that we wanted to reach for KW. (Manager 2 Inverness)

CMO 1 &2

Context 1 KW Partnership and collaborations	
↓	↓

Mechanisms	Mechanisms
M1. Community-based organisations are trusted by vulnerable groups but clinical services are offered by health service. A combination of both produces better outcomes	M2. Reaching local networks and social groups
↓	↓
Outcomes	**Outcomes**
O1.Mutual benefits for all partners as improved outcomes are the ultimate objectives O2.Saves money due to collaborative way of working e.g. venues, administration O3.Offers better accessibility to clients O4.Reduces extra layers of management and administration and unnecessary waste of time	O1.Raising awareness using their current service channels O2. Using their trusted relationship with local groups and populations O3. Reaching directly to service users with a degree of trust

The third and fourth CMO configurations under this theme proposed the use of partnership as a mechanism in dealing with wider social determinants of health by learning and sharing experiences to develop further practice. This is explained in M1 and M2 and their linked Outcomes 1 and 2. In this CMO health checks are seen as part of a whole package rather than a single service delivery point. This model could be practical and has the potential to achieve multiple outcomes. There is a chain of interconnected positive outcomes as seen in the M1 and linked outcomes. These multi-agency partnerships could create enabling conditions for vulnerable groups that could offer multiple benefits including support for employment opportunities and lifestyle behavioural support in non-stigmatising and non- threatening environments. These enabling conditions could lead to co-produced services and improvement in service users' confidence and self esteem which could empower them to take control of their own lives. The outcomes also proposed efficient and effective use of resources which may be due to the sharing of resources which might have been under-utilised otherwise.

CMO 3&4

Context 2 Multi-agency partnerships at local level – Potential of a holistic health approach	
↓	↓
Mechanisms	**Mechanisms**
M1. Multi-agency partners invited together to deliver a range of services in a package including support in employment, food and health, gardening and growing, KW health checks and so on in partnership with service users	M2. Learning and sharing experiences to develop further practice

↓	↓
Outcomes	**Outcomes**
O1.Meaningful involvement, creating enabling conditions for vulnerable groups O2.Potential of getting to the ladder of employment O3.Health checks and CVD awareness as part of a whole approach rather than a single entity O4.Opportunities to co-produce services for vulnerable groups and partners to improve conditions in a non stigmatising, non victimising and non threatening environment O5. Improved confidence, self esteem and empowerment O6. Efficient and effective use of resources	O1.Practitioners develop confidence of mutual trust and support O2.Opportunities to co-produce and deliver services O3. Everyone achieves more than all individuals O4. May be cost effective and efficient

The fifth CMO configuration explored in this theme was the KW links to CPP and SOA which proposed implicit mechanism links through local KW practitioners working in partnership with employability, equality and health improvement teams to support service users as seen in the context 3 and its linked M1 and O1. In connection to this CMO configuration there are impressive examples in Easter Ross and Argyll and Bute which showed significant improvement to create enabling conditions, supporting and empowering KW service users. These improvements have been attributed to local formal and informal multi-agency partnerships which have also implicit links to SOA. However, no explicit link was established in Highland and Argyll and Bute with KW programme which showed clear evidence either indicated in the SOA or part of the CCP plans.

CMO 5

Context 3 KW links to CPP and SOA
↓
Mechanism M1. The Highland and Argyll & Bute CCPs and SOAs have a range of actions where Keep Well can be implicitly linked in e.g. local practitioners in almost all areas work in partnership with employability, equality and health improvement teams
↓
Outcomes O1.There is evidence of implicit KW links to a range of social determinants and lifestyle behavioural topics which might have benefited many people and contributed towards improving health and tackling health inequality O2.No evidence of explicit links or actions seen in SOAs in Highland and Argyll and Bute

The sixth CMO configuration in this theme was about KW health checks and partnership with GPs which proposed more negative outcomes rather positive outcomes for services

users. There was a theory and belief across stakeholders that if the KW programme is to implement a holistic health enhancement approach, then GPs might not offer a good support. The M1 shows contractual agreements with GPs which could lead to both positive and negative outcomes. Through the outcome 1 GPs have the potential to increase the number of health checks which could identify at-risk patients and there is also opportunity to identify more vulnerable groups through Quality Outcome Framework (QOF) data set, if that was applied appropriately.

There were also negative consequences related to this CMO configuration. The fact that GPs are unable to offer longer consultation time to service users may not be helpful at all, especially if a holistic health approach is the aim of the programme. One of the most important features mentioned by KW practitioners is the allocation of 40 minutes consultation time to every KW service user. Every service user interviewed in this study indicated time allocation as the crucial and satisfying factor for them to establish an initial relationship of trust. The 40 minute consultation time seems to be a promising mechanism as the majority of survey respondents, 89% (n=228 of 255 respondents) were satisfied and agreed or strongly agreed about the allocation of time and usefulness of information and discussion during the health checks. GPs are unable to offer this time and are seen only as clinical service providers rather than as providers of a whole-person approach. Another important outcome extrapolated was the limited likelihood of sustaining the KW health checks services through GP contractual arrangements. Therefore, when the funding ceases the contract will come to an end and KW consultations and services will no longer be provided through GPs. This is not to say that partnerships should not be established with GPs, but that there should be arrangements to deal with the negative consequences and appropriate plans should be discussed and executed to sustain KW services after the funding ceases.

CMO 6

<table>
<tr><td colspan="2">Context 4
KW health checks partnership with GPs</td></tr>
<tr><td colspan="2">↓</td></tr>
<tr><td colspan="2">Mechanism
M1. Temporary contractual agreement to carry out KW Health checks</td></tr>
<tr><td colspan="2">↓</td></tr>
<tr><td colspan="2">Outcomes</td></tr>
<tr><td>Outcomes
O1.Increased number of health checks
O2.GP invitation letters may be seen as an opportunity by vulnerable groups
O3.GPs could identify vulnerable people who are at risk of CVD</td><td>Negative Outcomes
O1.GPs may not be able to offer comprehensive health checks and advice on social determinants
O2.Affluent households are more likely to attend GP based health checks
O3.GPs may be focussed only on medical conditions rather taking holistic health approach
O4.Very low chances of sustaining the services</td></tr>
</table>

4.5.3 What works, for whom, how and in what circumstances?

What works?

1. Community-based organisations are trusted by most vulnerable groups due to their close relationships, but clinical services are offered by health services; a combination of both produces better outcomes for services users.

2. Selected multi-agency organisations working on a range of social determinants of health, lifestyle behaviours, and relevant medical services. Providing services under one roof may create supportive, non-threatening and enabling conditions for vulnerable groups.

3. Explicit KW CVD prevention actions within SOA and CPP agenda would be counter-productive

For whom

KW programme practitioners, policy manager, CPP partners and Third sector organisation working with vulnerable groups

How

1. Availability of dedicated staff and specific time commitment for the development and implementation of partnership and collaborative action plans as happened in Easter Ross. KW local co-ordinators have clear understanding about the value of multi-agency partnerships and their long-lasting impact on the programme

2. SOA/CPP outcomes and KW implicit links show positive outcome which seems to be unintended outcomes. The CPP is an influential group which has wider links across the sector. These links could be further developed explicitly to reap benefits for the KW programme

In what circumstance

1. Senior management commitment to allow time and resources to support partnerships to be established, it may require signing formal or informal agreements or Memoranda of Understanding (MoU)

2. When dedicated staff and time are available

3. When workers and managers are experienced, skilled and fully understand the value and the role of partnerships

4. CPP/ SOAs are very influential local policies and have gained commitment across the sectors

4.6 Training and development

4.6.1 Initial CMOCs under test

Aspect	Context	Mechanism	Outcome
Training and development Theories Improved knowledge and skills of frontline staff of the risk factors for cardiovascular disease(clinical and non-clinical), impact of wider social determinants, motivational interviewing/behaviour change communication and community development approaches have been important in tackling health inequalities in CVD. Staff culture change towards non-dependency and geared to assets based approaches could improve self confidence and self efficacy among clients Lack of appropriate skills and knowledge among frontline delivery staff could be a barrier to engage target audiences in services	Training programme, policy and actions on linked aspects of Keep Well Wider national training policy covering relevant Keep Well topics Trainer time, funding and other relevant resources available.	Training and development of staff about KW and wider public health practices might have helped staff to interpret and use knowledge to motivate professional and community groups for Keep Well Health checks Increased knowledge and skills of staff means increased self efficacy of staff which could have positively impacted on the programme's success Willingness of staff and partner agencies to attend training courses and use knowledge and skills effectively Training needs assessment Multi-agency partners and referrals may believe that Keep Well staff can offer good quality wide ranging services to their patients NHS Highland Keep Well Programme supported a	Comprehensive training programme in place Increased knowledge and improved skills of frontline staff to clearly understand the aspects linked to Keep Well Programme. Improved knowledge of CVD, MI, BCC, SDH, and the relationship between deprivation and health. Improved capacity and knowledge of Partners and Third sector about whole range of Keep Well programme knowledge base Quality service delivered by competent staff who also understand the impact of deprivation on health and CVD Shift away from focus only on behaviour change to more holistic approach that targets social determinants eg. literacy, fuel poverty, referrals to join community inclusion groups.

		comprehensive training and development programme tailored to the needs of Keep Well frontline staff. Specific topic training to third sector staff relevant to KW to raise profile of the KW programme and improve understanding about KW programme among wider community based staff	

4.6.2 Refined CMOCs after testing

The first and second CMO configurations under this theme relate to money and funding mechanisms (M1 and linked outcomes) through which local multi-agency organisations were involved to upgrade their workforce's knowledge and skills about KW programme and its service delivery components. The training and development budget even if limited provided the basis for working closely with partner organisations. This might have triggered positive actions through which partner organisations contributed to engaging with vulnerable groups to offer KW services.

The second mechanism (M2) in this CMO configuration relates to practitioners' knowledge and skills and their appropriate application. As a result of this mechanism practitioners improved their overall knowledge and skills, helping them to offer appropriate services. This process might have also gained the trust of service users and engaged them with the service or community-based activities on a regular basis. There seems to be improved practitioners' confidence through improved knowledge and learning which also helped them to explore service users' issues in a holistic way. Survey data also indicated this point as 78% of respondents strongly agreed or agreed with the statement that they were provided with useful information about their health, and 80% believed that their queries about health and wellbeing were clearly answered. This means learning by practitioners through organised training courses could have contributed to this level of service user satisfaction.

CMO 1 &2

Context 1 KW Programme Training and Development, KW training policy and Plan	
↓	↓
Mechanisms	**Mechanisms**
M1. Money and Funding	M2. Practitioners' knowledge, skills, experiences and their appropriate delivery
↓	↓
Outcomes	O**utcomes**
O1. KW funding helped deliver training to KW Staff and partner organisations O2. Partners contributed to the delivery of the KW programme O3. Training and development budget provided this basis of developing relevant skills and knowledge among multi-agency staff including KW locality teams .	O1. Comprehensive staff training develops wider thinking, deeper probing, identification of health issues and onward referral and signposting O2. Practitioners who attended wide range of courses are better skilled and more confident in helping and guiding service users O3. High level of service user satisfaction and trust

The mechanism three configurations relate to practitioners' attitude, behaviour and willingness to adopt new knowledge in the context of learning environment and practice. M3 and linked outcome 1 provided clear links to improved practice. Learning by doing was reflected by practitioners which builds on practice based experience and reflecting on the practice as an on-going activity. Here is a quote from practitioner 4 describing how reflective practice helped to improve and develop further practice.

"I think they do learn within their practice because in health checks the first one you do is not same as you do the tenth and it's bit of reflection as you see a client through the process and afterwards you reflect on how that conversation went and actually if I had asked this and this and further probed this and I forgot to tell them this I might have come with a different outcome so you learn as you go , and the next one will be a different and improved health check" (Practitioner 4 Easter Ross)

This type of learning practice by KW and partner agency staff was one of the main mechanisms which led to improved practices and replicable lessons for other practitioners.

The mechanism four configurations relate to the contents of the training which were believed to be crucially important if practitioners were to gain specific knowledge needed to satisfy and engage service users. Therefore, before changing hearts and minds a good grasp of

specific and relevant knowledge is vital. Most KW practitioners gained required knowledge which supported them to know about different ways of doing things. Improving knowledge about concepts like co-production and assets based approaches are important to empower individuals and communities. This knowledge in the context of the practitioners' job role is critical in supporting service users to improve self-esteem, confidence and self-efficacy. The Mechanism 4 provided links to O1 which shows how practitioners improved outcomes through specific topic-based training and O2 shows how better outcomes were achieved for service users.

There was also an emphasis on in-depth and wider learning to clearly understand the important and complex links between a range of influencing and triggering factors about cardiovascular disease. This is how practitioner 3 viewed learning and development.

"I think knowledge and awareness of Social Determinants of Health and wider issues is completely crucial because, otherwise how could staff and deliverers understand the actual cause of the issue. I personally think that there is a lot more needing to be done to influence those who don't clearly understand, there is also people from within Keep Well " (Practitioner 3)

This provides insight into the importance and value of relevant knowledge among practitioners who are the change agents and can create difference through appropriate knowledge and learning and its appropriate use.

CMO 3 &4

<table>
<tr><td colspan="3">Context 1Continued
KW Programme Training and Development, KW training policy and Plan</td></tr>
<tr><td>↓</td><td colspan="2">↓</td></tr>
<tr><td>Mechanisms</td><td colspan="2">Mechanisms</td></tr>
<tr><td>M3. Practitioners' willingness and motivation to adopt new skills and behaviours
M3a. Reflection after every health check
M3b. Learning from practice</td><td colspan="2">M4. Training content and its relevancy (KW health checks, motivational interviewing, wider determinants of health and health inequalities, assets based, co-production and empowerment approaches, community development and engagement ,health at every size, alcohol brief intervention etc)</td></tr>
<tr><td colspan="3">Outcomes</td></tr>
<tr><td>↓</td><td>↓</td><td>↓</td></tr>
<tr><td>Outcome 1
O1. Practitioners developed practice by reflecting regularly on their own practice and asking and clarifying from other practitioners rather than hiding things that they could not</td><td>Outcome 2
O1. Some practitioners covered wide range of training courses, a wider</td><td>Outcome 3
O1. Satisfied and improved trust
O2. Increased awareness and</td></tr>
</table>

understand O2. Practitioners applied new learning in the next health check and advice which further developed practice based on evidence O3 Practitioners' knowledge improved significantly on most relevant issues of CVD	public health practice can be observed which helped them to deal situations appropriately O2. Most training courses improved knowledge and helped practitioners and partners to take a holistic health approach O3. Wider knowledge and skills gained which were crucial for practitioners to empower individuals and communities	knowledge about CVD risk factors O3. Improved confidence O4. Enhanced self efficacy O5. Improved self esteem and control O6. Feeling of empowerment
↓		
Negative Outcomes 4 O1. All practitioners may not be open to the key messages of the training .If practitioners are not dedicated to KW service there is potential of disengagement from the main learning during the training. O2. Some practitioners may lack listening and communications skills which could negatively impact on KW health check process and onward referrals		

The Mechanism 3 and 4 also generated negative outcomes which are related to practitioners who are not dedicated staff for KW services and may lack public health practice skills, communication and listening skills which could trigger negative outcomes as shown in the negative O4 box. These practitioners are not full time or part time dedicated to KW services and might not have attended training courses relevant to public health practice which is why they may be not as productive as dedicated staff or practitioners.

The second CMO configuration relates to wider training opportunities which generated M1 and M2 and linked positive and negative outcomes (O1 & - ve O2). One of the main negative outcomes was the potential loss to the programme resulting from inactive practitioners who were trained, but did not carry out KW-related activity. This was also reflected by a practitioner in this quote.

"The actual training of the Keep Well , I did the same day as there were about 9 people and we are the only two who are delivering the keep health checks which is very very poor , I personally feel that if there is money spent on training then there should be commitment to do the work because this is such a waste of resources." (Practitioner 7)

The fifth and sixth CMO configuration under context 2 and mechanism 2 proposed negative outcomes in relation to the lack of local or regional training opportunities. These might result in the loss of the local organisational and individual networking opportunities which are believed to be important and starting point for many practitioners to engage community

groups or individuals. This lack of opportunity might have increased cost per staff member invested on training and development activities. Availability of local opportunities also means more networking, an increased number of sustainable anticipatory care services and reduced costs as described in M1 and O1 and M2 and O2.

The seventh and eight CMO configurations proposed two mechanisms and linked positive and negative outcomes. The negative outcome configuration relate to the mechanism1 which showed inexperienced practitioners and lack of knowledge are linked to a lack of wider understanding about public health practice and confidence in its application. This situation proposed negative outcomes that relate to service user dissatisfaction and inappropriate referrals. On the other side M2, impartial advice in a non-stigmatised and non-threatening environment, proposed positive outcomes. This configuration shows how practitioner led health checks could positively impact on services users' recovery journey in the process of reducing cardiovascular disease and tackling health inequalities.

Practitioners' knowledge and understanding about lifestyle factors significantly contributed to improving the profile of the KW programme, but the KW health check advice remained focussed on the lifestyle behaviours of service users. This can also be seen from the available survey data by comparing advice given on lifestyle and social determinants of health as described in Figure 5 under access to health checks CMOCs. Lifestyle factors could play some role, but over-emphasis could have impacted negatively on the delivery of appropriate services and onward referrals. Survey data suggest that only 45% of respondents strongly agreed or agreed with the statement that they had been appropriately referred to onward services. This could mean that practitioners' knowledge of wider social determinants and community-based activities might have played a role as a mechanism to appropriate or inappropriate referrals.

In order to comply with KW service delivery standards practitioners were required to improve their understanding and knowledge about cardiovascular disease links to lifestyle behaviours as it is an important factor to facilitate the discussions and onward referrals. Practitioners seem to have a good sense of this approach which can be observed in this quote.

"And without that knowledge you are not going to get the point of sense about how much you smoke or drink or whatever and how much you need to cut down things which are unhealthy"(Practitioner 1)

CMO 5 &6

<table>
<tr><td colspan="4">Context 2
KW training opportunities to wider sectors and geographies</td></tr>
<tr><td colspan="2">↓</td><td colspan="2">↓</td></tr>
<tr><td colspan="2">Mechanisms</td><td colspan="2">Mechanisms</td></tr>
<tr><td colspan="2">M1. Training to third sector workers and public sector practitioners</td><td colspan="2">M2. Local and regional KW training opportunities</td></tr>
<tr><td colspan="4">↓ Outcomes ↓</td></tr>
<tr><td colspan="2">Outcomes related to M1</td><td colspan="2">Outcomes related to M2</td></tr>
<tr><td>Outcomes 1
O1. Third sector staff are not only using the knowledge as part of tKW but are also using it in everyday practice in relation to other services
O2. Potential of multiple benefits and sustainability and increased anticipatory and health improvement activities</td><td>Negative outcomes 2
O1.Many staff members who were trained are not active; it is potential loss to the project</td><td>Outcomes 1
O1. These opportunities helped to reduce cost and involve local organisations
O2. There were more networking opportunities which helped to raise KW profile</td><td>Negative outcomes 2
O1. In areas where there was less local training opportunities for KW staff there is less chances of networking
O2. Opportunities and cost increased per staff member</td></tr>
</table>

CMO 7 & 8

<table>
<tr><td colspan="2">Context 3
General issues in training and development and KW health check advice, KW training policy</td></tr>
<tr><td>↓</td><td>↓</td></tr>
<tr><td>Mechanisms</td><td>Mechanisms</td></tr>
<tr><td>M1. Inexperienced practitioners, lack of comprehensive knowledge</td><td>M2. Impartial advice in non-stigmatising and non-threatening way</td></tr>
<tr><td>↓</td><td>↓</td></tr>
<tr><td>Outcomes</td><td>Outcomes</td></tr>
<tr><td>O1. Lack of understanding about service users’ health and wider social issues
O2. There may be inappropriate support and guidance
O3.Service users’ dissatisfaction
O4. Lack of wider public health practice due to lack of knowledge and confidence</td><td>O1. Service users, especially from vulnerable groups are more likely to get in touch or engaged
O2. Service users are more likely to raise the issue themselves
O3. Service users have improved confidence and trust on services
O4. Service users may feel empowered</td></tr>
</table>

Empowering service users to take control of their own lives is not an easy task; it is an even more difficult task to trace back the triggering factors. However, M2 proposed a link to the outcome 2 to show this process of engagement, improvement in building confidence and empowering services users come through the mechanism of good level of knowledge and impartial advice, especially when service users themselves realise the need and ask for support. This situation was also reflected in this quote.

"People come here and say I smoke and drink and you are not going to change us so let them know we are not here to suggest what to eat and what not but, when we complete the SIGN score and it is quite high then they would say I will get referral to smoking cession clinic or dietitian and so on. So, it's people themselves who are recognising their own issues we are just facilitating them the discussion and helping to decide. It's just finding time to raise the issue and discussion so that they are aware of the support network available to them to change attitude and behaviour. Basically, what I want to say is that we should not judge them and stigmatise them this is how they can improve confidence and feel empowered".
(Practitioner 4)

The survey data reflected rather an abstract picture of improving control, confidence and empowerment. It showed 41% of respondents strongly agreed or agreed that they had improved control over their health, 31.6% strongly agreed or agreed that they felt more confident and 24.5% strongly agreed or agreed that they felt empowered after the KW health check. Table 17 below shows range of dimensions of service users' feelings following their health checks from the survey results which include range of other aspects along with links to the feelings of confidence, control and empowerment.

Table 17 Service users' feelings after Keep Well health checks when thinking over the last two weeks

	Strongly agree/agree (%)	Neither agree nor disagree (%)	Disagree/ strongly disagree(%)
I have been feeling in better control over my health	41	50.2	8.7
I have been feeling confident	31.6	55.3	13.1
I have been feeling empowered	24.5	60.7	14.8
I have been feeling useful to others	32	57.1	10.6
I have been feeling good about myself	45.6	44	10.4

4.6.3 What works, for whom, how and in what circumstances?

What works?

1. Quality of KW services has improved with the increased knowledge and skills among practitioners on a range of relevant topics and issues

2. In-depth knowledge on relevant topics and issues among practitioners provided a strong base to empower service users

3. Reflective practice and learning by doing practice significantly improved performance and appropriate onward referrals

4. Training and development opportunities in local areas offered increased networking and contribution from the Third sector organisations

5. Practitioners' positive attitude, commitment, careful and non-judgmental delivery of health checks can be attributed to improved knowledge and increased sensitivity about KW services which came through training mechanism

For whom

Trainers, Practitioners, Third sector organisations, KW programme and policy makers

How

1. Careful and appropriate selection of contents and its timely delivery

2. Practitioners' reflective practice and learning by doing commitment

3. Practitioners' commitment, motivation and ongoing positive practice development attitude could provide better outcomes for service users

In what circumstance

1. Availability of training and development budgets

2. Appropriate time to allow practitioners to improve practice

3. Wherever possible local training and development events to allow learning and networking

4. Willingness, motivation and commitment of practitioners and management towards achieving programme goal, aims and objectives

5. Willingness and commitment of third sector organisations to be involved and engaged

6. Policy and strategic support

4.7 Mainstreaming and Sustainability

4.7.1 Initial CMOCs under test

Aspect	Context	Mechanism	Outcome
Mainstreaming and sustainability.	Mainstreaming of the Keep Well programme as normal and permanent practice targeting 35-64 age groups. NHS senior management willing to invest in KW in the future Senior management's belief that Keep Well programme can prevent or reduce CVD inequalities In NHS Highland it was difficult to adopt national approach which is based on specific delivery of health checks. Highland's geography and its roots to Well North project philosophy	Identification of people with depression and anxiety via Keep Well (Equally Well recommendation) Delivery pilots through Community Pharmacy, Community Paramedics, Prison service Integration of the practice into routine service delivery (Understanding and perception of the managers, supervisors about the Keep Well delivery and its value.) There is strong belief that Keep Well programme will help reduce health gap Highland Keep Well model is following the Well North delivery model which was based on community involvement and development and holistic approach to health and wellbeing rather than only health checks.	Number of vulnerable patients identified (depression, anxiety, homeless etc) Community pharmacies delivering Keep Well Paramedics delivering Keep Well Rigorous community engagement in Argyll and Bute linked to KW health checks and improved wellbeing. Holistic (not only focussed on clinical outcomes) approach adopted rigorously.

4.7.2 Refined CMOCs after testing

The first and second CMO configurations proposed both negative and positive outcomes. The negative outcome 1 relate to the delivery of health checks through pharmacies and GP surgeries. There seems to be difficulty in sustaining the KW services without appropriate funding arrangements and a limited opportunity of applying a holistic health approach, which is the main delivery model of NHS Highland's KW programme. As a consequence of this, one of the main negative outcomes expected was increasing the 'health gap' through this model. This is because through this approach more efforts are expected to carry out more health checks to achieve targets without targeting the most 'vulnerable'. Therefore, one potential negative outcome of the programme's focus on meeting targets could be an increase in the 'health gap'. Also there is a methodological problem with this model as it is difficult to screen out only vulnerable groups or people from low income backgrounds who might have higher CVD risk. This point was already emphasised in the above sections of this report that the SIMD does not explicitly target vulnerable communities especially in rural areas as it is difficult to separate out eligible clients using post code stratification method.

CMO 1 &2

Context 1 Mainstreaming the Keep Well programme or its components in Highland	
↓	↓
Mechanisms	**Mechanisms**
M1. Delivery through Community Pharmacy and GPs	M2. Trained community nurses/health improvement advisers who used Keep Well health checks as opportunity arises. This is seen as a better way as staff do not feel pressure of targets and are willing to do it. Currently there are a few examples of this approach across the areas.
↓	↓
Negative Outcomes	**Outcomes**
O1. Difficult to sustain without funding O2. Limited chances of holistic health approach O3. Risk of increasing health gap rather than decreasing it Q4. Service users' anxiety and stress related to closure of the KW service.	O1. Informal community setting is more appealing to vulnerable groups than a hospital or clinical environment O2. An opportunity of holistic health improvement approach O3. Increased chances of reaching eligible clients O4. Ongoing health checks delivery

The outcome 2 configurations suggested a chain of positive outcomes and proposed increased chances of getting more eligible clients through mechanism 2 which relates to community nursing arrangements (who are not necessarily full time KW practitioners). Trained community nurses and health improvement advisers are providing KW services along with

their other key roles. Due to their presence in the community primary health care service they have a good relationship with a range of services and client groups. This informal relationship is pivotal and a key link to enhancing trust and engaging vulnerable groups in the process in a more meaningful way. This community link and relationship was also emphasised by local leads and management as an important way of delivering a holistic anticipatory care service to most eligible clients. This important point was reflected by a policy stakeholder in this quote;

"You know the objectives of the Keep well were actually sound in terms of, they were trying to embed in primary care , idea of good long term relationship with the patient in the anticipatory care is just the start point to establish the positive relationship between the individual and the clinician. We absolutely need to do that. So there is important things about that relationship and I think we can hear from practitioners that they realise that this is what it's all about" (Policy Manager 3)

The third and fourth CMO configuration established two mechanisms. M1 proposed sustainability of some KW services by establishing more formal links with former KW practitioners, who are not actively doing health checks but would be willing to do so. There is local commitment and evidence available to support this mechanism which could sustain KW services if there is a little push through local coordinators with some funding support to cover petty expenses, for example venue costs for KW clinics. This point was emphasised by practitioners who were interested in sustaining and mainstreaming the KW services or some of its components. This is how a practitioner viewed the sustainability options.

"In some cases I could offer health checks to some patients as part of my job if I had some money available for hire of a venue such as a hall or community centre. (Practitioner 6).

The M2 suggested a different scenario where third sector practitioners were trained to deliver KW services in their own area of work. This model of sustainability has achieved some positive outcomes for service users for example low cost and easily accessible regular services which have been integrated with the local organisations' delivery packages as described in O2. There is some evidence to confirm that these services could be further sustained and mainstreamed across NHS Highland, but it will require local arrangements to make it happen. Third sector partner organisations indicated their interest in mainstreaming and sustaining KW services. They believed that, even if a full package of KW services was not possible, a limited service portfolio could be developed, agreed and piloted in one or two areas initially as described by partner agencies in these quotes.

"Our staff could be trained and they could carry out keep well health checks but these would be very basic health checks. If some funds were available to cover expenses, Argyll Voluntary Action could be interested but that would need approval from management (Partner org. 1)

"It could be possible to train local project staff on health checks so that they can raise the issue and sign post people. The Shirlie project could be used in Easter Ross" (Partner org. 3)

"Well, not even a basic health check but some conversation to engage them and make them realise about their health and wellbeing. (Partner Org.1)

To make it more explicit the Third sector organisations and relevant NHS departments can be used as a mechanism to start with this model of KW service delivery.

CMO 3 & 4

Context 2 Value added components by integrating with other services	
↓	↓
Mechanisms	**Mechanisms**
M1. Activate and further support former-KW Practitioners to deliver KW health checks services	M2. Local community based staff from voluntary or public sector trained to deliver Keep well for example in Wick, a staff member from Pulteneytown People's Project has been trained to deliver KW services.
↓	↓
Outcomes	O**utcomes**
O1. Health checks are embedded in some areas as part of the overall services delivery, i.e. in Easter Ross and Caithness health checks are also delivered by former Keep Well Practitioners while delivering services in their new roles. These checks are delivered on the basis of opportunity and demand from service users.	O2. Community voluntary sector organisations have more links to other community and public sector services. They are in a better position to sustain KW services. O3. The knowledge from KW training will stay in the community even if KW services are directly withdrawn. The local community based organisations could still continue delivering some, if not all, KW services. O4. Potential sustainable partnership examples could be Poultneytown Peoples project in Caithness, Shirley Project in Easter Ross, Argyll Voluntary Action project in Campbell town and so on.

4.7.3 What works, for whom, how and in what circumstances?

What works?

1. Nurses who had been trained as Keep Well practitioners continued delivering Keep Well services as part of a bigger package to their own clients

2. KW programme has trained public and Third sector staff, this knowledge will stay in the community and can be used in many circumstances.

For whom

Third sector organisations, Keep Well programme, Public sector departments with anticipatory care role, policy makers and programme managers

How

1. Permission to Third sector and community nurse practitioners to continue some form of KW services. This is linked to risk assessment of the process and Health Board level support to these practitioners

2. Organisations which work with vulnerable groups and have regular clients who are vulnerable can be trained and given some resources to deliver KW or some components of the KW service delivery. These arrangements could be possible in localities where there is need and interest.

In what circumstance

1. Willingness of the community-based Third sector and community nursing staff to continue delivering KW services

2. NHSH Board commitment to allocate some money for on-going support to Third sector and nursing staff in form of administration and incentives

3. Local KW teams' willingness to work together with Third sector organisations

4.8 Community development and engagement

4.8.1 Initial CMOCs under test

Aspect /Theory	Context	Mechanism	Outcome
Aspect Community development and engagement **Theories** Community involvement and empowerment, using lifestyle approaches has been identified as been a good way of identifying those at higher risk of preventable long-term conditions i.e. CVD	Existing Community groups National and local policies and strategies/plans to emphasise the importance and benefits of community involvement and development. Keep Well may be linked or connected to local existing informal or formal groups. These groups	KW's identification of targeted communities and groups All/most local partners value and prioritise the community involvement approach in improving health and wellbeing Delivery of very local activities e.g. cooking, gardening, allotment, walking etc	Improved behaviour towards building social capital such as volunteering, local community based activities and CVD is one aspect More people involved in healthy activities/lifestyle changes. More people involved in decision making activities Reduced isolation could positively

KW supports organisations to operate and offer inequality sensitive care to improve patient outcomes in areas of greatest need.	may have welcomed the implementation of KW and supported the programme locally Local culture may be supportive of health and care programme delivery Local groups believed that KW is useful and helpful to prevent or reduce CVD issues	Asset based and co-production, participative approach may have been used effectively to meaningfully involve communities Reduced social isolation Perception of supportive environment for change VOiCE tool used to record community development and participation. This step by step tool may contribute to more effective delivery of the community involvement approach Keep Well staff are experienced, highly skilled and knowledgeable in developing and implementing effective community development approaches Vulnerable groups were targeted using Community health development approaches	impact to improve over all wellbeing which can then link to KW health checks and early identification of CVD. More people satisfied with the services Application of community development approaches was successful in engaging and motivating wider communities and linking with Keep Well programme A culture shift from clinical to more holistic approaches to health care which is based on Well North and its community involvement delivery model. Improved staff understanding and practice about community development approaches Improved and more equitable level of access for vulnerable groups

4.8.2 Refined CMOCs after testing

Two, out of five, KW targeted areas in NHS Highland were rigorously using community engagement approaches to engage targeted communities in health improvement activities. The aim was to offer a holistic health enhancement approach rather than only carry out health checks which may be based on a narrow model of health. It is also anticipated that, through

the mechanism of health checks, people engage with services to improve health and wellbeing with the overall aim to create impact on CVD mortality, morbidity and tackle health inequalities. However, the main aim of the current project is to reduce CVD risk factors through holistic health support by improving wider social determinants of health. Evidence suggests community development and engagement approaches have been well placed to take forward this approach (Fyfe et al 2011)

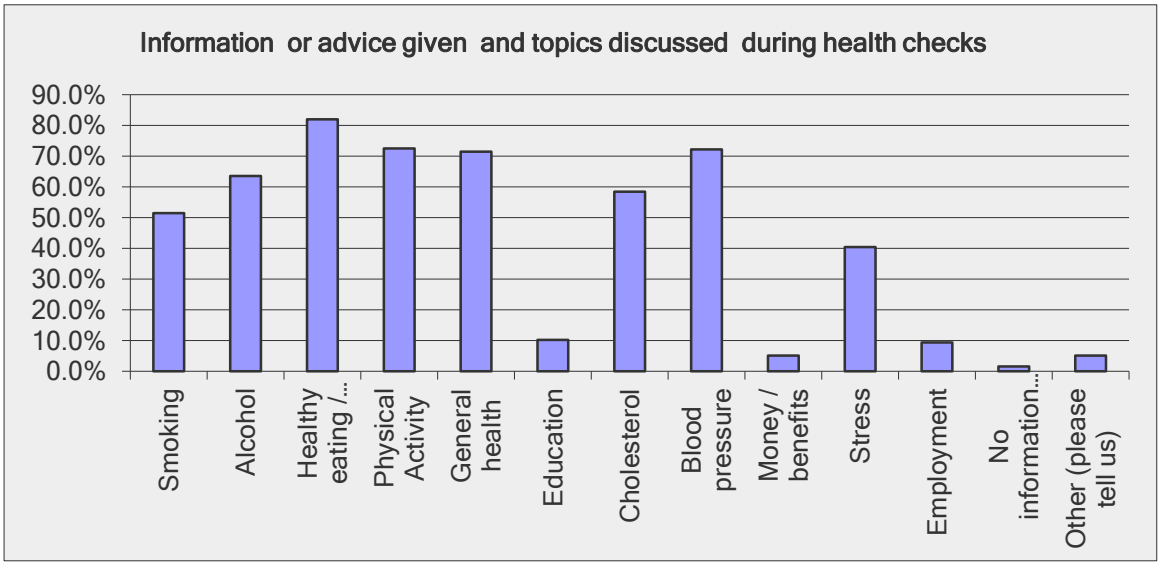
There were twelve CMO configurations related to community engagement and associated factors. The first CMO configuration proposed positive outcomes 1 and 2 through lifestyle behaviour change engagement activities and social group engagement activities. In both activities the KW programme, especially in Easter Ross and Argyll & Bute achieved positive outcomes. Evidence from the Easter Ross KW programme supports the argument that targeted groups were engaged more robustly in meaningful and goal oriented health improvement activities. The use of lifestyle behaviour change activities was one the most familiar mechanisms in all areas that might have achieved a series of positive outcomes, as seen in outcome 1, and contributed towards improving health and wellbeing of many KW services users. Service users and practitioners believed that lifestyle advice and onward referrals could improve health and may contribute to tackle CVD morbidity. Service users and practitioners frequently indicated this as seen in these two quotes

"Oh yes, indeed diet was improved clearly, I now enjoy eating different foods" (Service user 4)

"Lifestyle behaviours are so important that we have to discuss with patients anyway if they are willing to discuss and further referred on"(Practitioner 2)

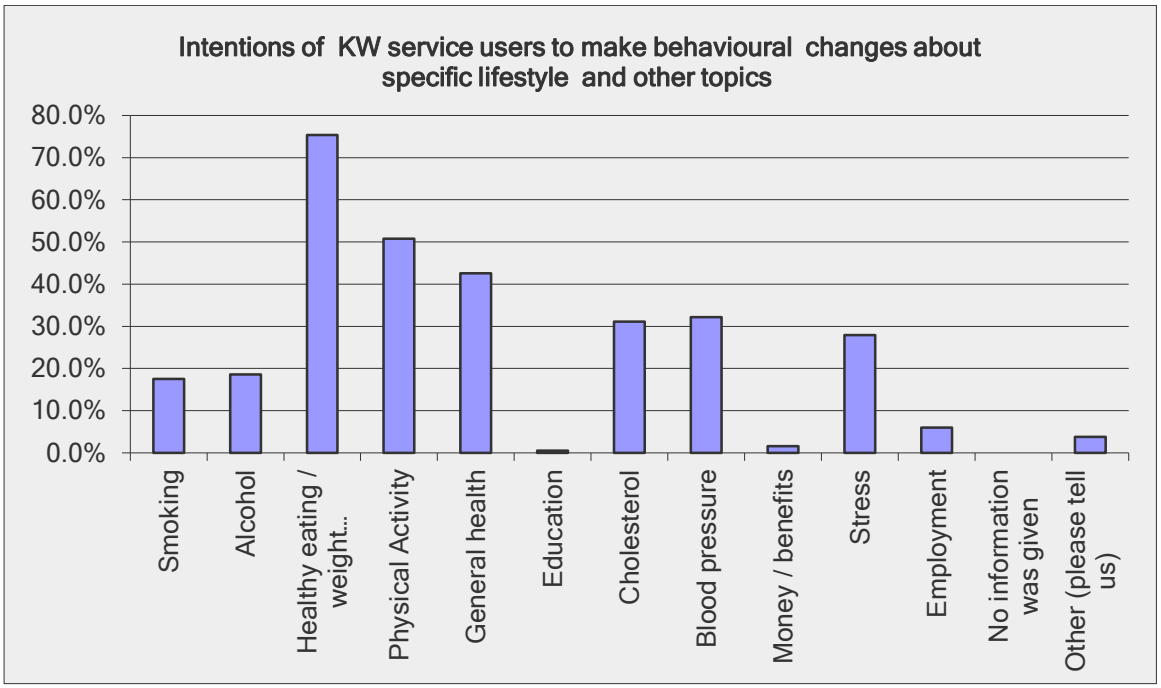
Lifestyle behaviours remained the topics most discussed during the 40 minute health checks and onward referrals. Survey data suggested and supported this evidence as seen in figure 9 below.

Figure 9: % of service users getting information and advice on specific topics



The majority of survey respondents (71%) reported at their health check about lifestyle behaviour changes with this mainly being improving diet, more physical activity, quitting tobacco use, reduced alcohol intake as the health and wellbeing improvement strategies (Figure 10).

Figure 10: Percentage (%) of Keep Well service users who intend to make lifestyle and other changes after having health check



There was also a danger of over-emphasising lifestyle factors during health checks and onward referrals because practitioners and service users might have been influenced through media and health care advice about lifestyle behaviours. Survey data suggest that KW practitioner-led advice was more focussed on lifestyle factors than on social determinants of health (Figure 9). Evidence showed 18% contribution of unhealthy lifestyle behaviours linked to certain long-term conditions such as cancer, CVD, diabetes etc (Marmot et al 1991)

Although much of the time during health checks was spent discussing lifestyle factors, some practitioners were well aware of the contribution and role of lifestyle behaviours and their links to CVD as a risk factor. This is very encouraging sign to imagine that in many cases practitioners were able to balance out the advice and referrals based on service users' needs. Here is a practitioner who believed in offering appropriate advice.

"I think lifestyle has a part to play but not the whole part, it's really a small part of the jigsaw , the big thing is social , economic, cultural and environmental factors" (Practitioner 5)

The second CMO related to M2 proposed a set of supporting factors which created enabling conditions for people to improve social circumstances which might have improved their confidence, self-esteem and control. The recently employed Community Health Co-

ordinators and Community Food & Health Practitioners also support this mechanism and work closely with KW practitioners.

CMO 1& 2

Context 1 Community engagement and Involvement	
↓	↓
Mechanisms	**Mechanisms**
M1. Lifestyle behaviour engagement activities, e.g. Food and health, physical activity, gardening and allotments in Easter Ross and Campbeltown	M2 Community social and informal groups established or linked through Third sector or NHS staff member i.e. link through Community Health Co-ordinators and Community Food & Health Practitioners
↓	↓
Outcomes	**Outcomes**
O1. Healthy lifestyle advice and referrals O2. Low risk of long-term conditions associated with unhealthy lifestyle for hypertension and CVD O3. Lack of lifestyle skills i.e. cooking, budgeting O4. Better mental health and wellbeing O5. Social inclusion and improved confidence	O1. Social inclusion and improved mental health and wellbeing 02. Better relationships and improved confidence O3. Sense of being useful part of the community O4. Community support and development O5. Opportunity to offer health checks as part of the bigger package

The third CMO configuration under this theme proposed positive outcomes (Outcome 3) through engaging people in wider social and economic and specialist advice on lifestyle factors. There is implicit evidence of wider links between the KW programme, both in Argyll and Bute and Highland, to Community Planning Partners and Single Outcome Agreements through the mechanism of employment, diversity and equality themes. These opportunities created supportive and enabling environments for KW service users to get involved within a wider circle to get individual support. The fourth CMO configuration offered a new insight to achieve better outcomes through the mechanism of threat messages. This is a different idea shared by both practitioners and service users which linked to behavioural changes by relating to a negative family or community incident. An incident in which someone from the community died due to heart disease could create a threat message for the whole community. This CMO configuration is further discussed in Mechanism 3 Outcome1 and Outcome 2 CMO configurations by comparing fun and threat messages in the behaviour change process.

The fifth, sixth and seventh CMO configurations linked to context 2 proposed negative outcomes and reasons why people might not engage with the service. M1, M2 and M3 and their linked outcomes are crucially important to describe and explain why people are not engaging with the service despite reasonable efforts by practitioners and programme leaders. The mechanism 1 proposes negative psychological thinking and its consequent outcomes

relating to fear of stigmatisation. Negative thoughts include: feeling of being stigmatised and self-stigma; belief that they do not have any health issues and that engaging with KW is a waste of time. These are seen in M2 and M3. These thoughts lead to a series of negative outcomes as observed in negative outcomes 1, 2 and 3. The psycho-social pathway of health inequalities may worsen the situation for many people who might be facing multi-dimensional health inequalities (*Dowler and Spenser (2007)*. These could include living in deprivation, facing stigma, self stigma and living with long-term conditions. The outcomes of these multi-dimensional issues could be multi-layered and produce negative outcomes.

CMO 3 &4

Context 1 continued Community engagement and Involvement	
↓	↓
Mechanisms	**Mechanisms**
M3. Engagement through wider social and economic topics i.e. employment, housing etc. M3a. Access to specialist lifestyle services	M4. Threat of being caught up with long-term illness where people relate this to a sickness event occurred in their family or community
↓	↓
Outcomes	O**utcomes**
O1. There were direct opportunities to get involved and engaged in the areas of interest. O2. Evidence of being involved in employment, housing etc O3. Specialist advice to reduce the exposure to certain risk factors	O1. The motivation of reducing risk could come with the concern of contracting CVD or another long-term condition meaning unclear O2. Engaged with the KW services O3. Referred to specialist services e.g. weight management, mental health psychological services

CMO 5, 6 &7

Context 2 Lack of engagement		
↓	↓	↓
Mechanisms	**Mechanisms**	**Mechanisms**
M1. Concern that other people in the community could come to know about their personal health issues and lifestyles	M2. A self stigma issue of living in areas of deprivation M2a. Rural areas and physical access issues	M3. Belief that there are no health issues and the involvement is waste of time
↓	↓	↓

Outcomes	Negative Outcomes	Negative Outcomes
O1. Increased social isolation O2. Higher risk of unhealthy lifestyle i.e. alcohol abuse, low levels of physical activity O3. Increased risk of long-term health conditions including CVD and mental ill health	O1. Increased social isolation O2. Risk of psychological issues, such as stress and anxiety O3. Risk of losing sense of community support O4. Increased risk of illness O5. Lack of physical access and support	O1. Less chance of getting to know about support services O2. Lack of knowledge and information about potential risk of certain high prevalent long-term conditions O3. Delay in identifying the possible risk factors

The eighth and ninth CMO (context3) proposed two mechanisms, M1 and M2, that tested community engagement in the context of behaviour change process. M1 proposed enjoyable activities and messages which were well received by a large group of KW service users and were the main triggering factors in adopting new behaviours. However, M2 proposed a different perspective through which a new behaviour is also likely to be adopted. For example if they relate a negative incident in the community or in their family to their own lives, e.g. the death of a person from stroke or heart attack. The outcome in both cases could be a new positive behaviour which might reduce the risk of CVD disease. This is illustrated by the following quotes:

"Potentially the threat of CVD led him to change his behaviour as happened to his dad" (Practitioner 6)

"He was motivated due to health risk of being overweight and obesity. He had this threat that if I continue eating too much and not doing any activity I could have CVD or diabetes" (Practitioner 1)

However, there are also dangers that threat messages could cause stress and distress some people. This needs to be considered when delivering behaviour change interventions which use or support threat messages as a mechanism of behaviour change.

CMO 8& 9

Context 3 Community engagement and behaviour change environment	
↓	↓
Mechanisms	**Mechanisms**
M1. Messages based on fun and enjoyable activities M1a. A new behaviour is likely to be adopted if messages and activities are based on fun and enjoyment	M2. Messages based on threat messages M2a. A new behaviour is likely to be adopted if messages are based on threat message in relation to a negative outcome

↓	↓
Outcomes	O**utcomes**
O1. The current project provides evidence that people respond positively to enjoyable activities and that these can improve lifestyle behaviours	O1. There is evidence that people can respond to a negative incident (e.g. a death) by changing their behaviour to reduce risk.

The tenth, eleventh and twelfth CMO configurations proposed three diverse but interlinked outcomes, for example more satisfied service users (O1) who might have improved control over their life circumstances (O2) through a systematic process of engagement and involvement by using VOiCE tool (O3) as applied in Argyll and Bute. M1, M2 and M3 achieved different outcomes for service users in the same context however it is useful to explore and explain the links and triggering factors. Each outcome achieved in these CMO configurations has a direct or indirect link to service users' meaningful involvement to improve certain social and lifestyle behaviours. This shows how different KW geographic areas applied a diverse set of community engagement tools and techniques based on the local area profile and the needs of the individuals and communities as "one size may not fit all". Survey data also provided some evidence about the intentions and involvement of services users in community engagement activities after having a KW health check. About 23% of service users strongly agree or agree that they wanted to be further involved in community based health improvement activities and 86% believed that community activities are a good way of engaging people to reduce the risk of heart disease.

CMO 10,11 & 12

Context 4 Community engagement and wider settings of engagement		
↓	↓	↓
Mechanisms	**Mechanisms**	**Mechanisms**
M1. Engaging higher risk occupational groups at work places M1a. Topic based community drop in services M1b. Engaging through community champions	M1. Engaging people using co-production and assets based approaches	M1. VOiCE Visioning Outcome in Community Engagement (Used in Argyll & Bute
↓	↓	↓
Outcomes	O**utcomes**	O**utcomes**
O1. using workplace environment O2. No stigmatisation through community	O1. Community ownership and more likely to be engaged on equal basis O2. Mutual support and use	O1. Step by step process in the design, development, implementation and monitoring of engagement

champion and workplace screening/ health checks O3. Improved self esteem and confidence	of each others' personal skills/assets might empower people and increase control over life circumstances	activities O2. Supports robust engagement process

What works?

4.8.3 What works, for whom, how and in what circumstances?

What works

1. Lifestyle behaviour change health improvement activities which take into account wider social determinants

2. Social, community-based, workplace based, community champion and community drop in activities are useful ways of engaging vulnerable communities

3. Community-based co-production and assets based approaches are very useful mechanisms of engaging people in a non-judgmental environment

For whom

Service users, practitioners, Third sector organisations, programme leaders and policy managers

How

1. By setting up new change groups, recruiting volunteers, developing champions, peer educators, collaborating with community groups, working with individuals and supporters

2. A robust community engagement tool should be used which could offer a step by step process to design, develop, implement and monitor activities e.g. the VOiCE tool used by Argyll and Bute

In what circumstance

1. When community groups are willing to support and work with multi-agency organisations

2. When volunteers, community champions and peer educators are available to work and support the programme

3. When appropriate time and resources are available for practitioners

4. Management commitment and regular support

4.9 Keep Well Health checks

4.9.1 Initial CMOCs under test

Aspect	Context	Mechanism	Outcome
Aspects KW Health checks **Theories** Clinical health checks are useful interventions to reduce the risk of cardiovascular disease and to improve health among people living in areas of deprivation Universal cardiovascular health checks are unlikely to impact on cardiovascular disease outcome including mortality The problems of rurality decrease the opportunities of engagement, increase accessibility issues which could impact negatively in tackling health inequalities	Medical health checks through invitation letter Health checks at GP practice Health Checks at a community settings Health Checks at community hospital or pharmacy	GPs/practice nurses, Community based clinics Pharmacies, Community nurses, health improvement advisers and health care support workers promote health checks using wide variety of approaches. Belief that health checks are an effective way of identifying at risk patients for early intervention Partnership and collaborative working may have helped vulnerable groups to perceive services positively Referrals from Third sector and range of health service providers may have created trust Direct offer of health checks could deter many people Belief of the people about health checks Patients may have preferred venues for health checks for e.g. GP practice over community settings	Improved outcomes for a range of long-term conditions i.e. cancer, diabetes and mental health. Early identification of cardiovascular disease Identification of CVD risk factors e.g. unhealthy lifestyle, BMI, family history, mental health problems, high blood pressure and cholesterol. Improved mutual trust and confidence between delivery partners might have helped and improved clients' perception of KW services No robust evidence of KW programme which shows overall impact and outcomes related CVD morbidity and mortality or health inequalities Improved trust and confidence of patients, improved self efficacy Easier physical access for people. There might be stigma around

		Community based clinics may offer easier physical access GP based Keep Well clinics could improve trust and confidence	CVD/sickness especially against community based clinics Improved confidence means more at-risk patient coming forward for health checks.

4.9.2 Refined CMOCs after testing

There was no evidence to suggest that health checks are an effective way of improving health and wellbeing, reducing CVD and tackling health inequalities. There was general consensus among stakeholders that KW health checks could be one of the initial engagement opportunities and could identify some people with higher risk of CVD, offer support and onward referrals. The first and second CMO configurations under this theme explored in detail the different aspects and perspectives to propose mechanisms and outcomes to understand the theories which underpin the whole health check environment.

CMO 1 &2

Context 1 Belief about KW health checks	
↓	↓
Mechanisms	**Mechanisms**
M1. Practitioners and management believed about health checks that it is an opportunity to engage people	M2. Belief that KW Health checks alone could not tackle health inequalities
↓	↓
Outcomes	**Outcomes**
O1. Initial engagement process O2. A potential opportunity to involve vulnerable groups in more meaningful ways using health checks as a bridge O3. Potential for early intervention O4. It is a proxy measure of cardiovascular disease	O1. Could victimise people especially if booked through PBS O2. Generated incorrect perception that health checks could tackle health inequalities

The first and second CMO configurations explored relate to what people believe about health checks. It was important to understand the belief of practitioners and management about the basic unit of KW services as the whole national KW programme was built on the understanding that health checks might reduce CVD and tackle health inequalities. However,

this seems not to be the case in Highland as M1 and O1 proposed this intervention as an initial engagement process which may provide opportunity for early intervention for further intense and wider interventions. M2 proposed negative outcomes and confirmed that the direct health checks might victimise many people. No evidence or association was found to tackle health inequalities.

The third and fourth CMO configuration (context 2) explored and compared the advantages and disadvantages of organising health checks through Patient Booking Service (PBS) and through community engagement processes. This CMO configuration proposed community engagement mechanism, M1, as an ideal approach for most service users. A chain of positive outcomes can be observed under outcome 1 which seems to show explicit and meaningful benefits.

However, M2 proposed negative outcomes in most cases as practitioners and services users believed that offering health checks by invitation letters could stigmatise and create a threatening environment. It is more likely that many service users in targeted areas, especially those who are vulnerable and living in deprivation may not relate health checks to their health and may not contact the service for an appointment. This behaviour is more prevalent among people living in more deprived households and is consistent with the previous evidence (Killoran et al 2007). However, more affluent people may come forward and take advantage of the health checks. Therefore, there is the danger of increasing the health inequality gap if PBS is used as the only method of contacting potential service users. This is how a practitioner described this phenomenon;

"I think the hard to reach people when they get letter in the post they probably bin it and will not respond to it as they don't see the value" (Practitioner 2)

CMO 3 &4

Context 2 Health checks through invitation letter and community engagement	
↓	↓
Mechanisms	**Mechanisms**
M1. Community engagement process	M2. PBS Invitation letter
↓	↓
Outcomes	O**utcomes**
O1.Useful in meaningful involvement O2. Supported and enabled service users to try diverse health improvement activities O3. Triggered people to think about CVD and its risks O4. Evidence of use of assets based and co-production approaches O5. Non judgemental, non-stigmatising and non-threatening environments created supportive conditions	O1. PBS is not very useful for many people living in deprived areas as they are less likely to pick up the phone and book an appointment. There are many reasons for this, e.g. they see no benefit in it, lack of confidence and trust about a service that they have not seen or observed O2. Less deprived people living in these areas have come forward which means we may improve health of the affluent

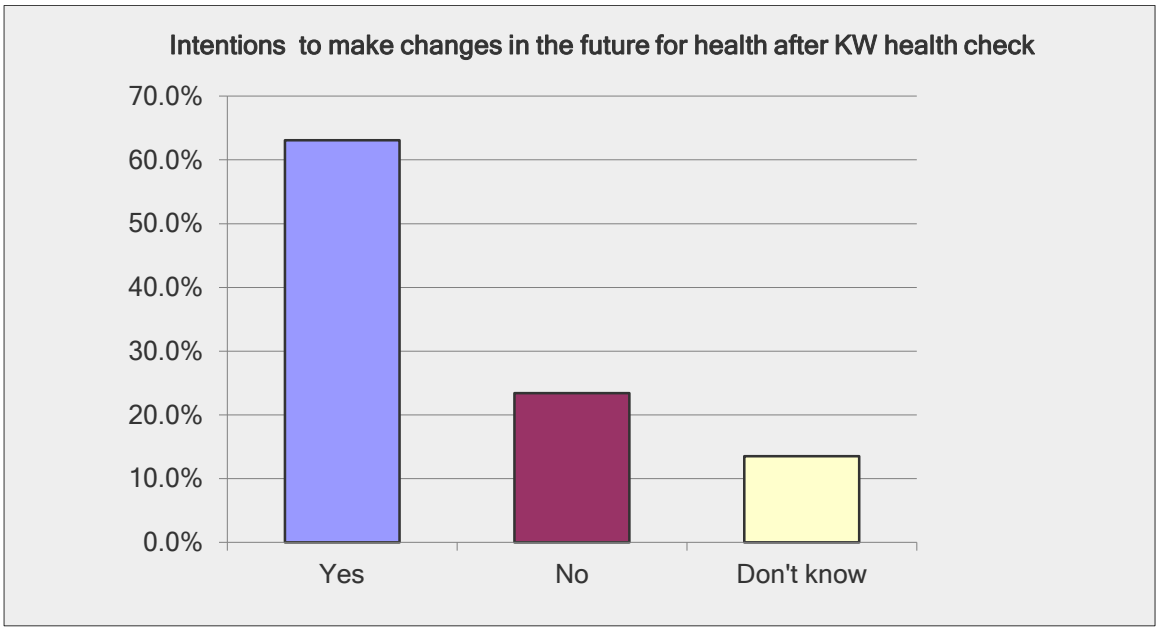
O6. More chance of involving eligible people O7. Evidence of more holistic approach	population thereby increasing the health inequality gap O3. Hard to reach people may not book appointment and may not value the KW service O4. There were many incorrect addresses O5. Perception by vulnerable people that Keep Well health checks are linked to welfare reform O6. Danger of widening the health gap

In addition to this, in rural settings it is difficult to stratify the low income and deprived households even if the SIMD was used to select KW intervention areas. In many rural areas a post code covers a large geographic area and vulnerable populations may not live in concentrated areas as in urban locations. Another potential negative outcome proposed through this mechanism was the belief among service users that this is an effort to stop their welfare 'benefits'. This belief could be a triggering factor for service users to not come forward for health checks. This was confirmed by most practitioners:

"I have actually one or two people who have said they did not want to come for health checks because they believed that their benefits will be stopped". (Practitioner 4)

The fifth, sixth and seventh CMO configurations relate to the KW health checks environment context. M1 is about lifestyle factors which dominated the overall health checks environment and most service users were offered comprehensive lifestyle behavioural advice. This was also confirmed in the survey and reported above in Figure 8 and 9. There is clear evidence through in-depth interviews and survey results to show range of positive outcomes for services users as shown in the O1. This evidence is not new but consistent with other evaluation studies and is process oriented. It was difficult at this stage of the KW programme to conclude whether or not people would be able to continue this initial positive change in behaviour. A closer look at the survey data showed approximately 63% of people intended to continue this behaviour in the future and 23% did not intend making any changes after KW health check (Figure 11). This is an encouraging sign which could contribute towards reducing CVD and tackling health inequalities to some extent.

Figure 11: Percentage of service users and their intention to make future changes for their health



Mechanism 2 relates to advice on social determinants which was offered to fewer service users as can be seen in the survey data (see figures 8 and 9). There could be two main reasons for this. Firstly, service users may not feel comfortable discussing more personal and social issues especially if their appointment was made through PBS as they may not have established a relationship with the practitioners. Secondly, practitioners may lack confidence as observed during in-depth interviews where some practitioners did not feel fully confident in dealing with service users' wider social and cultural issues. The outcome of this mechanism was more promising as it is linked to targeting the real cause of the issues which in many cases were social, economic and cultural events happening in service users' lives.

In relation to this, there was an interesting discussion about the level of holistic health enhancement approach applied in the KW health checks environment. Practitioners and partners believed that GPs may not be able to offer this approach due to a number of reasons including GP consultation time, their belief in the approach and preventative care practice. For instance practitioner 5 said:

"The holistic approach nowadays is seen as a luxury , GPs would say they can't afford this approach , also preventative approach is very difficult to measure impact , for political leaders it could be good option"(Practitioner 5)

"The difference is 45 minutes time in an informal and non-judgemental environment where…"(Practitioner 5)

Some practitioners also raised questions on the application of holistic health approach. This varied across the areas, for example Easter Ross KW team seem to be more satisfied in the application of this approach than other areas but, an overall assessment showed the approach

was not applied in a robust way. This is how a practitioner commented on the question of a holistic health approach;

"Holistic health approach was not rigorously followed rather a weak approach of direct health checks was followed". (Practitioner 6)

Practitioners believed that the right way of applying a holistic health enhancement approach is through community and the Third sector rather than a clinical environment which may deter many service users. This is especially the case for service users living in areas of deprivation who may have low confidence and low self esteem when interacting with powerful clinical staff in their clinical environment. Practitioner 3 described this in these words;

"Holistic health improvement Keep Well programme should be delivered through community based or third sector services not through hospital or clinical environment" (Practitioner 3)

CMO 5, 6 & 7

Context 3 Health Checks Environment		
↓	↓	↓
Mechanisms	**Mechanisms**	**Mechanisms**
M1. Lifestyle discussions and advice M1b. Perception of threat message that by continuing unhealthy diet or unhealthy lifestyle one risks CVD or diabetes and cancer	M2. Social determinants advice M2b. Wider knowledge by practitioners about SDH and the available links in the community and services	M3. General health check environment and communication
↓	↓	↓
Outcomes	O**utcomes**	O**utcomes**
O1. Increased awareness and understanding about the available resources within public and voluntary sectors to support and create enabling environments O2. Signposting to appropriate services based on individual needs O3. Healthy lifestyle behaviours adopted i.e. Involved in sports and local walking groups, healthy eating O4.Significant weight loss sustained	O1. Referrals to specialist wider services i.e. housing, employment , mental health O2. Individuals can trust practitioners through an informal social environment O3. Wider perspectives considered to deal with individual problems	O1. Positive practitioner behaviour and appropriate time allocated to service users resulting in greater satisfaction and a trust-building environment O2. Friendly and informal environment led service users to share relevant issues without any fear of stigma or intimidation O3. Service users felt relaxed and listened for any question and clarifications which means further ongoing engagement

O5. Referrals to specialist lifestyle behaviour change services i.e. smoking cessation, food and health		

The M3 relates to the general environment where the health check is carried out. Service users seem to be satisfied with the overall health check environment as seen in the O3, they believed that there was a friendly and supportive environment, appropriate time was given to discuss all queries and practitioners answered clearly the questions they had about their health and wellbeing. Survey results showed similar results which appear to support the argument that KW practitioners achieved positive outcomes from health checks by creating a satisfying, engaging and enabling environment for service users. As seen in table 18 below a large majority of respondents were satisfied with health checks with the exception of the statement about referrals which shows a mixed response.

Table 18: Experience of service users during Keep Well health checks

	strongly agree/ Agree (%)	Neither agree/ nor disagree(%)	Disagree or / strongly disagree(%)
I felt at ease	95.4	2.7	1.9
There was a friendly atmosphere	96.9	2.7	0.4
I was listened to	94.5	3.9	1.6
Things were explained clearly to me	93.4	5.4	1.2
Any health queries that I had, were answered clearly	84.1	14.3	1.6
I was given useful information about my health	83	14.6	2.4
There was enough time for me to discuss any health concerns	89.4	8.6	2.0
I was referred to appropriate services	45.2	46.7	8.0

The eighth CMO configurations proposed that a target-driven environment results in both negative and positive outcomes. Most practitioners were critical of the targets and believed that they could undermine the application of a holistic health approach. A target-driven approach may result in a low quality of service as practitioners focus on doing as many as health checks as possible to achieve management targets. This is observed under negative outcome 1. However, a more supportive view comes from some practitioners who believed that there should be some targets to keep practitioners focussed on health checks, because there is sense of achievement among practitioners and it could allow management to monitor performance as observed in outcome 2.

CMO 8

Context 4 KW Health checks targets	
↓	
Mechanism M1. Target driven environment	
↓	
Outcomes	
Outcomes O1. Reasonable targets may help monitor performance O2. Practitioners may feel a sense of achievement	**Negative Outcomes** O1. Lack of holistic health approach as practitioners focus more on achieving targets O2. Quality of delivery may have been compromised

4.9.3 What works, for whom, how and in what circumstances?

What works?

1. Health checks are an important initial engagement on a more meaningful journey which could form a holistic health enhancement approach

2. Health checks delivered through community engagement processes could yield better and more meaningful results due to (1) the non-stigmatising, non-threatening and relaxed community-based environments in which they are delivered, and (2) engaging with trusted practitioners which whom service users can engage

3. Perception of threat messages could lead to positive lifestyle behavioural changes

4. Well-balanced, needs–based advice and referrals for lifestyle issues and for the social determinants of health are fundamental to achieving better outcomes

5. A non-target driven environment could improve quality and achieve holistic health enhancement approach

For whom

Programme Managers, practitioners, policy makers

How

1. The KW programme engaged in robust community involvement process and engaged communities in co-production and assets based approaches

2. Practitioners are highly knowledgeable and skilled in relevant topics and principles of public health practice.

3. When people are not directly invited for health checks through PBS

4. The threats of target- driven environment should be avoided

In what circumstance

1. When community engagement is an ongoing process and practitioners are fully resourced

2. Communities are willing to be involved

3. Management is willing and understands that community engagement processes could take longer to develop and implement.

4. When management commits resources

4. Multi-agency partners support the delivery of the KW programme

4.10 Referrals

4.10.1 Initial CMOCs under test

Aspect	Context	Mechanism	Outcome
Referrals	Keep Well referral policy and criteria established and implemented Formal or informal referral partnerships agreed Community lifestyle change referrals are a regular ongoing activity	GPs/nurses refer patients to Keep Well Programme Satisfied clients might recommend the benefits of Keep Well Programme to others Professionals might be negative about the Keep Well programme and would not refer their clients. They might not be aware about the criteria and policy of the Keep Well referral system	Increased referrals from GP/nurses More self referrals No or fewer referrals from professionals Service users engaged in the process

4.10.2 Refined CMOCs after testing

The first and second CMO configurations in this theme proposed both negative and positive outcomes by comparing the negative outcomes in the absence of contractual agreement with informal referrals which were mainly made through practitioners' personal contacts. Practitioners shared their frustration at not being able in many cases to refer KW clients appropriately to specialist services. This has a clear negative impact for the programme and service users. This point was confirmed through survey data which showed only 45.2% of service users either strongly agreed or agreed that they were appropriately referred as

compared to 46.7 % of respondents who neither agreed nor disagreed and 8% who either strongly disagreed or disagreed.

Community mental health and psychological services were the two main specialist services identified by practitioners as not having a clear referral strategy. While practitioners faced frustration at the absence of a clear referral strategy, some practitioners used informal routes to refer clients as seen in M2 and outcome 2. This route was more successful for community based and primary health care referrals especially for lifestyle behavioural changes for example referrals to smoking cession, diet and nutrition, physical activity. Therefore, the CMO configuration through M2 and O2 provided some evidence of success in terms of service user engagement and satisfaction through the mechanism of informal referrals to various services

CMO 1&2

Context 1 KW referral system	
↓	↓
Mechanisms	**Mechanisms**
M1. No formal or contractual agreement to refer KW service users to specialist services	M2. Informal referrals to range of lifestyle specialist services M2a. Evidence of KW referrals for social and economic advice M2b. Practitioners used personal professional relationships to refer service users
↓	↓
Outcomes	O**utcomes**
O1. Little or no service user satisfaction O2. Missed opportunities as there was little or no onward arrangement for specialist advice within a reasonable time period O3. Some practitioners may have been successful in motivating specialist services to treat KW referrals O4. Lack of positive patient outcomes expected when there is no community based social services referrals or systematic referrals strategy in place for the programme O5. No evidence of increased number of referrals to or from GPs	O1. In some areas there is some evidence of a systematic approach to referrals. for example in Argyll and Bute and Easter Ross evidence suggests that KW Practitioners referred clients to a range of community services as a social prescription and also to more formal services like physiotherapy, podiatry, dietetics. However, there are no formal agreements or contractual arrangements between KW and other services. It is only ad hoc and needs based referrals O2. Referred clients may have better health improvement opportunities and more systematic and planned arrangements to reduce the risk of CVD. O3. Satisfied service users played an advocacy role for KW programme in the community. Evidence of self referrals reported by services users and practitioners

4.10.3. What works, for whom, how and in what circumstances?

What works?

1. Practitioners used personal professional relationships to refer services users to specialist services

2. Informal referral routes were particularly effective for lifestyle behaviours.

3. Referrals in some areas through informal referral routes was a good local strategy

For whom

Practitioners, service users, KW programme leads and partners

How

1. Practitioners' professional relationships, local mapped knowledge of community based and lifestyle services might have played a significant role in the success of lifestyle referrals

In what circumstance

1. When all relevant partners, public, private and Third sector organisations contribute and agree a mutual referral support system

2. When KW staff are willing to develop and implement a new referral system

3. When management believe in the system and trust the value added services delivered by the KW programme and partner organisations

4. Management is willing to support and provide resources

4.11 Service user satisfaction and experiences

4.11.1 Initial CMOCs under test

Aspect	Context	Mechanism	Outcome
Service user satisfaction and experiences	Keep Well staff work with individuals to develop their own strengths and self efficacy There are community assets which can be effectively used to support and empower individuals i.e. local libraries, local self help groups, local gardening groups,	Primary health care settings are well used Established links between community and professionals Partnerships developed, Third sector and community involvement mechanism might be	Increased awareness about health risks and options for change Individuals are satisfied with the services provided Increased empowerment, reduced anxiety, isolation and dependency

	walking groups, social groups	playing positive role Use of asset –based, participative and co-production approaches might have helped patients and clients improve self efficacy and confidence Focus on social determinants rather than only behaviour change KW and health improvement and community based organisations established networks and social groups to enable people to access local health improvement activities	Identify high risk patients and support them to take control of their own lives Identified people taking responsibility of their own health Primary care settings less reluctant to become involved Better trusted relationships between service users and service providers

4.11.2 Refined CMOCs after testing

The first and second CMO configuration under this theme proposed a series of benefits for service users through a set of 6 mechanisms presented in M1 and M2 boxes. The outcomes achieved through both mechanisms are the same which is why they are presented under O1. Improving lifestyle behaviours and empowering service users to support them to take control of their own circumstances might play a significant role in the journey of their health improvement and helping them to prevent exposure to risk factors. The set of outcomes achieved under these mechanisms could be logically seen as a step by step process, as acceptability of the KW health checks and satisfaction of the service users could be seen as the first step to engage them in the process. This could have led to gaining service users' trust for long-term engagement. This is the process through which they could become potential advocates of the KW programme in the community which might also help to increase satisfaction. Lifestyle behavioural improvement and empowerment dimensions are the starting point for these individuals. This initial engagement process could lead to further improvement in life circumstances which might then link to a reduction in both CVD and health inequalities.

There were clear indications from the survey data (figure 6 above) and from in-depth interviews that new healthy lifestyle behaviours were adopted. For instance service user 7 said;

"Yes, I stopped smoking as the result of keep well health check and started walking and get involved, that has given me good feeling and I am feeling better, in control and that makes sense to me". (Service user 7)

Practitioners used different strategies to influence people to start thinking positively, some of them are simply providing advice which could get them to realise and feel positive about their own assets. This is one of the psychosocial mechanisms that people might adopt and feel empowered. This is how a practitioner shared her thoughts about service users' empowerment and confidence:

"I don't actually empower patients; I think sometimes people have negative thinking about things which kind of is a mental block. I think people have different views for example a patient recently said I don't do exercise. I said you do your house work that's your exercise be positive about this and continue doing so. Drawing people's attention to this kind of positive thinking is really empowering them so that they build trust and confidence" (Practitioner 1)

CMO 1 & 2

Context 1 Targeted low income and deprived communities, service user satisfaction and empowerment	
↓	↓
Mechanisms	**Mechanisms**
M1. KW Holistic health checks M1a. Informal, relaxed community based environment for health checks and activities M1b. Appropriate and timely onward referrals	M2. Community engagement and involvement , primary care involvement M2a. Use of assets based and co-production approaches M2b. Local multi-agency joined up working
↓	↓
Outcomes	O**utcomes**
O1. Service users' acceptability of the KW health checks and positive goal oriented actions O2. Evidence of service user satisfaction and meaningful engagement O3. Limited evidence of self referrals for health checks in some areas	O1. Evidence of service users' improved lifestyle behaviours and empowerment O2. Better relationships between service users and service providers

4.11.3 What works, for whom, how and in what circumstances?

What works?

Holistic health enhancement, assets based, co-production, community engagement, multi-agency partnership approaches

For whom

Practitioners, KW programme, partner agencies, service users, policy makers

How

1. Practitioners and local KW leads applied relevant knowledge and skills

2. Robust planning, organisation of resources and appropriately and timely delivery of need-based services

3. Joined up or partnership working

In what circumstances

1. When supportive and enabling environments are created for service users

2. When partners and community volunteers are actively engaged

3. When services are co-produced and services are valued

4. When there are improved relationships between users and providers

Chapter 5 Challenges, strengths and weaknesses of the study

5.1 Overlapping issues in the development of refined CMOCs

In the current study **t**here were a number of CMO configurations which overlapped both in terms of mechanisms and outcomes. In some cases it was not possible to show only one mechanism and linked outcomes because of the possible influence of multiple mechanisms and event contexts. The fact that an outcome could be achieved by a range of contextual influencing factors and mechanisms is sometimes complicated and there were intricacies, but the CMO refinement process tried to make the links as clear as possible. However, it was not possible in all cases because an outcome could be achieved by using different methods. For example this is very similar to reaching a destination using many ways. The time and distance covered and even the use of energy could also be the same. The only difference is a different path, a different way or a different environment to reach to the same destination. The same principle can be applied to overlapping areas in the CMO connections. It was also important to show and present all the probable mechanisms through which an outcome was achieved or could be possibly achieved. In more explicit terms lifestyle modifications can be achieved through social marketing campaigns and also through direct community engagement or face to face interactions with clients. However the context and the type of target audiences direct which mechanism of behaviour modification is suitable, effective, efficient, ethical, acceptable and sustainable.

5.2 Strengths and Weaknesses of the study

Strengths

1. The evaluation study used a multi-method approach to validate information and raw CMO configurations. The majority of the refined CMO configurations were confirmed by using multiple data sources that included in-depth qualitative interviews, survey, observations, KW Albasoft data and project papers including performance reports, meetings, emails, and minutes of meetings etc.
2. The foundation of SRE is based on the methodology of realist philosophy of science and links back to natural sciences. The SRE framework translates the social sciences' conceptualisations into the world of health policy and practice. This is a view which brings these concepts to human endeavours using natural science laws in an explicit way. In doing so, SRE focuses on theory and the scope for generalisation and replication that comes from giving more attention to explanatory theory where it is possible to generalise outcomes with a degree of confidence.
3. This evaluation study is based on an initial literature review and raw theory developed through relevant literature assessment and focussed on different aspects of the KW programme. The initial literature review and raw theory development process informed the whole process of data collection and theory development and refinement. This systematic process also reduced the risk of unexpected outcomes especially in the process of qualitative data gathering.

4. The framework used in this evaluation is based on a generative process of causation rather than a successionist approach. The generative process means stakeholders' internal powers, liabilities and influences were considered as well as external influences. The study tried to answer questions such as how it happened, why it happened and in what circumstances it happened and what worked, for whom, how and in what circumstances.
5. One of the major strength of SRE is that it moves away from an over-reliance on quantitative methods. By working on the influencing factors and contexts in which they are triggered to things to happen, it is possible to identify specific conditions or outcomes that are unsuitable. For example if, despite rigorous efforts, practitioners are not able to engage the most vulnerable groups then we might need to avoid negative triggers such as issuing invitation letters through PBS and to apply other methods to engage these vulnerable groups. This was the approach used in Easter Ross.

Weaknesses

1. In an ideal SRE approach, the survey should have been conducted after the qualitative part has been completed and theories refined and updated. This would have provided most relevant information to further refine, validate and triangulate the evidence.
2. The SRE is an innovative and holistic theoretical approach but there are complications in translating this into practical research. The confusion between contexts and mechanisms was overwhelming and required more time to brainstorm and explore more evidence. In some thematic areas there was a lack of evidence to refine theories due to lack of information on the theme within the project. For example CMO configurations under the social marketing theme might not be as rigorous as under the community development and engagement themes because of the strength of the available information.
3. In applying SRE to more complex and fluid systems, such as tackling health inequalities in cardiovascular disease, there were difficulties in terms of identifying and defining clearly the thematic contexts and mechanisms. In some cases there were multiple contexts and mechanisms which acted as triggering factors. Similarly there were outcomes which could be linked to multiple mechanisms and contexts. There was no solution to this difficulty and it may continue to frustrate practitioners in the public health field.
4. It is better to apply SRE to small scale projects and less complex areas, especially if time is a constraint because SRE is labour intensive and time-consuming and could be complicated for large scale interventions like Keep Well.
5. SRE is too demanding a framework; it is tedious and cumbersome as every step must be linked to another step. There are various aspects which require thorough understanding and interpretation is subject to evaluators' analytical vision, knowledge, and imagination to develop clear understanding and appropriate links. It requires sustained thinking and imagination to work through programme theories, to define expected outcomes patterns, and to figure out ways and means how and where

to get information to test them. The whole process is not easy; it requires advanced theoretical understanding and the ability to handle multi-method data analysis and interpretation.

Chapter 6 Discussion, recommendations and reflections

6.1 The process of causation

Evaluation is about understanding the difference made by interventions for stakeholders. At the end of an intervention we ask; did it work and did it make the service users healthier, wealthier, safer, etc. By doing this, an attempt is made to demonstrate causal relationships between interventions and outcomes, by using some kind of framework or theory. It is that framework or theory which tries to evidence the scientific logic to demonstrate the causation process to help stakeholders and academics understand how the difference was made. There are two main scientific theoretical processes, 'secessionist' and 'generative', to explain the causation process. Secessionists follow the logic of experimentation and quasi-experimentation famously known as the 'classical experimental design'. The logic can be easily understood by following figure 12.

Figure 12: Classical experimental design representation

	Pre-test	Treatment	Post-test
Experimental group	O1	X	O2
Control group	O1		O2

The basic idea of the classical design is the random allocation of subjects to experimental and control groups (O1 in the figure above) and intervening with exposure to the experimental group (as x marks intervention) but not the control group and the application of pre-treatment and post-treatment measures in order to compare the change in the two groups (O2). At the end any behavioural differences measured are believed to be the treatment effect. The researcher applies the regime of control, manipulation and observation which means no more information is required to extrapolate that cause and effect are linked. The process of treatment and outcome links means the causation process is only 'external' which means we cannot observe certain causal forces at work (Pawson and Tilley 1997). There is no consideration of stakeholders' powers, and liabilities. These powers and liabilities of programme stakeholders are deemed important in scientific description as well as in everyday life because we can make sense and link them to various outcomes achieved in a logical way (Pawson and Tilley 1997).

The generative theory is based on the concept that there is a real connection between events and in order to define the process of causation, there is a need to understand these connections. The events are not merely the outcome of input and output but complex

phenomena of events and forces at work (Pawson and Tilley 1997). There is a need to explore and explain all the forces, powers and liabilities of stakeholders in systematic and logical ways rather than only considering the programme inputs and outputs as the key factors. For example empowerment, self efficacy and control among KW service users has been achieved not only as a result of the KW programme itself. It is not a scientific explanation to say that the KW programme is successful because particular interventions and specific resources were applied. It is also necessary to consider the influencing factors which triggered service users, practitioners, managers and policy makers to adopt a particular behaviour or to act in a specific way in order to make things happen. These triggering factors could be community development and engagement activities, lifestyle behavioural interventions or even smaller units of these factors e.g. the cooking skills sessions, growing, food and health activities in Easter Ross and Argyll and Bute. They may be referrals to specialist services e.g. mental health or smoking cession, alcohol brief interventions. So the generative process not only explains the external factors such as the programme itself and its various inputs, it also considers the 'internal' triggers. These 'internal' triggers might be the specific efforts of the stakeholders to organise a range of developmental activities and how these activities were planned, implemented and regularised.

The assessment of these 'realistic' activities in a logical way is important to get to the point of understanding the causal process which might have led to achieve certain outcomes through a specific mechanism under certain conditions. In brief the generative theory sees the causation process as 'internal' as well as 'external'. An outcome achieved may well trigger another outcome to happen under the right conditions, in the right time, place or circumstances. This is what SRE offers using a generative process of theory development.

6.2 Assessment of multiple interdependent factors

SRE is a robust theoretical framework which helps in understanding and making causal links through developing and refining theories in a systematic way. In the current evaluation, rather than assessing selected components of the programme, all major components were assessed with the exception of clinical aspects. The reason for not assessing the clinical aspects was because they have been evaluated in other Keep Well evaluations. This evaluation focussed attention on assessing the process of wider community based holistic health enhancement approaches and their possible links and impact on reducing cardiovascular disease. In fact a holistic health approach is one of the main aims of the NHS Highland Keep Well programme as described in the background section of this report. To draw a clear picture and to show the real footprints of the programme it was important to include all its main components to thoroughly measure interdependent factors and influences to map mechanisms applied in order to achieve specific outcomes. Keep Well is a complex, intricate and sensitive intervention because of its focus on cardiovascular disease inequalities. There are so many dimensions and components which have intricate links, and direct and indirect connections. These links and connections could not be understood by studying them individually and in the context of other components. Many components directly or indirectly influence outcomes. Therefore, to understand their mechanics and triggering factors it was essential to investigate, explore, describe and explain them in the context of all possible and relevant variables and

dimensions. Some components of the programme have multiple links and influences which contribute to the process of achieving a specific outcome. It is a fact that no single programme component could achieve improved outcomes without the influence and trigger from another component and this process could continue to happen across multiple influencing factors. It is this point or triggering factors that were explored, identified and reported by making explicit connections. Therefore, the observation of all the main components and factors within the operating environment were fundamentally crucial to assessing and evaluating outcomes to answer critical questions such as why it happened, how for whom and in what circumstances?

6.3 Raw theory development

SRE starts with the process of developing raw theories from carefully selected relevant literature. For this study 11 national and regional evaluation reports, NHS Highland's KW programme papers and logic model were included in the process. Due to the complex nature of the KW programme, time constraints and large data sets, the reports were not particularly thematically analysed by using any specific framework. This could have confused the initial theory development phase, because the NHSH KW raw theories were mainly based on the logic model's broader thematic topics and there was danger of too many themes appearing during thematic analysis. Shortlisted and selected literature was thoroughly read using close reading and rereading techniques with the aim of organising theoretical statements under broader concepts (Pawson and Tilley 1997). Ideas and concepts were developed in the process of reading and rereading. This process was labour intensive, but provided valuable insight into the KW programme theories as a first picture of the complicated jigsaw. There were hundreds of theories in the literature and the first challenge was to organise them into a logical format under various thematic concepts. The SRE framework helped to overcome this challenge as it provided a clear structure to shape the theories in a systematic and sensible manner in CMO framework. The theories presented in table format in the results section were the first logical picture organised under various thematic topics. To make it clearer, the aspects were added as thematic headings and all possible theoretical statements presented under the aspect boxes to make logical connections of context, mechanism and outcome formula. The corresponding picture of context, mechanism and outcome shows abstract links to each other. At this stage there were unconfirmed connections between context and mechanism and between mechanism and outcome. This is why the explicit links were not shown as presented in the refined CMO configurations. The abstraction of theory development process is a useful concept discussed by Pawson and Tilley (1997). It was an important strategy as at this stage it was not clear which mechanism leads to which outcome. There was more than one mechanism and in some cases more than two or three mechanisms which were possibly linked to specific outcome(s). Abstraction provided flexibility to deal with these unclear links with a degree of confidence that this issue will be dealt when the theoretical testing process is complete.

6.4 Thematic discussion

6.4.1 Management information system

Modern information technology plays a crucial role in health care service delivery. The need for, and the potential of, modern information technology to improve health care systems are recognised across the world. The Scottish Government's "Better e-Health Better Care strategy 2008-2011"(Scottish Govt. 2008) sets out a vision of the power of electronic and digital information to 'help ensure that patients get the right care, involving the right clinicians, at the right time, to deliver the right outcomes'. This could only be possible if improvements in information management systems are brought in at practice level. The KW programme in NHSH provided this opportunity in partnership with NHSH IT department. The underlying theory is that improved, faster and easier to use MIS is helpful in the effective and efficient delivery of high quality KW services. It could reduce wastage of time; improve confidentiality and satisfaction levels of staff and patients. Manual systems were replaced with an e-pen technology which transfers all service user data through pen-pusher (Pen pusher is IT equipment which connects e-pen and transfer information on to the system) into the system. Practitioners' initial views about the usefulness of the e-pen were mixed.

The CMO configurations presented this response in which discussions with practitioners showed that there is lack of evidence to support the argument that the new e-pen system improves confidentiality, reduces practitioners' data administration time, satisfy service users and empower practitioners. There was some frustration among practitioners about the slow process of implementation which was mainly due to internet connections especially in rural areas and time taken to transfer data through the pen pusher into the data management system. However, despite these issues practitioners also believed that these challenges were to be expected when new technology is being developed and introduced. Practitioners agreed that the electronic pen system was better than a manual system in terms of data reliability and quality; this will be helpful for the KW programme in the future. It is expected that once the transitional phase from a manual to the e-pen system is completed, there will be improvements in the system which could contribute to saving time, increasing availability of high quality and reliable data for future planning. This could also empower practitioners by improving confidence in the new data management system.

6.4.2 Social marketing-raising awareness about KW services and their profile

Social marketing of KW services was not a preconceived theory within the initial theory development process. During initial CMO configuration this idea came up unexpectedly during the literature review and in discussions with local KW practitioners because of its potential to increase the number of eligible clients and raise the profile of the KW programme among communities and professionals. Social marketing about healthcare services to reach specific targeted communities and increase the number of users has an established evidence based practice in many health topics (Hastings 2007). Some examples of this practice include public health programmes which are applied to modify service users' lifestyle behaviours: for example smoking cessation programmes, diet and nutrition and physical activity promotion

programmes and, most recently, promotion by health protection departments of various screening programmes (Hastings 2007). Social marketing is also equally important in raising the profile of KW and increasing access to its targeted audiences. The KW programme is not targeted at everyone, it has specific vulnerable target groups and specific geographic areas which match well with social marketing's principles of product, place, price and promotion. One social marketing strategy is called 'niche marketing' and it could have been very useful for local level KW marketing campaigns. In NHSH there is some evidence of social marketing being applied to the KW programme especially in Easter Ross and Argyll and Bute in the form of publicity, group sessions and distribution of print materials as shown in the CMO configurations. These campaigns were also unconsciously linked to lifestyle community engagement and partnership development activities which provided a mechanism for improving service users' and professionals' confidence. This is an unexpected outcome through a mechanism which was not probably intended to make this link to establish useful system of partnerships. These partnership and networking systems supported the KW programme to flourish. However, due to the absence of specific social marketing guidelines, a local social marketing strategy, training for staff, and financial resources the programme could not deliver consistent and organised advertising and publicity campaigns. This might have resulted in missed opportunities to target the right audiences at the right time and in the right place.

6.4.3 Accessibility, engagement and advice

Healthcare programmes always anticipate and plan service users' access to services (Killoran et al 2007). This is the most important service delivery dimension which goes through a robust and rigorous scrutiny and planning process. The NHSH Keep Well programme model differs from the national guidance and from other NHS Health Boards' delivery models. The delivery of the health checks in NHS Highland was mainly through community-based settings. The CMO configurations provided a comprehensive picture of access to health checks through various routes and discussed the merits and demerits of each setting. The suitability and provision of health checks to targeted audiences depends on the overall philosophy of the programme. The KW programme in NHSH was based on offering a holistic health enhancement approach as opposed to only delivering a health check with the intention of identifying high risk service users. Therefore, service users' access to the KW programme services was planned and organised in keeping with the philosophy of the programme in NHSH. It is for this reason that multiple options were tested in different geographic locations to explore which options provide better outcomes for service users.

Three main mechanisms of access to health checks were identified: (1) community-based health checks, (2) health centre-or hospital-based clinical environments, and (3) GP practice based environments. The most promising setting seems to be community-based environments which offer service users more useful time, informal discussion with practitioners, informal non-clinical settings, non-stigmatising and non-threatening environments. The community-based environment provides relaxing, trusting and confidential social environments in which service users can ask questions, clarify doubts and relate the community social environment

to their own circumstances. All these features offer practitioners ideal conditions to apply a holistic health enhancement approach using co-production and assets based approaches to improve self-esteem, confidence and self efficacy which could empower service users to improve control over their own circumstances. Access to a suitable and appropriate community venue which could satisfy service users increases the chances of further engagement and advice from KW practitioners and onward referrals. This initial connection could be used further along the journey of achieving holistic health enhancement for the KW programme. Although there is a good level of access, engagement and referral support by the KW practitioners, there is still a need to further establish a well mapped-out access, engagement and referrals journey without which there is danger of losing initial good connections with many service users.

6.4.4 Tackling health inequalities through targeting vulnerable groups

Selecting appropriate target populations and reaching them in an ethical and effective way provides a firm basis to establish the programme journey on the right path. To tackle health inequalities, health improvement interventions are targeted towards individuals who live in areas of deprivation in most disadvantaged circumstances. To comply with this strategy the NHSH KW programme was implemented in areas of deprivation. These were predominantly in rural areas as, out of the five selected geographic areas, four are in rural settings. SIMD was used as an overall methodology to select the most deprived areas in NHSH, in particular the income and health outcome domains. The use of SIMD, especially in rural areas, has been criticised (Fischbacher 2014) which is generally applied to identify individuals who are disadvantaged, but it does not deal as a proxy for individual level deprivation in area based measure. As a consequence of this many households in the most deprived areas are not actually deprived, but SIMD identifies them as disadvantaged, therefore they are eligible for an invitation to a KW health check. This means many affluent people could have received KW health checks. The situation is less favourable for many vulnerable and most deprived people who might not come forward for health checks due to lack of confidence, self efficacy, control and negative belief about health checks (NHS Health Scotland 2012; Rodwell 2013). This could result in less deprived people with better health seeking behaviours coming forward to engage with the service (Scoular 2012; Fischbacher 2014). This could lead to an increase in the ‘health gap’. Therefore the use of PBS to issue invitation letters may not support the targeted approach to reach the most vulnerable individuals. The CMO configuration under this theme provides detailed insight into these issues by comparing the benefits of community-based engagement approach to the PBS invitation letter approach.

Access to vulnerable groups can also be improved by employing dedicated practitioners whose responsibility is to target vulnerable groups through wider settings-based approaches. In Easter Ross, this strategy was successful in targeting homeless people, drug users, gypsy travellers and others. This strategy has the potential to use niche marketing in targeting and accessing the most vulnerable groups in the community. A similar approach, called ‘personalisation’ has been applied in some Health Boards in Scotland , mainly in social care services (SCIE 2010)

6.4.5. Role of multi-agency partnerships and collaborations

One of the major public policy objectives in health and social care services in Scotland is the establishment of effective partnership working and collaboration (Scottish Govt 2008 and 2011). Evidence shows a synergistic effect along with multi-layered and multiple benefits for service users, programme managers, practitioners and policy makers (Scottish Govt 2008 and 2011). The establishment of KW partnerships and collaboration provided practitioners with the opportunity to collaborate with community based organisations on the basis of mutual interest. The outcomes achieved in CMO configurations, in most cases, show positive links and associations through various mechanisms under certain contexts and situations. For example Easter Ross, Argyll and Bute and Inverness showed effective partnership approaches had explicit and implicit advantages and chains of benefits for service users and practitioners.. The KW practitioners managed to establish working relationships with relevant organisations to deal with lifestyle, social determinants and disease factor topics. There is evidence to show mechanisms which could have achieved meaningful engagement, inequality sensitive approach, co-produced services, increase in service users and practitioners' confidence, improved self esteem and control as seen in outcomes linked to CMO configurations.

Negative outcomes in relation to KW service delivery in GP practice settings may result from concerns over sustainability after the contract with GPs is over. There were concerns about the length of time to deliver the health check and the risk that more affluent groups would come forward for health checks. These are concerns of GP led health checks delivery which were also observed in other KW evaluations (Scoular 2012). Although there were implicit links through diversity and equality and health inequalities themes with SOAs in both Highland and Argyll and Bute, explicit and more formal working partnerships especially with CPP and SOA could have supported the KW programme in a more organised way.

6.4.6 Training and development

Training and development of frontline practitioners and staff from partner organisations remained one of the major components of the KW programme. Programme deliverers at the frontline are seen as 'eyes and ears' of the organisation and they should have appropriate knowledge and skills to satisfy the aims and objective of the programme. The frontline practitioners' knowledge and skills improvement also directly affect the programme's outcomes (Killoran et al 2007). The NHS Highland's KW training covered a wide range of topics. These courses included basic knowledge and information about the social determinants of health, inequalities in health, the concepts of co-production, assets-based and community development approaches, motivational interviewing and what these mean for cardiovascular disease and public health practice.

Practitioners' improved knowledge and skills about wider public health practice and its relationship with CVD and vulnerability played a significant role in developing an understanding about holistic health enhancement approaches. Mitigating against vulnerability and its related issues in CVD is being tackled through two applied methods. Firstly, a high

quality approach to training which includes wider public health practice knowledge and use of motivational interviewing by practitioners delivering health checks. Secondly the use of community engagement processes and thus ultimately enabling individuals to take greater control of their lives and specifically their health and wellbeing. Both concepts were applied in training the frontline practitioners and communities to be essential parts of KW delivery. The nature of community capacity-building means that it is impossible to be prescriptive about what takes place because that is determined by the community and might not necessarily immediately be seen as health-related. The KW training and development programme prepared practitioners and co-ordinators to reflect on both components as mutually exclusive so that a complete package can be delivered in a clear and coordinated way to achieve better outcomes.

Third sector frontline staff were offered the same training courses to upgrade their knowledge and understanding about the KW programme and its associated links. This strategy was useful in establishing trusted links with vulnerable groups in community and with voluntary sector organisations. The improved knowledge and understanding of voluntary sector partners about KW and its delivery provided mechanisms of local and regional training and development and networking opportunities to raise the profile of KW and increased access of vulnerable groups.

6.4.7 Mainstreaming and sustainability

The KW programme in NHSH can be sustainable because it is less dependence on a GP-led delivery model. In two geographic areas KW services are being delivered through community and third sector groups which could be sustainable and may be mainstreamed using formal community based public and voluntary sector organisations. Another benefit of a community and voluntary sector delivery model is that these organisations already exist, and will continue to exist, in the community. The knowledge, skills and capacities will stay in the community and KW may continue to be delivered in some form even when the project funding ends. With this understanding local KW leads may develop alternative arrangements of delivering the KW services in collaboration with community and voluntary sector groups.

Sustainability of the KW services could be greater and more likely where local organisations or public sector departments are engaged whose responsibility is dealing with vulnerable groups(Scoular 2012; Rodwell 2013). For example in Easter Ross and Argyll and Bute drug and alcohol agencies, mental health and learning disability service organisations, groups dealing with gypsy travels, housing and homelessness services and so on were actively engaged in the KW delivery. The sustainability of KW through better partnerships with relevant partners comes through the understanding and belief that the KW services could offer potential benefits to vulnerable groups. The Keep Well services are seen as relevant by the partner organisations or groups as a mechanism to engage with their own clients in holistic health improvement.

6.4.8 Community engagement, development and participation

Community development and engagement activities were more focussed in Argyll and Bute and Easter Ross and comprised two main components; community engagement and community development. A variety of community engagement approaches were used including working closely with self help groups, social and informal groups, private and voluntary sector organisations, newspaper press releases etc. The community development activities focused on community capacity development on a range of public health topics mainly focussing on lifestyle behaviour improvement activities, for example food and health, cooking skills, gardening and certain physical activity projects.

There was also evidence of engaging people in wider social and economic activities, for example in Easter Ross the Shirlie project was engaged to establish links with employment, housing and benefit maximisation teams to signpost people appropriately. The work to build community capacity fits with the development of the NHS Highland health inequalities agenda and engages both local authorities and thus with the CPP and SOA agenda. The additional work that KW is doing builds on asset mapping or other tools used and to provide extra resources so that community champions are available to the community where KW service users could easily access and get engaged. In NHSH success is not seen simply as identifying an undiagnosed CVD patient and commencing medication. That could be an important short term outcome, but lasting success will be individuals who believe they are living life to the full and can make good health choices even after the health checks.

It is recognised that results require sustained work over a long time period and NHS Highland is committed to the health inequalities agenda into which Keep Well fits. This also fits with the strategic direction being promulgated through the national public health policy regarding asset-based approaches (Scottish Govt. 2008). These actions are also consistent with the current KW programme rationale which is based on the experience of Well North which provided very local evidence of the long-term benefits of community engagement in tackling CVD inequalities (Fyfe et al 2011).

In some areas innovative and creative techniques were applied in engaging people to target community settings and workplaces. For example the Visioning Outcome in Community Engagement (VOiCE) tool was used in Argyll and Bute where it a provided systematic mapping of engagement using a Plan- Do-Study-Act (PDSA) model of public engagement. This allowed the KW staff to engage, record and learn from practice and develop further practice based on the learning. VOiCE offers comprehensive tools, techniques and reminders at various stages of the engagement process in a logical manner. The recorded data could be further used in other settings to improve engagement practice.

Lack of engagement was a concern especially within areas of deprivation and with vulnerable groups. The main mechanisms explored and linked to negative outcomes included self stigma, psychological thinking and concerns about confidentiality. Lack of engagement with health services is a common problem among vulnerable, deprived and low income communities due to a number of reasons described elsewhere (Fyfe et al 2011; Scoular 2012;

Visram et al 2014) This problem might have exposed the KW potential service users in an unhealthy lifestyle and lack of appropriate support. This situation was observed more in areas where community engagement and targeting of vulnerable groups was not seen as a key delivery priority, but direct health checks were offered as happened Inverness and Caithness.

6.4.9 Health checks

There is a lack of evidence that health checks could reduce burden of CVD and tackle health inequalities (McCartney 2013; McCartney 2014) The whole idea of KW health checks is to identify vulnerable people with pre-clinical symptoms of disease, refer them for formal diagnosis and to offer established care pathways to those who are at high risk of CVD (McCartney 2014). The remainder of the population is managed within the KW programme and is referred for further brief lifestyle interventions or signposted to a range of wider social and community development and engagement services. Health checks are seen as a useful proxy measure of cardiovascular disease which have the potential to engage vulnerable people who might be at risk of CVD. If the initial engagement process is well established, robust and satisfies the targeted service users it could have long-term positive impact on the engaged population. This process could lead to positive outcomes including tackling inequalities in CVD.

The delivery settings for KW health checks are different in NHSH compared to other health boards probably because of the different model of delivery. The main delivery setting in NHSH is community-based clinics. The NHSH KW programme put more emphasis on health improvement and holistic health approaches which reflect a more social model of health. This model has links to community settings which remained the preferred option across NHSH in delivering the health checks and it seems to be a successful strategy. This strategy is also consistent with the model and approach of the KW programme in NHSH. Through this approach, service users could relate their health and wellbeing issues to the community in which they live rather than feeling fear and intimidation by the power of clinical environments which, in many cases, may be stigmatising and threatening especially to vulnerable individuals.

Service users are more willing and happy if they are invited or engaged to discuss their health-related concerns in an informal way in their own communities rather than in a clinical environment in hospital or GP surgeries. The KW health checks offered approximately 40 minutes to every service user; this is appropriate to develop initial relationship and supportive environment for service users. Practitioners were able to explore general issues and social determinants of CVD and explain clearly to service users what can be expected from the health checks. Survey data clearly indicated that lifestyle behavioural advice remained the most discussed topics during health checks.

The use of Patient Booking Service (PBS) to issue invitations for health checks causes real concerns for service users, practitioners and the KW programme as it could generate negative outcomes as shown in the CMO configurations. The negative outcomes are linked to more affluent individuals coming forward for health checks while the more deprived are less likely

to contact the service since they may relate it to the welfare reform agenda, believing it is an effort to stop their benefits. There is a real danger of increasing the 'health gap' if targeted communities continue to be contacted through PBS rather through community development activities. Another negative perspective and outcome explored was that of a target-driven environment which could compromise the quality and delivery of holistic health enhancement approaches due to pressure on practitioners to achieve targets.

6.4.10 Referrals

KW referrals to specialist or community services are enormously important because, if this population is meaningfully engaged, supported and empowered it could make a difference in tackling CVD inequalities. Although there was a good management of referrals especially to lifestyle behavioural changes (for example smoking cessation, physical activity, healthy eating etc), many topic areas require system improvement. The lack of more formal and established pathways for specialist referrals and some specialist community services (for example access to Community Mental Health, Psychological services (CBT), dietitian etc) remained critical challenges for practitioners and service users. More planned and organised comprehensive community and specialist service networks could support the delivery of holistic health enhancement approaches through organised referral systems.

In the absence of formal links with specialist services for the KW service users it is difficult to expect a positive and quick response from community specialist services whether they are lifestyle behaviour, life circumstance or disease factor topics. This weakness was also reflected in the survey data in which only 45.2% of service users agreed or strongly agreed that they were referred to appropriate services as opposed to 46.7% who neither agreed nor disagreed and 8% who strongly disagreed or disagreed. However, despite these weaknesses, some areas such as Easter Ross had stronger mutually agreed referral systems which offered far better opportunities to service users and meaningful engagement was observed here.

6.4.11 Service user satisfaction and experiences

Programmes are generally judged on the basis of service users' experiences and levels of satisfaction (DCLG 2010). The KW programme in NHSH enjoyed high levels of satisfaction by its service users in most aspects of the service delivery. The CMO configuration provided a series of positive outcomes linked to a number of mechanisms through which purposeful outcomes were achieved. The high level of satisfaction also means that service users may be engaged with the service with a purpose or goal in mind, believing that the KW services and onward referrals could offer them useful life improvement opportunities. This self confidence and self belief is itself associated with high satisfaction level, improved control and empowerment through psychological thinking. The survey data also showed (table 18) a high level of service users' satisfaction about the health checks' internal environment and communication. The table 18 reproduced below shows the experience of service users.

Table 18: Experience of service users during Keep Well health checks

	strongly agree/ Agree (%)	Neither agree/nor disagree(%)	Disagree or / strongly disagree(%)
I felt at ease	95.4	2.7	1.9
There was a friendly atmosphere	96.9	2.7	0.4
I was listened to	94.5	3.9	1.6
Things were explained clearly to me	93.4	5.4	1.2
Any health queries that I had, were answered clearly	84.1	14.3	1.6
I was given useful information about my health	83	14.6	2.4
There was enough time for me to discuss any health concerns	89.4	8.6	2.0
I was referred to appropriate services	45.2	46.7	8.0

However, low survey responses could mean that service users who had positive experiences might have completed the survey while dissatisfied service users may have been reluctant to report or complete the survey.

6.5 Unexpected outcomes

In many cases an invitation letter received from the Patient Booking Service caused stress and anxiety among target audiences. This could have been due to a lack of understanding about the aims of the health checks and the way first contact was made.

Some families complained that invitation letters were sent to people who had died. A few families also complained that they had informed the NHS services about the death of their family member.

Some service users linked the KW health checks with the welfare reform agenda and believed that this is an effort to stop their ‘benefits’. Service users asked why specifically they were targeted and victimised?

The thinking about being at higher risk of CVD was stressful for many services users. There were also concerns and anxiety expressed by service users about the KW health checks and the attempt to diagnose them with a CVD. This stressful situation was particularly relevant when people received invitation letter through PBS.

6.6 Evaluation reflections against logic model outcomes

Table 19 Logic Model and reflections

Indicators based on logic model	Level of achievement or contribution	Reflections
Short term outcomes		
Models of community engagement applied to engage target groups – Were they effective?	**2**	- Some evidence of the application of community engagement models in Argyll and Bute and Easter Ross. - No or little evidence in other areas **Lessons learned** - Practitioners were more focussed on dealing with individuals coming through the Patient Booking Services - Lack of application of holistic health approach in some areas due to more focus on health checks and targets then on meaningful involvement
More equitable levels and patterns of up-take of health improvement opportunities	**3**	- Good level of evidence in targeting vulnerable groups and making it more equitable in some areas. However, PBS is a challenge which raises questions whether or not the KW programme offers more equitable services Lessons learned - Community engagement and partnership working with key partners is an important strategy and this model may be more useful in offering more equitable health improvement services
Increased staff knowledge, confidence, skills, competence and satisfaction	**3**	- Clear evidence of staff understanding, knowledge and practice development in most aspects Lessons learned

		- Non-active KW practitioners and voluntary sector staff may require support and support to continue working with KW programme
Improved quality and organisation of care effective, efficient and informed	**2**	- Some evidence of quality improvement through the mechanism of improved practitioners' knowledge and understanding. This is more linked to health checks and advice offered to services users. Lessons learned - To improve and provide effective care a formal referrals system may need to be developed for a range of service areas.
Patients experience a collaborative integration which protects their autonomy	**2**	- Initial evidence of positive patient experience in most cases especially health checks onward referrals. No confirmation of co-production approaches applied Lessons learned - Although good established professional links, but absence of clear referral pathway and explicit strategy to refer service users to specific specialist services
Perception of services as partners rather than providers	**2**	- Individual level evidence that service users improved trust and relationship. Practitioners engaged services users as partners Lesson learned - Application of community development should be incorporated across NHS Highland
Staff and partners' views and beliefs about KW and health checks	**2**	- Health checks are useful initial contacts which may not contribute in tackling health inequalities and CVD Lesson learned - More focus on meaningful

		long-term engagement and follow up services could gain better benefits
Increased awareness of CVD risk, and options for lifestyle changes	**2**	- Evidence of increased awareness about CVD risk factors Lessons Learned - Improved practitioners' knowledge, skills and confidence could make significant difference. New and third sector practitioners may require more support
Patient engages in behaviour change planning and or further clinical tests	**2**	- Initial understanding of service users engaging with the service specially in areas where community engagement and partnership working was stronger Lessons learned - Application of community engagement, partnership working, practitioner skills and knowledge and social marketing could make a difference
Increased self efficacy and advocacy within family and community	**3**	- Individual level evidence as service users encouraged by community groups and stronger in areas where community engagement was main approach Lessons learned - More time required to develop assets based and co-production approaches. Social marketing activities may support the advocacy process
Diagnosing of chronic disease	**3**	- Individual level evidence of identification of CVD Lessons learned -
Patient engages in referral opportunities	**2**	- Initial evidence of engagement on behalf of service users. Lessons learned - The KW services may require a proactive action or improved referral strategy

		and follow up plan for each service user
Patient engagement in lifestyle improvement activities	**3**	- Significant level evidence of service users engaged in lifestyle behavioural changes Lesson learned - Community food and health, physical activity, leisure and sports , smoking cession and a range of social development activities made difference to many services
Reduced anxiety, dependency and inappropriate medicalisation and increased empowerment	**3**	- Initial engagement process, lack of clear evidence. Some evidence of increased empowerment Lesson learned - Partnership with local organisations especially those working with vulnerable groups and approach to tackle social determinants in some areas might have made some difference
Medium term outcomes		
Staff and practitioners can understand and apply community development approaches	**2**	- Some evidence of improved understanding of community engagement and development approaches among practitioners Lesson learned - Easter Ross and A&B models of community engagement provided opportunity for practitioners to learn and develop practice
Staff culture change – more geared towards assets based, person- centred	**3**	- Good understanding among staff, but lack of application due to lack of time and resources Lessons learned - Target-driven environment put pressure on practitioners; this situation may not be helpful in applying patient centred and assets based approaches
Improved relationship between individuals, communities and services	**2**	- There is some evidence of improved relationships

including accessibility		especially where longer engagement with service users planned and organised using current system Lesson learned - Referral, social marketing and partnership development strategies are key
Improved understanding, trust and confidence between agencies	**2**	- Good level of evidence especially in Easter Ross and partly in Argyll and Bute Lesson learned - useful to replicate Easter Ross model in other areas
Sustained engagement in collaborative process to improve health	**3**	- Very early stages of the development of the programme activities Lessons learned - Appropriate time and area based proportional resources commitment will be key
Sustained social change – individuals and community	**3**	- Very early stage to make assumptions about this, but a good deal of hard work being done across the areas Lesson learned - Community and partners engagement
Long-term outcomes		
Earlier presentation of LTCs/CVD	**3**	Early stage of programme development. Evaluation did not focus on this outcome
Reduction in CVD risk factors	**4**	Evaluation did not focus on the impact
Reduced CVD morbidity and mortality	**4**	Evaluation did not focus on the impact
Reduced burden of CVD on hospitals	**4**	Evaluation did not focus on the impact
Improved mental wellbeing	**3**	Some evidence of improved mental wellbeing – Not explicit though
Increase in healthy life expectancy	**4**	Evaluation did not focus on the impact
Decline in health inequalities	**4**	Evaluation did not focus on the impact

Key

1 = Significant evidence - level of achievement or contribution

2 = Medium range evidence - level of achievement or contribution

3= Low range evidence – level of achievement or contribution

4= No evidence – level of achievement or contribution

6.7 Recommendations

1. Development of specific social marketing guidelines or a local strategy, brief social marketing training to local leads/coordinators and some financial resources for social marketing campaigns should be allocated to local KW teams.

2. There should be a formal referral policy and referral system established to refer clients to appropriate onward services. This system should be designed for lifestyle specialist services, social determinants and relevant diseases in partnership with all major services. Community-based social and cultural services should also be included to increase social prescribing.

3. Alternative methodology to SIMD area based measure could be identified and piloted in a selected area in NHSH. Fischbacher (2014) provided a list of alternative methodologies some of which can be used for further discussions for example 'smaller area census data' can be used to avoid whole postcode area.

4. The KW programme should establish partnerships with all major organisations which deliver services to vulnerable groups for example housing and homelessness, mental health services, drug and alcohol services, learning disability service, prison service. This will support a targeted approach and holistic health enhancement using assets of the partners. Initial evidence from Easter Ross could be used as an example of how these partnerships could be established and sustained.

5. More formal and explicit links with CPPs and SOAs could be an effective and efficient way to implement KW. This could also achieve measurable outcomes in tackling health inequalities in CVD. Local community development co-ordinators should be involved and given lead role in making explicit links with the KW programme.

6. A small local training budget for each geographic area could create better opportunities for the KW practitioners and local public, private and third sector organisations involved in delivering KW services. This budget could be used to upgrade knowledge and skills of KW frontline staff by identifying learning needs as most KW practitioners are at different levels of their learning curve. The specific learning needs assessment and skills development courses could cost less and may be more efficient in signposting the practitioners to improve knowledge and skills using local budget.

7. There should be time, management support and resources allocated to all KW geographic areas to develop community engagement and development projects in partnership with public, private and third sector organisations especially those working with vulnerable groups. The main targeted organisations and groups could include housing and homelessness, drug and alcohol, mental health, community nursing, oral health, health improvement, learning disability, prison.

8. There is a lack of formal and established pathways for specialist referrals and specialist community services for example access to Community Mental Health, Psychological services (CBT), dietitician etc are crucial for practitioners and service users. Community based lifestyle behavioural services should also be mapped and listed. More planned, organised and

systematic lifestyle, community and specialist services referral systems and networks could support the delivery of holistic health enhancement approach. To do this a mapped specialist services pathway for all relevant topics should be developed and implemented to support practitioners working with service users.

9. Wherever possible Patient Booking Services should not be used to contact potential targeted clients. Investment should instead be diverted to community based systems of identifying high risk groups. To do this a new methodology of targeting more rural vulnerable clients should be introduced. Fischbacher (2014) has discussed a range of options and different methodologies which could be used as starting point.

10. Innovative and creative ways of community engagement, such as the VOiCE toolkit used in Argyll & Bute should be encouraged across the area. This online software tool uses a Plan-Do-Study-Act (PDSA) approach, national standards of community engagement and automatically records proceedings and activities step by step. Practitioners should be offered brief training on the use of VOiCE and how to share learning online with their colleagues.

6.8 Considerations

1. Mapping of KW service users' access, engagement and referral journey could help practitioners to manage service users' journey in a more organised way. This could also offer benefits to service users and reduce the chance that they might disengage. With this mapped development service users are more likely to be engaged with community or more formal services. This could also help to achieve the objectives of holistic health enhancement approaches.

2. Target-driven environments put pressure on practitioners which could compromise the quality and delivery of health enhancement approach. Therefore, this strategy should be reviewed and practitioners should invest more time in community based activities and opportunistic health checks.

3. Dedicated KW practitioners could be employed to target specific vulnerable individuals. In order to make this happen relevant local third sector, community based and public sector organisations that work with vulnerable groups can be targeted by practitioners to offer holistic health enhancement interventions.

4. Explicit links should be established with new Community Health Co-ordinators who could be instrumental in raising the profile of the KW programme. They could also use the KW health checks as an entry point to many vulnerable groups in the community.

5. A list of the most relevant health promotion print material should be agreed and made available to all practitioners in a reference folder that can be used during health checks to facilitate the discussion. The print material should include lifestyle behavioural topics, disease topics mainly associated to CVD and the most relevant life circumstance topics. Selected print material can also be given to service users on the discussed topics.

6. To avoid any unexpected negative and stressful situations in the future, there must be a system in place in which addresses of the deceased people are deleted from the system.

6.9 Conclusions

The Keep Well programme in NHS Highland is making good progress in most aspects of the programme. There is an extensive amount of hard work going on in all targeted areas which needs to be consolidated through further collaborative ways of working. The first few years of any complex public health intervention, like KW, are always challenging. It is important that new programmes allow an appropriate time for development, especially if specialist staff are required as it could take some time for staff to fully understand the programme and contribute more productively. Most programme components have direct or indirect connections and must work in co-ordination. There is interdependency among these components which is directly proportional to the quality and improved care services, for example a lack of partnership affects community engagement and a lack of community engagement could affect access to vulnerable people or the people most in need. Similarly, marketing and raising awareness of the programme can directly impact on the use of services, trust and confidence of service users and partners. It could also impact on community engagement and the establishment of multi-agency partnerships. The use of modern technology could affect all of these components if the capture and recording of data are not of high quality, valid and are too time-consuming. Therefore, each programme component has triggering factors which influence the specific outcomes in that pathway. There is a need to clearly and explicitly understand the connections and triggers among all the components of the programme. This explicit understanding among programme practitioners and managers could establish appropriate mechanisms by providing suitable conditions to achieve required outcomes.

Learning by doing has been found to be a useful strategy in the current programme and the practitioners are at different stages of their learning curve compared to the start of the programme. They are now acting more appropriately and proactively as this has been observed in this study. As CVD health inequalities are complex issues, understanding and appropriate action by practitioners are fundamental in satisfying the service users and meeting the programme's aims and objectives. This has now started happening in the third year in most aspects of the programme, however, there are area based variations.

Digital pen technology is important to capture useful data for future planning. It is in the early stages of its development and taking more time than expected. An initial pilot of the electronic pen in one selected area could have made a difference and might have reduced wastage of time in other areas. Such a strategy could have reduced frustration and anxiety among many practitioners. However, there is hope and belief that this technology could support practitioners in recording and transferring data with a degree of confidence and may save time compared to manual systems. In order to make this happen appropriate time and resources should be allowed for this technology to become fully functional in all areas.

Social marketing and awareness raising of the programme required special attention without which it would be difficult to reach the vulnerable people who are most in need. There is a good level of social marketing activities in Easter Ross which has been instrumental in increasing awareness about the value of health checks and onward engagement activities. Social marketing is not only important for raising the profile of the programme, but it could also help improve the confidence of service users, partners and the general public and enhance brand image which could positively impact on health checks and community based activities. Social marketing activities also link to community engagement and partnership development aspects which have been progressing, but they require a more aggressive approach to reap better benefits.

Service users' engagement in some areas is stronger than in others especially where community engagement has been used as the main mechanism to access potential service users. It is more effective to engage targeted communities and relevant multi-agency partners to offer health checks than relying on making contacts through Patient Booking Service. The PBS invitation letters are seen negatively by some service users probably because of the lack of trust and awareness about the KW programme and its approach and what benefits it could offer. This issue could be tackled by more aggressive marketing and publicity campaigns and more involvement of local partner agencies, especially those working with vulnerable groups. The lack of involvement by vulnerable groups can also be tackled by increasing and extending partnership and collaborative ways of working. The very local third and private sector organisations are important links which have been exploited in some areas like Easter Ross.

The KW programme mainly focussed on lifestyle behavioural change advice and onward referrals during health checks. Advice and referrals on social determinants of health and health inequalities may require better understanding among practitioners, more networking and established contacts with relevant agencies. This area needs particular attention to make links with Community Planning/Single Outcome Agreement, housing, employment and other relevant agencies. There is good work going on in developing and sustaining partnerships through mutual agreement of services and referrals both in health and social determinant topics in some areas. This could be used as a baseline to exploit further opportunities, especially building networks with private and third sectors on a mutual benefit basis.

The KW practitioners have improved their knowledge and skills over time, both about the wide range of public health practices including community development, co-production, asset based approaches and wider determinants of CVD and health inequalities and about community based projects and activities. This has not only empowered the practitioners, but also service users are being advised and referred to appropriate services. Third sector and newer practitioners may still require to upgrade their skills and knowledge especially about wider public health practices.

Sustainability and mainstreaming of the KW programme remain serious issues for stakeholders. However, due to the training and development activities, practitioners' knowledge and skills will stay in the community even if they are not working with the KW

programme. They are still utilising their public health practice, knowledge and skills within that community in some form which itself sustains the various aspects of the KW contents. Furthermore, there is evidence that some practitioners are continuing health checks in their own area of work even if they are no longer employed by the KW programme. Third sector organisations also offer a potential avenue for continuing with the KW services through their workers for which local arrangements will be required in respective areas to agree on specific KW contents of delivery.

Although the Keep Well programme is developing rapidly in some areas, more focus on holistic health enhancement approach could consolidate and improve the specific outcomes.

References:

Atkinson, P. & Coffey, A. (1997) Analysing documentary realities. In Silverman, D. (ed) Qualitative Research: theory, method and practice. London: Sage

Bergen, A. & While, A. (2000) A case for case studies: exploring the use of case study design in community nursing research. Journal of Advanced Nursing, 34, (1) 926-934

Bhaskar, R (1975) A realist Theory of Science , available at http://www.criticalrealism.com/archive/rts/index.html last accessed February 1,2014.

Blamey, A., & Mackenzie, M. (2007). Theories of change and realistic evaluation: Peas in a pod or apples and oranges. Evaluation, 13(4), 439–455.

Boyatzis, R.E. (1998) Transforming qualitative information: Thematic analysis and code development. Thousand Oaks, London, & New Delhi: SAGE Publications

Byng, R., Norman, I. and Refern, S. (2005) Using realistic evaluation to evaluate a practice level intervention to improve primary healthcare for patients with long-term mental illness. Evaluation 2005 11:69.

Carabine, J. (2001) Unmarried Motherhood 1830-1990: A genealogical analysis. In: Discourse as Data: a Guide for Analysis, ed. Weatherall, M., Taylor, S. & Yates, S.J. London: Sage

Clark, V. & Braun V (2007) Using Thematic analysis in Psychology, Guiding Principles and Practice Report. University of Auckalnd.

DCLG (2010) The new deal for communities experience: a final assessment:the new deal for communities national evaluation: final report 7 Vol 7. DCLG London 2010.

Denzin& Y. S. Lincoln (Eds.), Handbook of Qualitative Research (2nd ed., pp. 769-802).
Fairclough, N. (2003) Analysing Discourse: Textual Analysis for Social Research. London: Routledge

Dowler, E., and Spenser,N., (2007) Challenging health inequalities: From Acheson to Choosing health; Chapter 4 p 48-50, Policy Press 2007.

Douglas, I (2013) Scottish Index of Multiple Deprivation 2012, NHS Highland most deprived areas. NHS Highland 2013.

Elster, J (1989) Nuts and Bolts of Social Sciences. Cambridge University Press.

Fischbacher, C.M. (2014) Identifying "deprived individuals": are there better alternatives to the SIMD for socioeconomic targeting in individually based programmes addressing health inequalities in Scotland ISD (2014)

Fyfe,A., MacMillan,K., McGregor, T., Fleming, R., and Callaghan, M., (2011) Well North anticipatory care project: Evaluation, Final report (2011)

Guest, G, MacQueen, K., & Namey E.(2012) Applied thematic analysis , Sage.

Hart, E. & Bond, M. (1995) Action Research for Health and Social Care: a guide to practice. Buckingham: Open University Press

Hasting, G. (2007) Social Marketing: Why should the Devil have all the best tunes?Elsevier LTt. 2007.

Hodder, I. (1998) The interpretation of documents and material culture. In: Collecting and Interpreting Qualitative Materials, ed. Denzin, N.K. and Lincoln Y. California: Sage

Keen, J. & Packwood, T. (1995) Qualitative research: case study evaluation. British Medical Journal 311, (7002) 444-446

Killoran, A., Swann, C., and Kelly,P.M., (2007) Public health evidence: tackling health inequalities, section 2 Oxford University Press 2007.

MacKian, S. (2003) A review of health seeking behaviour: problems and prospects. HSD and DFID 2003)

*Marmot, M. G.; Davey Smith, G.; Stansfield, S.; et al. (1991). "Health Inequalities among British civil servants: the Whitehall II study". Lancet **337** (8754): 1387–1393. doi:10.1016/0140-6736(91)93068-K. PMID 1674771*

Mason, J (2005) Qualitative Researching (2nd Edi) Sage

McCartney, M. (2013) Too much medicine. Where's the evidence for NHS health checks? BMJ 2013:347:F5834.

McCartney, M. (2014) NHS Health checks betrays the ethos of public health BMJ 2014:349 g 4752.

Meyer, J. (2000) Qualitative research in healthcare: using qualitative methods in health related action research. British Medical Journal 320, 178-81Oaks, CA: Sage.

Miles, M B., and Huberman A,M. (1994) Qualitative Data Analysis, Newbury Park, CA: Sage Publications, 1994.

NHS Ayreshire and Arran (2014) Evaluation for the Health Checks undertaken in General Dental Practices – Final Report

NHS Health Scotland (2014) The Impact of Keep Well: An evaluation of the Keep Well programme from 2006 to 2012. Edinburgh: NHS Health Scotland 2014

Patton, M. Q.(1997) , Utilization-Focused Evaluation: The New Century Text, 3rd ed. Thousand Oaks, CA: Sage Publications, 1997.

Pawson, R and Tilley, N. (1997) Realistic Evaluation. London. Sage

Punch, F.K (1998) Introduction to social research, Quantitative and Qualitative approaches – Sage.

QSR (2013) NVIVO 10 Software for Qualitative data analysis.

Reason, P & Bradbury, H (2000) Introduction. In: Handbook of Action Research: Participatory Inquiry, ed. Reason, P. and Bradbury, H. London: Sage

Robinson, C. (2002) Real World Research, Page 32. 2nd Edi. Blackwell.

Rodwell, S.(2013) A qualitative evaluation of the Keep Well Programme (Vulnerable groups) NHS Tayside 2013.

Porter, S., and O'Halloran, P. (2011) The use and limitation of realistic evaluation as a tool for evidence based practice: a critical realist perspective, Nurisng Inquiry 2012: 19:18-28

Ryan, G. W., & Bernard, H. R. (2000).Data management and analysis methods.In N. K. S. Lincoln (Eds.), Handbook of Qualitative Research (2nd ed., pp. 769-802). Thousand

Rycroft-Malone, J., Fontenla, M., Bick, D., and Seer, K. (2010) a realistic evaluation: a case of protocol-based care , Implementation Science 2010, 5:38.

Scottish Executive (2003) Improving Health in Scotland 2003

Scottish Executive Delivering a Healthy Scotland – Meeting the Challenge 2006

Scottish Executive (2005) Delivering for Health 2005

Scottish Government (2007) Better Health Better Care – Action Plan 2007

Scottish Government (2008) Equally Well, Report of the Ministerial Task force on Health Inequalities.

Scottish Government (2008) e-Health, Better e-Health Better Care strategy 2008-2011 Scottish Govt. 2008.

Scottish Government (2009) Improving the Health & Wellbeing of People with Long Term Conditions in Scotland: A National Action Plan 2009

Scottish Government (2009) Towards a Mentally Flourishing Scotland: Policy and Action Plan 2009

Scottish Government (2010) Mental Health Strategy for Scotland 2012-2015.

Scottish Government (2010) The Health Care Quality Strategy for NHS Scotland 2010

Scottish Government (2011) Commission on the Future Delivery of Public Services (Christie Commission Report) 2011

Scoular, A. (2012) Evaluation of Keep Well programme in NHS Greater Glasgow and Clyde. 2012.

Seale, C. (1999). The quality of qualitative research. London: Sage.

SCIE (2010) Personalisation: A Rough Guide, Social Care Institute for Excellence (2010) Report 20.

Stake. E.R (1994) Case Studies.In A handbook of Qualitative Research Chapter 14. Sage

Strauss, A., & Corbin, J. (1998).Basics of qualitative research: Techniques and procedures for developing grounded theory. Thousand Oaks, CA: Sage.

Tong, V., Raynor, K.D., and Aslani, P,(2014) Gender differences in health and medicine information seeking behaviour- A review Journal of the Malta College of Pharmacy Practice, Issue 20 (2014)

Treasury Board of Canada Secretariat (2012) Theory-based Approaches to Evaluation: Concepts and Practice. TBCS 2012.

Visram, S., Carr, S.M and Geddes,L. (2014) Can lay health trainers increase uptake of NHS health checks in hard-to-reach populations? A mixed method pilot intervention. Journal of Public Health pp,1-8. 2014.

Weiss, C.H. (1998) Evaluation: Methods for Studying Programmes and Polices. Upper Saddle River, NJ: Prentice Hall

WHO (2007).A conceptual framework for action on the social determinants of health; Commission on social determinants of health. WHO Geneva 2007.

Yanow, D. (1999) Conducting Interpretive Policy Analysis. California: Sage

Yin, R. K. (1994) Case Study Research, Design and Methods, 2nd ed., Newbury Park, CA: Sage Publications, 1994.

Yin, R.K. (2003) Case Study Research: Design and Methods, 3rd edition. California: Sage

Local Keep evaluation reports referred to develop raw theories/ Bibliography

Reid, M. (2009) Report of research to explore motivators and barriers to engagement with Health Checks.

Ludbrook, A. & Douglas, F.(2011) Local evaluation of Keep Well in Aberdeen city community health partnership – Final report, NHS Grampian

McCall, L., McCrae, A. & Nowak, I. (2010) Evaluation of Keep Well in South West Glasgow CHCP – An exploration of added value that the Maintaining Mental Wellbeing sessions has offered all stakeholder, MRS 2010.

NHS Health Scotland (2014) The Impact of Keep Well: An evaluation of the Keep Well programme from 2006 to 2012. Edinburgh: NHS Health Scotland 2014

Reid, P. & Lord, A. (2011) Delivering rural anticipatory care through a paramedical model: Pilot evaluation. NHS Health Scotland 2011.

Belbin, A., Stark, C. & Vaughan, S. (2012) Local evaluation of the Keep Well Programme covering North West Sutherland. NHS Highland 2012.

NHS Ayrshire and Arran (2014) Evaluation for the Health Checks undertaken in General Dental Practices – Final Report

Fyfe,A., MacMillan,K., McGregor, T., Fleming, R., and Callaghan, M., (2011) Well North anticipatory care project: Evaluation, Final report (2011)

Scoular, A. (2012) Evaluation of Keep Well programme in NHS Greater Glasgow and Clyde. 2012.

Hair, M. & Wyper,C. (2013) Keep Well Health Check Findings(August 2008-March 2012) NHS Ayrshire &Arran.

Robinson, C. (2011) Evaluation of the impact of Keep Well on lifestyle behaviour change , I year follow up of patient outcomes, NHS Fine.

Robinson, C. (2011) Characteristics and cardiovascular risk factors of attendees and the outcomes of the Keep Well health check in Fife. NHS Fife.

Scoular, A. (2013) The South Asian anticipatory care project – Final evaluation report 2013. NHS GGC.