Putting a health inequalities focus on the Northern Ireland cardiovascular service framework

Technical report

Health impact assessment
Northern Ireland cardiovascular service framework

Contents

Foreword

The challenge

Cardiovascular disease is a major health burden. It is also largely preventable.

Eight hundred people still die prematurely, ie before the age of 75 years, every year here from ischaemic heart disease (IHD) alone. About half of these deaths could be prevented through better use of available health promotion and treatment services.

Our approach to preventing and treating cardiovascular diseases recognises that health, disability and death are influenced by many factors that lie outside the Health and Social Care (HSC) sector.

Cardiovascular diseases affect people living in poverty more severely than others, but they are not unique in this regard. In Northern Ireland, however, they remain the main contributor to inequalities in mortality.

Men living in the wealthiest areas in Northern Ireland live on average almost eight years longer than men in the poorest areas. For women, the gap is five years. This gap in life expectancy is widening and it needs to be addressed.

Our response

The Public Health Agency (PHA) has a lead role in implementing the cardiovascular service framework (CVSFW). This was launched in 2009 as the first of a programme of service frameworks.

It has 45 standards for good practice in the prevention and treatment of cardiovascular diseases in Northern Ireland. Its principles include equity of access to HSC services and reducing health inequalities.

One of the PHA's organisational priorities is to make health improvement a reality for all people living in Northern Ireland. In line with this aim, the PHA undertook this health impact assessment (HIA) to test and improve the effects of implementing the CVSFW on health inequities and inequalities.

I am delighted to now present to you the results of this work. These include a literature review, a cardiovascular health and wellbeing profile and a full technical report. This report is based on these documents, which are available as separate documents.

A particular strength of this HIA has been its wide ranging consultation across and beyond HSC organisations. The findings are, therefore, based on many sources of information and include suggestions on how to get the best from the CVSFW and other service frameworks.

The way forward

This HIA has confirmed that health inequities and inequalities exist. It underpins the importance of participation of both service providers and users in HSC design and delivery. It reinforces the imperative of putting people and communities at the centre of HSC services and aligning these with individuals' life experience and the patient journey.

It also identifies barriers to health improvement and ways to overcome these. It states the benefits that will arise from putting the CVSFW into action and tells us, in the form of a health action plan, what we need to do to maximise its benefits.

My thanks go to all those individuals and organisations who have contributed to this work, which will help to guide HSC service planning, development and commissioning through the present and future annual commissioning plans.

My hope is that the learning from this work will support the PHA and other organisations in our efforts to build capacity for health improvement through partnerships and networks within, and beyond, the HSC.

Dr Eddie Rooney
Chief Executive
Public Health Agency

Executive summary

Cardiovascular diseases remain the main cause of death and disability in Northern Ireland despite steady improvements in services and reductions in morbidity and mortality over recent decades.

Cardiovascular health is determined not only by access to Health and Social Care (HSC) services and lifestyle choices but also depends on social and economic conditions in which people live. These include factors outside the healthcare sector such as housing, employment, transport and access to fresh food.

In Northern Ireland some people have benefitted more from improvements in services and living conditions than others. This has created differences in how people can access and make use of services (inequities). These inequities have, in turn, resulted in unsustainably higher levels of ill health and premature death (inequalities) in some population groups.

For example, men living in the 20% least deprived areas in Northern Ireland live on average almost 8 years longer than men in the 20% most deprived areas. For women this gap is 5 years. These differences are getting worse, widening the gap between those who are affluent and those who are not. Cardiovascular diseases are not unique in this regard, but in Northern Ireland they are the main contributors to inequalities in mortality.

To address this, the Department of Health, Social Services and Public Safety (DHSSPS) in Northern Ireland commenced the development of a series of Service Frameworks to set out explicit standards for health and social care to guide those delivering and receiving HSC services and support planning, developing and commissioning of such services.

The Cardiovascular Service Framework (CVSFW) was launched in 2009 as the first of these frameworks. It sets in place 45 standards for good practice in the prevention and treatment of cardiovascular diseases in Northern Ireland. Its principles include equity of access to HSC services and a reduction in health inequalities.

The Public Health Agency Northern Ireland (PHA) leads the implementation of the CVSFW. In support of this work, the PHA has undertaken this health impact assessment (HIA):

- To test the effects of implementing the CVSFW on health inequities and inequalities;
- To propose actions to increase health equity in cardiovascular and related services and reduce health inequalities;
- To harvest the learning from this HIA and apply it to the further development and implementation of the CVSFW and other frameworks.

HIA assesses the potential effects and distributional impact of a project, programme of proposal on the health of a population. This report contains the background to, methodology for, findings from and implications of the CVSFW HIA, which is the first HIA in the island of Ireland that focuses on implementation of a health policy. The report shares lessons from this HIA to enhance policy development for improved health in the shaping, implementation and revision of this and other service frameworks in Northern Ireland.

Part one shows the background to the CVSFW and our approach to the HIA (Sections 1-4). In part two we present the main outputs arising from the HIA (Sections 5- 8). The Health

Action Plan has been developed to facilitate the inclusion of the HIA suggestions into the business planning activities of the PHA, the Health and Social Care Board (HSCB) and other agencies (Appendix 9).

How we conducted the HIA

Our approach to the HIA was based on internationally developed good practice guidance. It was supported by the Institute of Public Health in Ireland (IPH) and an internationally recognised expert in HIA. We followed a systematic, participatory process in developing the scope for the HIA and gathered information from a range of sources and stakeholders without requiring original research (Section 4).

Local data were selected and gathered to develop a community profile, which provides a baseline for cardiovascular health across Northern Ireland. This improves understanding of the health needs of the population affected by the CVSFW (Section 5).

A literature review was carried out to identify international evidence on cardiovascular health and its determinants. The review outlines appropriate and effective interventions (Section 6).

We consulted through workshops with health practitioners, statutory representatives, patients, carers and the community on the potential health impacts associated with the implementation of the CVSFW. A proposal analysis of the CVSFW was undertaken. This supported the development of the rapid appraisal tool which was used for the workshops after testing in desktop appraisal sessions.

Each standard was subject to a comprehensive assessment on how it could be implemented effectively and efficiently. Participants at each workshop made suggestions on how to enhance the delivery and impact of each CVSFW standard in reducing health inequalities and inequities.

These suggestions have been collated to form the Health Action Plan (Appendix 9), which has contributed to the HSC Corporate Commissioning Plan 2011- 12 and will support future service planning activity.

What the HIA found

The HIA determined that almost all standards in the CVSFW relate to areas of HSC where health inequities and inequalities already exist. These are due mostly to socioeconomic factors and variable access to services mainly on account of geography, ie where services are delivered in relation to where patients live.

There are barriers to implementation of each standard. They include the capacity of systems, organisations and staff to facilitate and support change.

On the other hand, the HIA identified positive effects on staff arising from the implementation of standards if adequately resourced. These include increased job satisfaction from and participation in delivery of improved services.

A potential increase in demand for services was identified for just under half of the 45 standards. This might result from increasing awareness amongst potential service providers and users or increased service capacity to respond to unmet needs. Against this, about a third of standards are likely to reduce need for services in the future through greater effectiveness in reducing the burden of cardiovascular disease.

Most standards are considered to benefit population health and that of individuals. However there could be high opportunity costs from using finite resources for certain services and not others as well as other limitations such as overburdening patients with health messages and complex choices about treatment options.

The HIA found that the effects of standard implementation on the wider determinants of health would be mainly positive. This supports the health economic argument for sustainable investment in HSC services to improve health and productivity of the population in Northern Ireland.

This work also showed that despite the aim of the CVSFW to improve equity of access and equality of outcomes, only a minority of standards were thought likely by HIA participants to achieve this, even if particular attention was paid to vulnerable population groups and geographies. In response to this challenge, the HIA has produced a wide range of suggestions on how to enhance the potential of the CVSFW to improve health equity and reduce health inequalities. These are summarised below.

Suggestions for future action

The report concludes with main findings and suggestions arising from the HIA in the form of a Health Action Plan. This is presented in a format that mirrors the layout of the CVSFW, which is divided into 10 sections, to help those with interest in a particular area of HSC practice focus on it (Section 8.1).

The main suggestions by CVSFW section are:

Communication and participation

! Facilitate HSC staff in improving communication with and participation of service users and the wider public in service design and delivery.

Health improvement

! Integrate health improvement activities across topics, settings and sectors by:

- *Co ordinating brief intervention training for all HSC staff to support behaviour change and self management for patients,*
- *Supporting collaboration between HSC organisations, communities and local government in creating healthier environments, and*
- *Creating synergy between communities, voluntary organisations and HSC providers, including pharmacies and primary care providers.*

! Implement Obesity Prevention Strategic Framework on an interagency basis to take account of determinants of health.

! Develop Regional Emergency Life Support business case, strategy, policy and implementation plan.

! Advocate for salt reduction in food stuffs.

Hypertension
! Address inequities in primary care service provider performance.
! Integrate health improvement work for reducing hypertension with wider CVSFW related health improvement activity.

Familial Hyperlipidaemia
! Pursue funding and implementation of business case for expansion of a regional hyperlipidaemia service, establishment of a regional database and genetic support outreach service.

Diabetes
! Establish regional and local networks to facilitate service improvement including equitable access to Structured Patient Education (SPE).

Heart Disease
! Increase investment in congenital and inherited heart disease services to meet the needs of a growing patient population.
! Increase investment in the prevention of atrial fibrillation.
! Support patients in their adherence to pharmacological treatment for heart disease (see also health improvement and hypertension).
! Establish self help groups for patients with heart failure.
! Identify key workers for patients with heart failure.
! Introduce programme budgeting and marginal analysis to facilitate allocation of resources to management of long term conditions including heart failure.
! Improve communication through data linkage between primary and secondary care for patients needing cardiac rehabilitation.
! Streamline referrals for patients with acute chest pain from primary to secondary care by improving patient pathways.

Cerebrovascular Disease
! Implement agreed referral pathways.
! Establish a regionally available 24/7 lysis service.
! Share good practice between service provider and users through effective mechanisms, ie networks.

Peripheral Vascular Disease
! Provide support to primary care teams for participation in and delivery of peripheral vascular disease Direct Enhanced Service (DES).
! Provide alternatives to GP services through community based provision especially in deprived areas.
! Identify and address barriers for patients in making informed choices about treatment for Abdominal Aortic Aneurysm (AAA).
! Raise awareness and improve management of thoracic aortic dissection amongst the public and professionals.
! Provide awareness raising and training to service users and providers in identification and management of lymphoedema.

Renal Disease
! Support patients, especially those from marginalised groups, in managing psychosocial (anxiety and adherence to treatment) aspects of Chronic Kidney Disease (CKD) identification and treatment.
! Consider home visits for hard to reach patients.
! Ensure geographical equity of dialysis service provision, including choice of vascular access in line with evidence for best practice.
! Review CVSFW to reflect changing practice in and evidence for effective management of Acute Kidney Injury (AKI).

Palliative Care
! Increase health literacy through community development approaches (which will benefit other HSC service areas also).
! Engage especially with vulnerable and potentially marginalised population groups to reduce health inequities.

Learning for health equity

Beyond the suggestions and insights relating to CVSFW specific sections and standards contained in this report, the HIA has generated many other important outcomes (Section 8.2).

It provides a qualitative and quantitative analysis of the CVSFW's ability to achieve its stated aims. It highlights were steps need to be taken to protect vulnerable population groups from further unintended inequities, which could otherwise result from CVSFW implementation.

This work has highlighted that health is not evenly distributed in Northern Ireland, nor is the ability of individuals within its population to benefit from HSC interventions. This we need to be mindful of as we wish to contribute to reducing the health inequalities gap rather than continue increasing it through potentially inequitable distribution of HSC service provision.

We highlight the following areas for consideration:

1. *Health intelligence for health improvement*

Implementation of the CVSFW has thrown up many challenges for information systems and data management within HSC. We need to work on data linkage and information sharing across agencies to create better understanding of what determines health and wellbeing for people in Northern Ireland.

2. *Capacity building in learning organisations*

The HIA of health policy implementation is the first of its kind in Ireland. Many people have contributed to it, acquiring new knowledge and skills in the process. This was enhanced by the involvement and contribution of an international expert and will benefit HSC organisations in their endeavour to improve health equity and reduce health inequalities in the future.

3. *Participation, partnerships and networks*

Development, implementation and HIA of the CVSFW embrace the principles of participation and depend on collaborative working across agencies, organisations, communities and individuals. The HIA has added value to HSC services by strengthening its connections beyond institutional boundaries, which are neither affordable nor sustainable.

Summary

This HIA has focussed on the potential impacts on health especially equity and equality arising from the CVSFW implementation. It did not seek to examine its design, but its process and findings support the practical tasks of making the CVSFW an integral part of HSC service design, development, delivery and monitoring, because it has identified barriers to and drivers for implementation of standards.

It provides suggestions for service improvement in a format that allows prioritisation for implementation of individual standards under a range of criteria, including health equity and equality impact, size of affected population, strength of evidence base and ease of implementation (Appendix 6)

The HIA has also strengthened the evidence base for interventions that aim for equitable, effective and sustainable improvement in cardiovascular health and wellbeing. It has done this by gathering and interpreting information that will inform the first review of the CVSFW in 2011/12 as well as the development and implementation of other service frameworks.

Introduction

In 2007, the Department of Health, Social Services and Public Safety (DHSSPS) in Northern Ireland began the development of a series of Service Frameworks to set out explicit standards for health and social care as a guide to those delivering and receiving care as well as supporting the planning, developing and commissioning of health and social care services.

The Cardiovascular Service Framework (CVSFW) was launched in 2009 as the first of these frameworks and sets in place 45 standards for good practice in the prevention and treatment of cardiovascular diseases in Northern Ireland. One of its principles is equity of access to Health and Social Care Services.

The Northern Ireland Public Health Strategy Investing for Health (2002) recognises health impact assessment (HIA) as a methodology to identify and evaluate the implications of policy developments to maximise health gain and assess impacts on health inequalities.[1]

Charged with the implementation of the CVSFW in 2009, the Public Health Agency Northern Ireland (PHA) therefore undertook a HIA to determine its potential to increase health equity for the population of Northern Ireland with support from the Institute of Public Health in Ireland (IPH), Erica Ison, a specialist practitioner in HIA (affiliated to the Public Health Resource Unit Oxford), the Health and Social Care Board (HSCB) and other agencies.

HIA is defined as 'a *combination of procedures, methods and tools by which a policy, programme or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population'*.[2]

This report outlines the health impact assessment (HIA) undertaken on the CVSFW and is divided into two sections:

- Part one presents the background to the CVSFW and the HIA methodology.

- Part two presents the main outputs arising from the HIA and the Health Action Plan, which has been developed to facilitate the inclusion of the HIA suggestions into the business planning activities of the PHA, the Health and Social Care Board (HSCB) and other agencies.

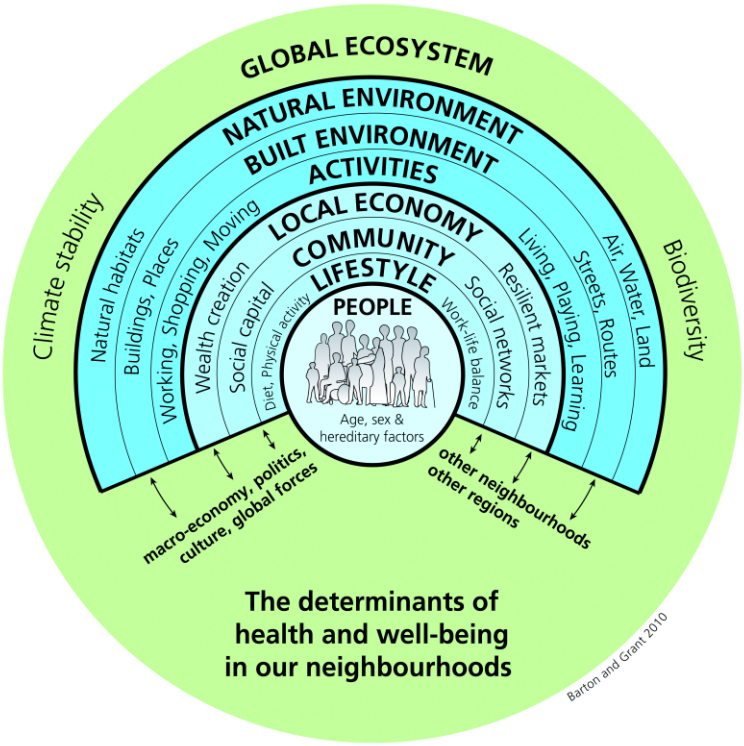
This report has been written to share lessons from this HIA to enhance policy development for improved health in the development, implementation and revision of this and other Service Frameworks in Northern Ireland.

Part one: Methodology

1. Cardiovascular health and its determinants

Health is determined not only by access to quality healthcare services and lifestyle choices but also by the social and economic conditions in which people live. These include many factors, which lie outside the healthcare sector, such as housing, employment, transport and access to fresh food as demonstrated in Figure 1.

Figure 1 The social determinants of health[3]



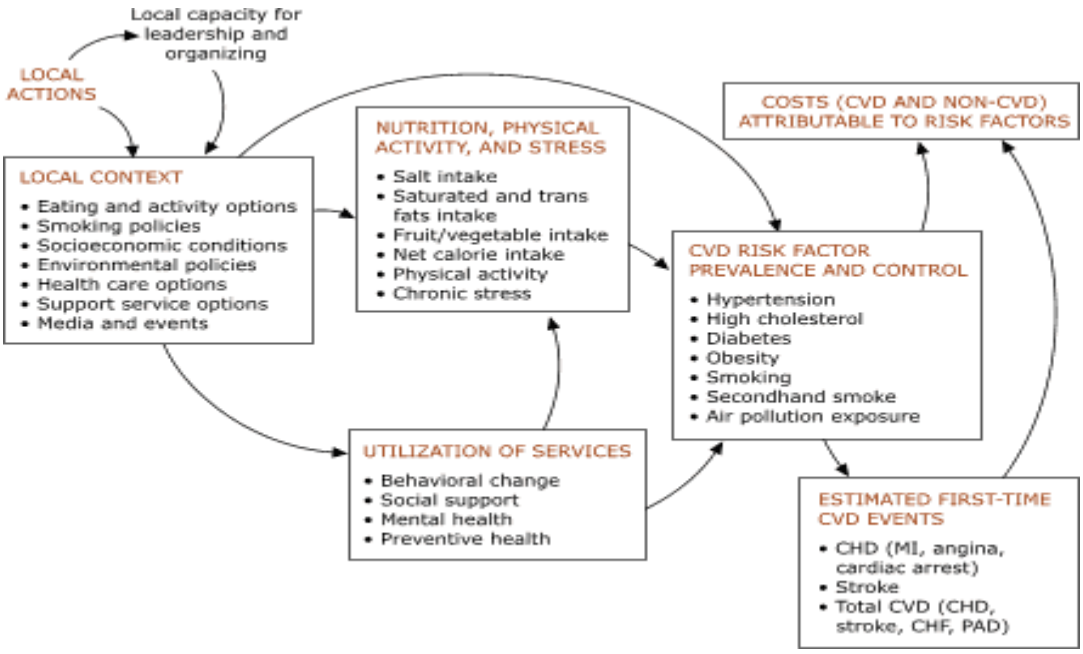
There are many determinants which impact on cardiovascular disease. Individual lifestyles are major contributors and smoking remains one of the biggest risk factors for the disease alongside sedentary lifestyles and alcohol consumption.

Circumstances experienced during the early years influence health and wellbeing into adulthood. Breastfeeding can help protect against obesity, while physical activity and eating habits developed from a young age often form lifelong patterns of behaviour.

Living and working conditions also impact on health. Type of job, level of control and employment conditions are major factors. Educational achievement and income are also powerful influences on health. The environment where we live can provide access to open and green space, which plays an important part in physical activity patterns alongside available transport infrastructure.

As well as physical health impacts, all of these factors also influence mental health and emotional wellbeing. Figure 2 provides an overview of the determinants of health in relation to cardiovascular disease.

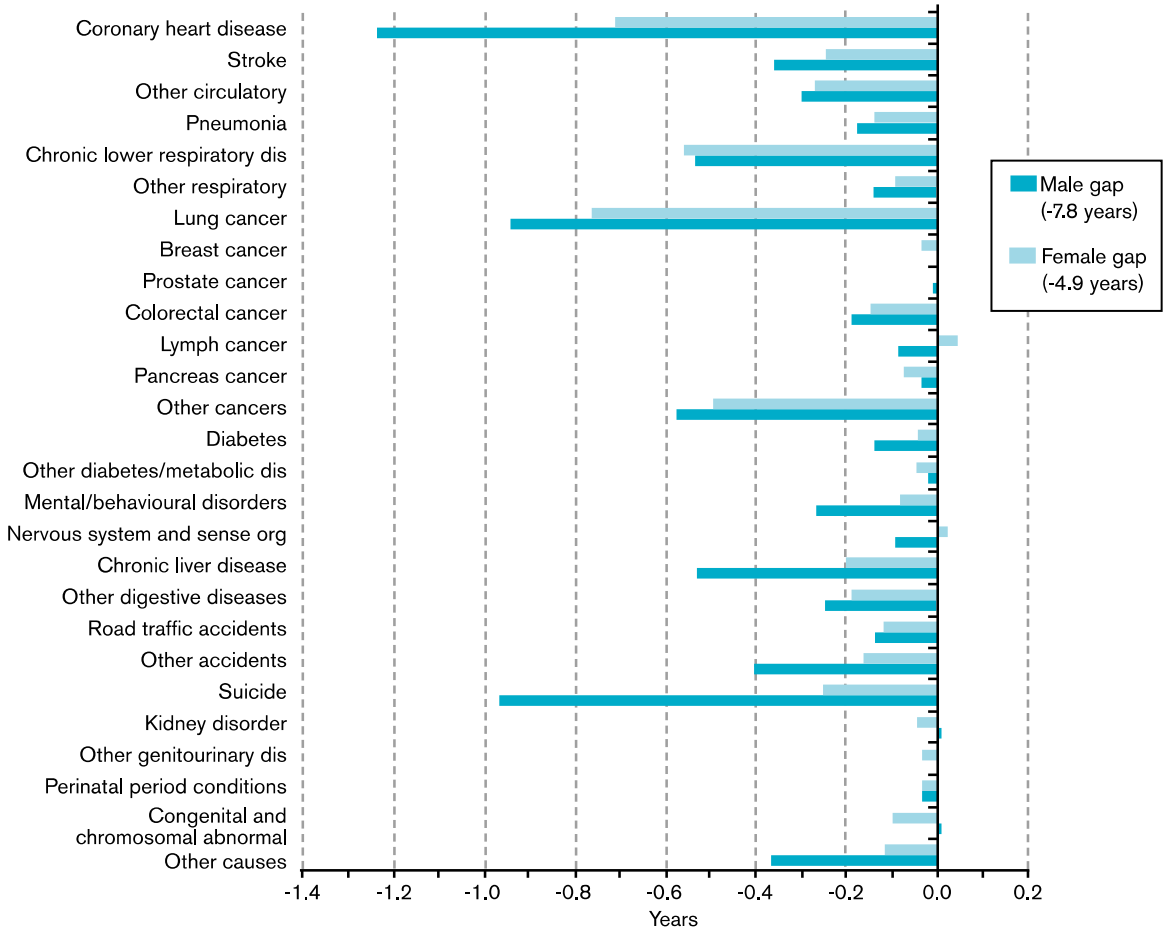
Figure 2 Cardiovascular health and its contributory factors[4]



There are large differences in the health outcomes experienced by individuals in Northern Ireland, particularly in relation to cardiovascular health. Health inequalities are differences in health and wellbeing experienced by individuals or groups in society such as different socio-economic groups or between men and women.

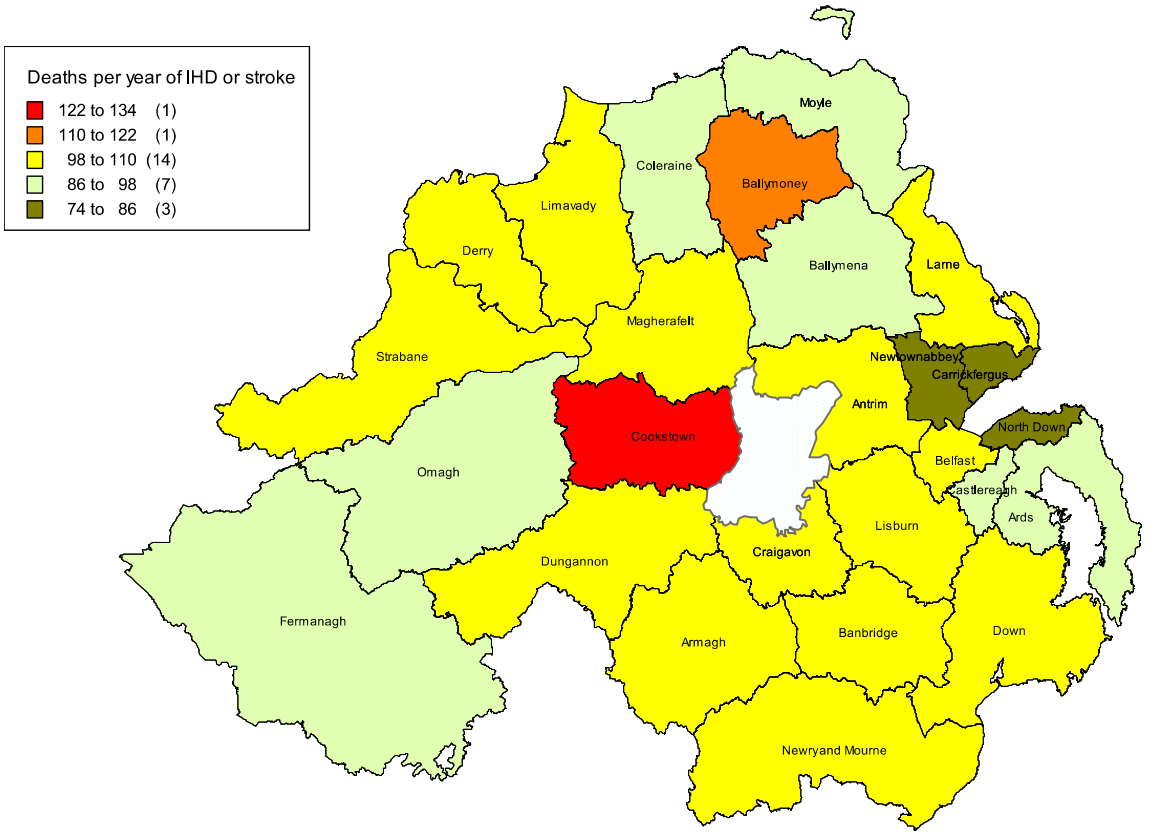
For example, men living in the 20% least deprived areas in Northern Ireland live on average almost 8 years longer than men in the 20% most deprived areas. For women this gap is 5 years, and the main contributor to this difference despite significant changes for the better in recent decades remain the circulatory diseases referred to in the CVSFW with the notable addition of suicide and lung cancer (Figure 3).[5]

Figure 3 Contribution to the life expectancy gap between 20% least deprived areas in Northern Ireland (2006–08) by cause of death (years)



Health inequalities can also occur within or between geographical areas, as the following figure shows: people living in Cookstown and Ballymoney District Council Areas are more likely to die from cerebrovascular (CVD = stroke) or ischaemic heart disease (IHD) than those from other areas in Northern Ireland (Figure 4).

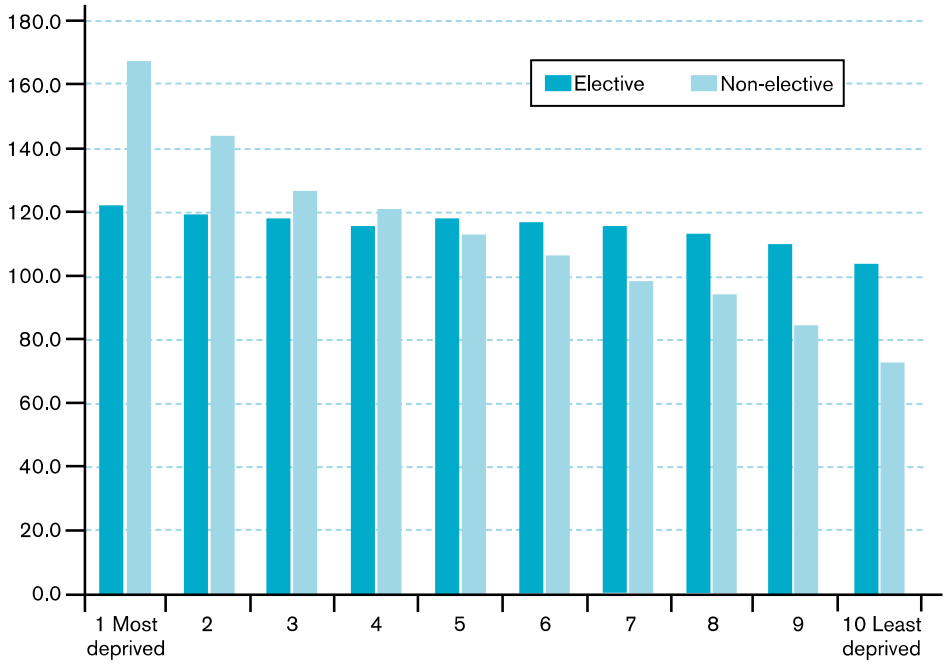
Figure 4 Comparative death rates for IHD or stroke 2006–2008 (Northern Ireland average = 100)



Inequities in health are avoidable differences in the opportunity to be healthy, and in the risk of illness and premature death which can arise from an unfair distribution of services, resources or power. As they relate to service provision, amongst others, they are more amenable to remedial action by service providers including HSC.

Disadvantaged people tend be less healthy and therefore on average need more HSC services than wealthier members of society, but there is ample evidence for inequitable access to health services for people with cardiovascular disease. Figure 5 shows that, despite higher levels of ill health, people from lower socioeconomic groups are not significantly more likely to be admitted to hospital for elective, ie planned, admissions for investigations or treatment than those from higher socioeconomic groups, but instead are much more likely to come to hospital for emergency treatment, which carries higher risks for poorer outcomes, because complications are more common in such situations.

Figure 5 **Elective and non-elective treatment rates, by economic deprivation decile 2001–2002 (per thousand population)**



Source: Belfast HSCT, 2008

2. Cardiovascular service framework

In 2007 the DHSSPS commenced a development programme of service frameworks to support the improvement of health and wellbeing of the people of Northern Ireland. Each framework sets out explicit standards for health and social care that are evidence based and capable of being measured through a suite of performance indicators.

The first series of service frameworks focussed on the most significant causes for ill health and disability in Northern Ireland - cardiovascular health and wellbeing, respiratory health and wellbeing, cancer prevention, treatment and care, mental health and wellbeing and learning disability. Further priority areas for service framework development include older people and children and young people.

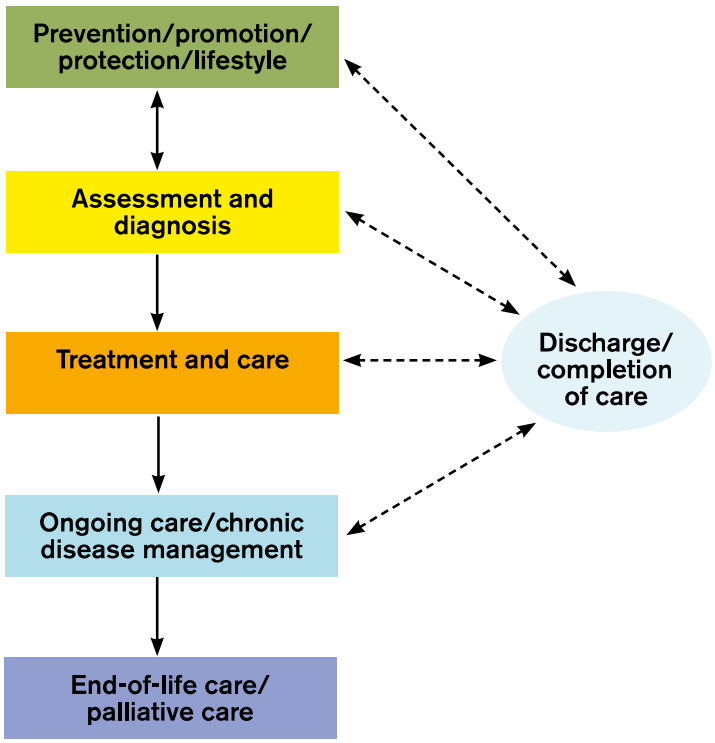
Service frameworks have been identified as a major strand of the reform of health and social care services and provide an opportunity to:

- Strengthen the integration of health and social care services,
- Enhance health and social wellbeing through population health improvement and prevention of ill health, identification of those at risk of illness and protection of individuals and local populations from harm and disease,
- Promote evidence-informed practice,
- Focus on safe and effective care, and
- Enhance multidisciplinary and intersectoral working.

This requires participation of the public, service users and carers in the context of their families and communities. There also needs to be effective information management and leadership to facilitate the necessary change within Health and Social Care to improve population health outcomes in line with priorities, one of which is the reduction of health inequalities.

Cardiovascular diseases remain the main cause of death and disability in Northern Ireland. To address this the CVSFW was published in June 2009 and outlines 45 standards in prevention, diagnosis, treatment, care, rehabilitation and palliative care for organisations, practitioners, individuals and carers (Figure 6).[6] Each standard is supported by between one and four key performance indicators (KPIs) with anticipated levels of performance to be achieved over three years from March 2010 to March 2012.

Figure 6 Development of Service Frameworks



3. Northern Ireland policy context

Many policies and strategies are relevant to the implementation of the CVSFW. These include those developed by the DHSSPS that impact directly on HSC services:

- Investing for Health, 2002,
- Northern Ireland Five Year Tobacco Action Plan (2003-08), 2003,
- Caring for People Beyond Tomorrow, 2004,
- Fit Futures: Focus on Food, Activity and Young People, 2006,
- New Strategic Direction for Alcohol and Drugs (2006-2011), 2006,
- Northern Ireland Stroke Strategy: Improving stroke services in Northern Ireland, 2006,
- Living Matters, Dying Matters. Palliative Care Strategy for Northern Ireland, 2010.

These operate alongside a wide range of strategies beyond the health sector such as:

- Lifetime Opportunities Government's Anti- Poverty and Social inclusion Strategy for Northern Ireland, Office of the First and Deputy First Minister, 2006,
- Programme for Government 2008-2011 Public Service Agreement Framework, Northern Ireland Executive, 2008 (revised).

It is important to take these policies into consideration because they influence the socio-political environment in which the CVSFW is taken forward. Health and other policies can affect the CVSFW's ability to impact on health inequities and inequalities both positively and negatively through their influence on health and its wider determinants.

For a health policy like the CVSFW that focuses on HSC services, success depends on many factors that lie outside the remit of the DHSSPS in the areas of education, employment, social policy, housing, transport and the environment. This is why this HIA undertook to also assess the interplay between the CVSFW and the social determinants of health.

4. Health impact assessment

HIA is defined as '*a combination of procedures, methods and tools by which a policy, programme or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population'.*[2] HIA provides information for decision makers on the potential health effects of a proposal and makes suggestions on how to enhance the proposal in favour of health.

Undertaking a HIA on the CVSFW

Our approach to the HIA was based on established good practice guidance for HIA developed internationally and in Northern Ireland by the Institute of Public Health in Ireland.[7] This follows a systematic, participatory process and is undertaken as a rapid appraisal which gathers information from a range of sources and stakeholders without requiring new generation of data through original research.

The decision to conduct an HIA of the Northern Ireland CVSFW was arrived at without a formally recognised screening stage. Instead a strategic decision was taken:

1. To test the effect of implementing the framework on health inequalities and inequities in relation to cardiovascular diseases, which is one of the key intentions behind the development of service frameworks;

2. To harvest the learning from the HIA on the CVSFW and apply it to the development of other service frameworks to ensure that any unintended effects especially on health inequalities and inequities are minimised or avoided.

A HIA Management Group was established to undertake the collection and collation of evidence and oversee operational areas of work. Overall responsibility for the conduct of the HIA rested with the HIA Steering Group (members listed in Appendix 1, terms of reference in Appendix 2), who agreed the scope and approach to the HIA (HIA scope in Appendix 3).

The values of ***Equity, Accessibility, Democracy and Sustainability*** guided the HIA.

The aims and objectives for the HIA were as follows:

Aims:

- To identify and assess the potential effects of the implementation of the CVSFW on health and health inequalities, including those that are unintended.
- To frame suggestions to enhance any positive and mitigate or avoid any harmful effects on health and health inequalities that could be attributed to implementation of CVFSW.
- To support, complement and add to the evidence base on which health and social care standards are based.
- To inform and help to refocus where necessary the development and implementation of subsequent service frameworks.

Objectives:

- To describe information and data management needs to monitor the health inequalities impact of CVSFW implementation, identify gaps and make recommendations for research,
- To strengthen the CVSFW with a focus on the evolving work and role of Local Commissioning Groups (LCGs),
- To contribute to staff training needs identification and development of an education programme for a learning organisation as envisaged in the CVSFW,
- To develop and present suggestions to enhance the health equity focus of the CVSFW implementation process,
- To enhance quality improvement in health and social service delivery, and
- To evaluate the process and effectiveness of the HIA on the CVSFW and inform implementation and development processes of further service frameworks.

A proposal analysis of the CVSFW was undertaken, including an in-depth analysis of each of the 45 standards. The results of the proposal analysis were used to inform the development of:

- the scope or terms of reference for the HIA (see Appendix 2), which was then discussed and agreed by the HIA Steering Group;

- an appraisal tool comprising two related versions depending on nature of stakeholders being consulted (see Appendix 5), which was tested and amended following testing.

Information gathering

A literature review and a community profile were undertaken according to specifications in the scope.

A desk-top analysis of the 45 standards in the CVSFW was undertaken by members of the HIA Management Team and Steering Group. Following this, several consultations were undertaken with health and social care professionals, third sector professionals and representatives, patient groups and user groups at Healthy Living Centres, who had relevant expertise and/ or experience as listed below:

Community engagement sessions:
- Maureen Sheehan Centre, Belfast, 27 May 2010
- Gasyard Healthy Living Centre, Derry, 14 June 2010
- Ards Peninsula Healthy Living Centre, Kirkubbin, 20 July 2010
- Loughguile Millennium Centre, County Antrim, 5 August 2010

Statutory stakeholder engagement session:
- Farset International, Belfast, 24 June 2010

Each consultation covered a range of issues including the following:

- Existing health inequities and inequalities in relation to standard;
- Potential barriers to realising the standard in question;

- Potential impacts on health services and staff, including changes in demand and need;
- Potential impacts on population and individual health and wellbeing;
- Potential impacts on health inequities and inequalities;
- Potential effects on wider health determinants;
- Suggestions on how to enhance positive and minimise negative potential impacts on health inequities and inequalities arising from standard implementation.

Analysis and development of suggestions

The results of the desk-top analysis and the consultations were combined for each standard and presented in a standard format for further analysis. The analysis of the results was then presented in two ways according to:

1. Issues being investigated during the HIA, eg barriers to implementation of the standards, pre-existing health inequalities and inequities relating to the standards, effect of implementation on need and demand for services, and suggestions to reduce any unintended effects on health inequalities and health inequities (Section 7.1);

2. Section within the CVSFW, for instance, effects of the diabetes standards, the heart disease standards, the peripheral vascular disease standards etc (Section 7.2).

Selection and prioritisation of HIA suggestions

Due to the vast number of suggestions arising from the analysis, the HIA Steering Group agreed to develop a prioritisation methodology.

In the first instance, suggestions made during the HIA were assessed for duplication and overlap and likelihood of being actionable. Following this "cleaning" process, suggestions were prioritised according to a set of criteria agreed by the HIA Steering Group. These were:

- Effect of suggestion on health inequalities or inequities
- Number of people affected by suggestion
- Evidence of effectiveness for suggestion
- Feasibility of implementing suggestion
- Achievability of suggestion, eg through service redesign

These criteria were applied to standards 1 – 15 (communication, health improvement, hypertension, hyperlipidaemia and diabetes). Each standard was scored to give an impression of how it was judged to perform against the five criteria. This was visually demonstrated on a scoring sheet, giving an easily accessible overview, which allows selection of standards based on above criteria to identify those most likely to benefit health inequalities or inequities, those affecting a large number of people, those with a strong evidence base or those most easily implemented or achievable through service redesign (Appendix 6).

Suggestions relating to standards 16 – 45 (heart disease, stroke, peripheral vascular disease, renal disease and palliative care) were referred to the following groups who were

already progressing work in the identified area and therefore well placed to progress the HIA suggestions:

- Cardiac Network
- Stroke Strategy Implementation Group
- Renal Sub-Group of Specialist Services Commissioning Group
- Peripheral Vascular Disease Network
- Palliative Care Strategy Implementation Board

Once suggestions had been prioritised and allocated to groups, the Health Action Plan (Appendix 9) was developed by members of the HIA Steering Group in a workshop and then refined by the HIA Management Team. As the CVSFW was already published and subject to implementation, there was a strong focus on developing mechanisms for its implementation as a major output of the HIA.

HIA outputs

The Health Action Plan has been taken into consideration by PHA for its contribution to the HSC Corporate Commissioning Plan 2011/12. It also continues to be progressed through ongoing implementation, development and review of the CVSFW within the HSCB/ PHA commissioning and DHSSPS policy structures.

A number of the HIA suggestions relate to public awareness campaigns and these are presented as a separate section in the Health Action Plan.

The reporting for this HIA includes some elements of the traditional HIA process, but has been augmented by the detailed development of a Health Action Plan and its mechanisms for implementation in order to enhance the potential of the Northern Ireland Cardiovascular Service Framework to reduce health inequalities and inequities.

Part two: Results

In this part of the report, we summarise the information gathered for the HIA in the cardiovascular health profile for Northern Ireland (Section 5) and the literature review of interventions to improve cardiovascular health (Section 6).

In Section 7, we present the findings arising from the HIA. To capture the learning from the HIA, Section 8 provides a summary, outlining HIA findings and recommendations for each of the sections and standards of the CVSFW (Section 8.1).

The latter are recorded in detail in the Health Action Plan in Appendix 9. The report concludes by outlining how the HIA will benefit HSC organisations in their endeavour to improve health equity and reduce health inequalities through the development and implementation of systems of care including service frameworks (Section 8.2).

5. Cardiovascular health profile for Northern Ireland (summary)

A community profile was developed to present a snapshot of cardiovascular health in Northern Ireland. A range of data was used, including the Northern Ireland Census, the Continuous Household Survey and the Health and Wellbeing Survey. Information has been extracted for different population groups such as local government district or health and social care trusts where available. The full community profile is available at: www.publichealth.hscni.net and the data inventory containing all information sources is available in Appendix 4.

Morbidity and mortality

- Circulatory diseases* remain the main cause of death in Northern Ireland and can be partly attributed to lifestyles including sedentary behaviour, patterns of eating, smoking and alcohol consumption.

- Northern Ireland population levels are expected to continue to grow and age with the population group aged 75+ years increasing most rapidly, namely by a third between 2010 and 2020.

- There is a proven link between levels of deprivation and factors such as life expectancy and mortality rates, with people living in deprived areas much more likely to die at a younger age than those of living in affluent areas.

- There is a notable gap in life expectancy between different socio-economic groups. In the years 2006-2008, males living in the 20% least deprived areas could expect to live 8 years longer than their counterparts in the 20% most deprived areas. For females this gap was 5 years.

- Ischaemic heart disease (IHD)† and cerebrovascular (CVD = stroke) disease accounted for 19% of the deaths of people aged 15-74 years over the period 2001-2008 and for the deaths of 30% of those aged 75 years and over.

- Circulatory disease standardised death rates have decreased from 2001, but this has not occurred evenly across all population groups; the inequality gap increased from 35% in 2001 to 46% in 2008.

- Mortality from IHD shows a similar pattern. Those in the most deprived quintile are 40% more likely to die before 75 than the NI average and more than twice as likely as the least deprived areas.

- Lower socio-economic groups are more likely to suffer coronary heart disease (CHD)‡ yet these groups are less likely to present for elective cardiac surgery to get treatment.

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* **Circulatory diseases** involve the heart or blood vessels (arteries and veins) in the remainder of the body, including the brain, kidneys and limbs.
† **Ischaemic heart disease** is characterized by ischaemia (reduced blood supply) to the heart muscle, usually due to coronary artery disease (atherosclerosis of the coronary arteries).
‡ **Coronary heart disease** refers to the failure of coronary arteries to supply adequate circulation to cardiac muscle and surrounding tissue.

Lifestyle factors contributing to cardiovascular health

- Males and females from manual occupations have higher rates of smoking than non-manual groups.[8]

- Around 60% of the adult population[9] and approximately 22% of primary school children in Northern Ireland are either overweight or obese.[10]

- People living in the most deprived 20% of residential areas of Northern Ireland are over 4 times as likely to die from misuse of alcohol those from more affluent areas.[11]

Social determinants contributing to cardiovascular health

- In 2008, 3.6% of young people in Northern Ireland left school with no GCSEs.[12]

- Older people, especially those living alone, in Northern Ireland are more likely to live in houses unfit for human habitation than any other population group.[13]

- One quarter of all households in Northern Ireland do not have access to a car, but with public transport in short supply, most people are dependent on cars for travel.[14]

6. Interventions to improve cardiovascular health (summary)

We reviewed international research to determine the links between cardiovascular disease and its determinants and identified appropriate and effective interventions to address them. A major focus was placed on the impact on different population groups. The main findings from this work are presented here and the full literature review and references are available at: www.publichealth.hscni.net

- The major risk factors for cardiovascular disease include smoking, history of high blood pressure or diabetes, waist hip ratio and physical inactivity. Effective prevention of cardiovascular disease is dependent on the effective reduction of these risk factors, especially smoking and diet.

- People from deprived areas are at higher risk from cardiovascular disease than people living in more affluent areas. Smoking is more prevalent in people from deprived areas. Unemployment, job insecurity and low education levels are all associated with increased risk of cardiovascular disease. The quality of the residential environment has an impact on cardiovascular risk, for example in terms of opportunities to be physically active, having adequately warm housing and experiencing living conditions which promote mental health like social networks with neighbours, family and friends.

- Access to cardiovascular services may be reduced for people from deprived areas and also for women, older people, people from ethnic minorities and people with mental health problems or learning disabilities.

- People from more deprived areas can be less likely to benefit from services to prevent ill health and improve lifestyle, because they often suffer from poorer health to begin with and live in difficult circumstances, which make it harder to change to a healthier lifestyle.

  Action to reduce health inequalities must be universal, but with a scale and intensity proportionate to the level of deprivation. This is supported by evidence that population-wide approaches especially through legislation like are generally effective and, unlike individual screening approaches, can reduce health inequalities.

7. Health impact assessment findings

This section presents the analysis of results from stakeholder engagement sessions. This analysis forms the basis and complements the Health Action Plan. It highlights areas for action in relation to the CVSFW and its impact on health inequalities and inequities. Further analysis may be found in Appendix 7.

The analysis has been conducted by the HIA Assessor, Erica Ison, and is presented in two sections:

Section 7.1 provides an overview of the analysis under the aspects considered by the HIA, namely health inequalities and inequities, barriers to implementation, effects on staff, service demand and needs and wider determinants of health. Findings from the analysis are presented using the median as a comparator. This allows the reader to contextualise the HIA findings in relation to individual standards and focus attention within sections and across the CVSFW as a whole.

Section 7.2 presents analysis and observations for each of the ten CVSFW sections and includes standard specific recommendations.

7.1 Overview

Of the 45 standards contained in the CVSFW:

- 41 (91%) were thought to be associated with ***pre-existing health inequalities***- 32 types of health inequalities were identified, with the number associated with each standard ranging from 1 to 24 (median of 2). The inequality most frequently mentioned was ***belonging to a lower socio-economic group***, which was mentioned in relation to 24 (53%) of the standards;

- 43 (96%) were thought to be associated with ***pre-existing health inequities***- 50 types of health inequities were identified, with the number associated with each standard ranging from 1 to 22 (median of 3). The inequity most frequently mentioned was ***geographical access to health and social care services***, which was mentioned in relation to 22 (49%) of the standards;

- 45 (100%) were considered to be associated with ***barriers to implementation***, ranging from 1 to 32 in number (median 9)- 19 (42%) of the standards were associated with a number of barriers greater than the median;

- implementation of 20 (44%) was assessed as likely to ***increase demand for health and social care services***;

- implementation of 9 (20%) was assessed as likely to ***reduce future need for services***, whereas implementation of 7 (16%) was judged to increase need for some services but decrease it for others;

- implementation of 20 (44%) was thought to have both positive and negative ***effects on staff***;

- with respect to ***population health***, implementation of 24 (53%) was considered beneficial, with a further 7 (16%) being beneficial but either to only a small number of people and/or at high cost or associated with opportunity costs;

- with respect to the ***health of individuals***, implementation of 18 (40%) was considered beneficial, with a further 4 (9%) being beneficial to individuals in particular population sub-groups – however, implementation of another 6 (13%) was judged as beneficial to most individuals but harmful to some;

- implementation of 4 (9%) was assessed as ***reducing health inequalities***, with a further 11 (24%) thought to have this effect only ***if*** vulnerable groups in the population are targeted;

- implementation of 14 (31%) was assessed as ***reducing health inequities***, with another 1 (2%) reducing inequities in rural areas and a further 7 (16%) having this effect only ***if*** certain caveats are fulfilled – however, for 5 (11%) other standards, although the effect of implementation was likely to reduce inequities this effect was thought to incur opportunity costs elsewhere;

- 44 (98%) were judged to have a positive effect by improving wider determinants of health, with the number of determinants being affected ranging from 1 to 32 (median 17) – 21 (47%) standards had a positive effect through a number of determinants of health greater than the median;

- 42 (93%) had a positive effect on ***access to services and facilities***, 40 (89%) were positive through ***improving lifestyle and personal circumstances***, and 31 were positive through affecting both ***economic and social factors***;

- 25 (56%) were judged to have a negative effect by impairing the wider determinants of health, with the number of determinants being affected ranging from 0 to 11 (median 1) – 18 (40%) standards had a negative effect through a number of determinants of health greater than the median;

- 14 (31%) had a negative effect on access to services and facilities, 11 (24%) were negative through their negative effects on lifestyle and personal circumstances, 7 (16%) were negative through social factors and 5 (11%) were negative through affecting economic factors – however, 19 (42%) did not have any negative effect through the determinants of health.

Full details of the analysis of HIA findings by question are available in Appendix 7.

Suggestions to address the potential effects on health inequalities and inequities of implementation of the CVSFW were made about all 45 standards, the number ranging from 2 to 24, with a median of 8. Twenty-two of the standards (49%) were associated with a number of suggestions greater than the median (Table 1 on page 39).

7.2 Analysis and observations

Findings from the HIA analysis and observations relating to individual standards are presented in the following. Full details of the analysis of HIA findings by standard and CVSFW section are available in Appendix 8.

Communication: standards 1-2 (n=2)
All of the standards were thought to:

- reduce health inequalities;
- have positive effects through the determinants of health greater than the median;
- have positive effects on the determinants of health in all domains ***except*** for the environment.

Half of the standards were considered to:

- be associated with pre-existing health inequalities greater than the median;
- be associated with pre-existing health inequities greater than the median
- be associated with barriers to implementation greater than the median;
- decrease future need;
- have negative and positive effects on staff;
- be beneficial for population health
- be beneficial for individuals' health;
- be beneficial for individuals' health but have some negative effects as well;
- reduce health inequities;
- have no negative effects through the determinants of health.

Observations
Although one of the Communication standards (standard 1) is associated with a number of pre-existing health inequalities greater than the median, implementation of ***both*** Communication standards was thought likely to reduce health inequalities.

The Communication standard associated with a number of pre-existing health inequities greater than the median (standard 1) is also likely to reduce the level of health inequities on implementation.

Standard 1 is beneficial for population health but associated with barriers to implementation greater than the median, whereas standard 2 is beneficial individuals' health.

Prevention: standards 3-9 (n=7)
The great ***majority*** of standards (5 or 6) were judged to:

- be associated with barriers to implementation greater than the median;
- have negative and positive effects on staff;
- be beneficial for population health;
- have both benefits and harms for individuals' health;
- have positive effects through the determinants of health greater than the median;
- have positive effects through the determinants of health in all main domains;
- have negative effects through the determinants of health greater than the median.

Around ***one-third to nearly one half*** of standards (2 or 3) were assessed as:

- being associated with pre-existing health inequalities greater than the median;
- being associated with pre-existing health inequities greater than the median;
- increasing demand for services;
- having no negative effects through the determinants of health.

Observations
Almost half of the standards in this section are associated with pre-existing health inequalities greater than the median, although implementation of none of the standards was judged likely to reduce health inequalities.

Although two of the standards in the Prevention section (standards 3 and 7) are associated with pre-existing inequities greater than the median, depending on the nature of implementation (certain caveats need to be fulfilled), both could reduce health inequities, as could implementation of standard 8.

Six of the seven standards in the Prevention section (standards 3-8) are associated with barriers to implementation greater than the median, thus it is important to address these barriers because implementation of the same six standards was thought to be beneficial to population health

Although implementation of standards 3-7 is likely to have negative effects greater than the median through the determinants of health, implementation of standards 3-8 is also likely to have many positive effects greater than the median through the determinants of health. In fact, positive effects on health and well-being are likely to occur in all five main domains of determinants – lifestyle and personal circumstances, access to services and facilities, social factors, economic factors and environmental factors.

Hypertension: standards 10-11 (n=2)
All of the standards were thought to:

- have negative effects on staff;
- reduce health inequalities if all relevant people are treated and/or receive services;
- have negative effects on health through the determinants of health greater than the median.

Half of the standards were considered to:

- be associated with pre-existing health inequalities greater than the median;
- be associated with pre-existing health inequities greater than the median
- be associated with barriers to implementation greater than the median;
- increase demand for services;
- increase need for some services and decrease need for others;
- have benefits for individuals' health but could be harmful through medicalising people;
- have positive effects through the determinants of health greater than the median;
- have positive effects through the determinants of health in ***all*** of the main domains.

Observations
Although standard 10 is associated with pre-existing health inequalities and standard 11 with pre-existing health inequities, the implementation of both standards is likely to reduce health inequalities ***if*** all relevant people are treated/receive services and to reduce health inequities depending on the nature of implementation (certain caveats need to be fulfilled).

However, barriers to implementation greater than the median are associated with standard 10, and both standards are associated with negative effects on staff. Standard 10 is also likely to increase demand for some services.

Only standard 10 is associated with a number of positive effects through the determinants of health greater than the median, including positive effects in all five main domains, however, both standards are likely to have negative effects through the determinants of health greater than the median.

Hyperlipidaemia: standard 12 (n=1)
The ***only standard*** was judged to:

- be associated with pre-existing health inequities greater than the median;
- increase demand for services;
- increase the need for some services but decrease the need for others;
- be beneficial for population health;
- be beneficial for individuals' health but could cause harm by medicalising people;
- increase health inequalities depending on the level of diagnosis;
- increase health inequities;
- have no negative effects through the determinants of health.

Observations
Although this standard was judged to be beneficial for population health, not only is it associated with a number of pre-existing health inequities greater than the median but it was judged likely to increase both health inequalities (depending on the level of diagnosis) and health inequities. Implementation is likely to increase demand, but it is not anticipated to have any negative effects through the determinants of health.

Diabetes: standards 13-15 (n=3)

Two-thirds of standards (2 of the standards) were assessed as:

- being associated with pre-existing health inequities greater than the median;
- increasing demand for services;
- having negative and positive effects on staff;
- being beneficial for population health;
- having benefits and some harms for individuals' health;
- having negative effects on health through the determinants of health greater than the median.

One-third of the standards (1 of the standards) were thought to:

- be associated with barriers to implementation greater than the median;
- have no negative effects through the determinants of health.

Observations

Standards 13 and 14 are both associated with a number of pre-existing health inequities greater than the median, but implementation of only standard 13 is thought to reduce inequities depending on whether certain caveats around implementation are fulfilled.

Despite this, both standards 13 and 14 were considered to be beneficial to population health. The same standards were considered beneficial to most individuals' health but harmful to one population subgroup.

However, standards 13 and 15 were thought to have negative effects through the determinants of health greater than the median.

Heart Disease: standards 16-28 (n=13)
All of the standards were thought to be beneficial for population health, although for almost half of these standards this benefit was judged to be either at high cost or associated with opportunity costs.

The ***majority*** of standards (9-11 of the standards) were considered to:

- be beneficial for individuals' health;
- reduce health inequalities ***if*** vulnerable groups are targeted.

Around ***half*** of the standards (6-7 of the standards) were judged to:

- have negative and positive effects on staff;
- reduce health inequities;
- have positive effects through the determinants of health greater than the median;
- have positive effects through the determinants of health in all main domains ***except*** the environment.

Around ***one-third*** or more of the standards (4-5 of the standards) were assessed as:

- being associated with health inequities greater than the median;
- increasing demand for services;
- increasing demand for some services and decreasing demand for others;
- having negative effects through the determinants of health greater than the median.

Observations
Although only one of the Heart Disease standards was associated with a number of pre-existing health inequalities greater than the median, more than 75% of these standards were associated with the most frequently mentioned inequality of being in a lower socio-economic group. Despite this, implementation of 85% of these standards was judged to reduce health inequalities ***if*** vulnerable groups are targeted.

A greater number of Heart Disease standards (almost 40%) was associated with a number of pre-existing health inequities greater than the median, and more than half (54%) of these standards were associated with the most frequently mentioned pre-existing health inequity of geographical access to services. It is worth noting that although implementation of almost half of the Heart Disease standards (46%) was thought to reduce health inequities, standard 20 was not judged to have this effect and yet was associated with a relatively high number of pre-existing health inequities, whereas standard 18 (also with a relatively high number of pre-existing health inequities) was thought to have this effect but would be likely to incur opportunity costs.

This whole group of standards was thought to be beneficial for population health, but for nearly half of them this effect could be associated with high costs or opportunity costs. The majority of Heart Disease standards were also thought to be wholly beneficial for individuals' health, apart from standards 17 and 21 which, in addition to being beneficial to some people, would be likely to harm others.

Cerebrovascular Disease: standards 29-32 (n=4)
All of the standards were judged to:

- have positive effects on staff ***if*** implementation of the standards is properly resourced;
- have positive effects through the determinants of health greater than the median;
- have positive effects through the determinants of health in all main domains ***except*** for the environment.

Three-quarters of the standards (3 of the standards) were thought to:

- be beneficial for individuals' health;
- reduce health inequities;
- have no negative effects through the determinants of health.

Half of the standards (2 of the standards) were considered to:

- be associated with pre-existing health inequalities greater than the median;
- be associated with barriers to implementation greater than the median;
- increase demand for services;
- decrease future need for services.

Observations
Of the two Cerebrovascular Disease standards (standards 31 and 32) associated with a number of pre-existing health inequalities greater than the median, only the implementation of standard 32 was judged likely to reduce health inequalities. However, none of these standards were associated with a number of health inequities greater than the median and yet the implementation of three was judged to reduce them, and the implementation of the remaining standard was thought likely to do so depending on the nature of implementation.

While two standards were likely to increase demand, and another to increase demand for some services while reducing demand for others, none of them were thought to increase future need. Moreover, with the caveat of proper resourcing, most of the Cerebrovascular Disease standards were considered to have positive effects on staff, and to be beneficial to individuals' health.

In terms of the wider determinants of health, all four Cerebrovascular Disease standards are likely to have a relatively high number of positive effects, and also positive effects in all domains except the environment, with no commensurate negative effects whatsoever.

Peripheral Vascular Disease: standards 33-38 (n=6)
The ***majority*** of the standards (5 of the standards) were judged to have no negative effects through the determinants of health.

Two-thirds of the standards (4 of the standards) were thought to:

- increase demand for services;
- be beneficial for individuals' health for people in particular population subgroups.

Half of the standards (3 of the standards) were considered to:

- have positive effects on staff including if the implementation of one standard is properly resourced;
- be beneficial for population health.

One-third of the standards (2 of the standards) were assessed as:

- decreasing future need for services;
- reducing health inequities.

Observations
None of the Peripheral Vascular Disease standards were thought to be associated with a relatively high number of pre-existing health inequalities or inequities. However, standards 35 and 38 are likely to reduce health inequities, while standard 35 could actually increase health inequalities.

The majority of Peripheral Vascular Disease standards (67%) are likely to increase demand for services, while another (17%) is likely to increase demand for some services but reduce demand for others.

Implementation of half of these standards is likely to have a positive effect on staff (especially if implementation of standard 35 is properly resourced), whereas implementation of the other half is likely to affect staff negatively.

The majority of Peripheral Vascular Disease standards (67%) are likely to be not only beneficial for population health, but also beneficial for the health of individuals in particular population subgroups. However, only standards 33 and 38 are beneficial for both the population, and individuals in particular groups. Standard 35 while beneficial to the population may actually harm some individuals, and standard 34 may confer both benefit and harm on some individuals.

Renal Disease: standards 39-42 (n=4)

Three-quarters of the standards (3 of the standards) were thought to:

- increase demand for some services and decrease demand for others;
- have negative and positive effects on staff;
- be beneficial for individuals' health;

Half of the standards (2 of the standards) were considered to:

- be associated with pre-existing health inequities greater than the median;
- increase need for some services and decrease the need for others;
- reduce health inequities;
- have negative effects through the determinants of health greater than the median.

Observations

Although standards 41 and 42 are both associated with a number of pre-existing health inequities greater than the median, both were judged likely to reduce health inequities, whereas implementation of standard 39 could increase health inequities. None of the Renal Disease standards were associated with a relatively high number of pre-existing health inequalities.

While only standard 39 was considered beneficial to population health, the remainder were considered beneficial to the health of individuals. Standard 39 was judged likely to confer both benefits and harms on individuals.

Demand for some services was thought to increase while decreasing for others as a result of the implementation of the majority of Renal Disease standards (75%). A similar pattern for future need was predicted for 50% of the Renal Disease standards.

Only standard 41 was thought to have wholly positive effects on staff, whereas the remainder of these standards were thought to have both positive and negative effects.

Supportive and Palliative Care: standards 43-45 (n=3)
All of the standards (3 of the standards) were judged to:

- increase demand for services;
- increase future need for services;
- have both negative and positive effects on staff;
- be beneficial for population health although for one of the standards this effect would be associated with opportunity costs.

Two-thirds of the standards (2 of the standards) were assessed as:

- being associated with barriers to implementation greater than the median;
- being beneficial for individuals' health;
- reducing health inequities within the specific context of the standard but could increase inequities elsewhere;
- having positive effects through the determinants of health in all domains ***except*** for the environment;
- having no negative effects through the determinants of health.

One-third of the standards (1 of the standards) were thought to:

- be associated with pre-existing health inequalities greater than the median;
- be associated with pre-existing health inequities greater than the median;
- have both benefits and harms for individuals' health;
- reduce health inequalities;
- have negative effects through the determinants of health greater than the median.

Observations
All of the standards in Supportive and Palliative Care are likely to increase not only demand but also future need for services.

Despite these effects, implementation of all of these standards is likely to have beneficial effects on population health (with standard 43 liable to incur opportunity costs). The effects on the health of individuals is also likely to be beneficial for 67% of the Supportive and Palliative Care standards, but standard 44 may confer both benefit and harm. As standards 43 and 45 are associated with a number of barriers to implementation greater than the median, they need to be addressed if the benefits are to be realised.

Although standard 44 is associated with a number of pre-existing health inequalities greater than the median, it was also the standard considered likely to reduce the level of health inequalities on implementation. Standard 43 is associated with a number of health inequities greater than the median, but its implementation is likely to reduce them only within the specific context of Supportive and Palliative Care, and could increase them elsewhere, as would implementation of standard 44.

The effects of implementation of all Supportive and Palliative Care standards on staff are likely to be both positive and negative.

Table 1. Key points from the analysis

	Sections in the Cardiovascular Service Framework									
	Communication	***Prevention***	***Hypertension***	***Hyperlipidaemia***	***Diabetes***	***Heart Disease***	***Cerebrovascular Disease***	***Peripheral Vascular Disease***	***Renal Disease***	***Supportive and Palliative Care***
Health inequalities greater than the median	1/2	3/7	1/2			1/13	2/4			1/3
Health inequities greater than the median	1/2	2/7	1/2	1/1	2/3	5/13			2/4	1/3
Barriers greater than the median	1/2	6/7	1/2		1/3	6/13	2/4			2/3
Increase demand for services		2/7	1/2	1/1	2/3	4/13	2/4	4/6		3/3
Increase demand some services; decrease demand others						5/13	1/4	1/6	3/4	
Increase future need										3/3
Increase need some services; decrease need others			1/2	1/1		2/13	1/4		2/4	
Decrease future need	1/2					2/13	2/4	2/6	1/4	

Key points from the analysis ***continued***

	Sections in the Cardiovascular Service Framework									
	Communication	***Prevention***	***Hypertension***	***Hyperlipidaemia***	***Diabetes***	***Heart Disease***	***Cerebrovascular Disease***	***Peripheral Vascular Disease***	***Renal Disease***	***Supportive and Palliative Care***
Negative effects on staff			2/2					3/6		
Negative and positive effects on staff	1/2	5/7			2/3	7/13			3/4	3/3
Positive effects on staff						2/13	4/4 ***if*** properly resourced	2/6; 3/6 ***if*** properly resourced	1/4	
Beneficial for population health	1/2	6/7		1/1	2/3	7/13; 2/13 at high cost; 4/13 with opportunity costs	1/4	3/6; 1/6 population subgroups	1/4	2/3; 1/3 with opportunity costs
Beneficial for individuals' health	1/2					9/13; 2/13 ***if*** patients want engagement	3/4	4/6 for those in particular population subgroups	3/4	2/3
Benefits most individuals; harms some					2/3	2/13	1/4	1/6		
Benefits and harms for individuals	1/2	6/7	1/2 people could be medicalised	1/1 people could be medicalised				1/6	1/4	1/3

Key points from the analysis ***continued***

	Sections in the Cardiovascular Service Framework									
	Communication	***Prevention***	***Hypertension***	***Hyperlipidaemia***	***Diabetes***	***Heart Disease***	***Cerebrovascular Disease***	***Peripheral Vascular Disease***	***Renal Disease***	***Supportive and Palliative Care***
Reduce health inequalities	2/2		2/2 ***if*** all relevant people are treated/ receive services			11/13 ***if*** vulnerable groups are targeted	1/4			1/3
Increase health inequalities				1/1 depending on level of diagnosis				1/6		
Reduce health inequities	1/2	3/7 depending on implementation	2/2 depending on implementation		1/3 depending on implementation	6/13	3/4	2/6	2/4	
Reduce health inequities in specific context but increase inequities elsewhere						3/13				2/3
Increase health inequities				1/1					1/4	
Positive effects on greater no. determinants of health than median	2/2	6/7	1/2			7/13	4/4		1/4	

Key points from the analysis *continued*

	Sections in the Cardiovascular Service Framework									
	Communication	***Prevention***	***Hypertension***	***Hyperlipidaemia***	***Diabetes***	***Heart Disease***	***Cerebrovascular Disease***	***Peripheral Vascular Disease***	***Renal Disease***	***Supportive and Palliative Care***
Positive effects in all main domains		5/7	1/2			2/13				
Positive effects in all domains except environment	2/2	1/7				6/13	4/4		1/4	2/3
No negative effects through determinants of health	1/2	2/7		1/1	1/3	3/13	3/4	5/6	1/4	2/3
Negative effects on greater no. determinants of health than median		5/7	2/2		2/3	4/13	1/4	1/6	2/4	1/3
Number of suggestions to address impacts greater than median	1/2	6/7	1/2		1/3	7/13		3/6	1/4	2/3

8. Conclusions

In this section we summarise the main findings arising from information gathered and analysed as presented in previous sections of the report.

The findings are presented in relation to individual sections and standards of the CVSFW (Section 8.1) to enable the reader to access any particular area of interest. They outline the need for action to improve health equity and reduce health inequalities more comprehensively referred to in the Health Action Plan (Appendix 9).

Generic conclusions from undertaking the HIA have been identified to support organisational learning, capacity building and development (Section 8.2).

8.1 Main Findings

This section presents main findings and suggestions in each CVSFW section.

8.1.1 Communication and Participation for Patients, Clients and Carers (CVSFW Section 1; Standards 1- 2)

1 All patients and carers should expect effective communication with them by health and social care organisations as an essential and universal component of the planning and delivery of health and social care

2 All patients, carers and the public should have opportunities to engage actively and meaningfully with health and social care organisations at all levels

There are pre-existing health inequalities and inequities in relation to both these standards, including for people from lower socioeconomic and black and ethnic minority (BME) groups, those with hearing and visual problems and rural dwellers. There are many barriers to, but also potential benefits for both services and staff arising from standard implementation.

Demands on staff in improving communication with service users and demands for services as a result of service users become better informed will increase in the short to medium term as service users are facilitated to engage and become more articulate.

In the longer term health and wellbeing not only of service users but service providers also will be improved through empowerment and participation, in line with HSC statutory obligation and strategic direction for personal and public involvement (PPI) and creating social capital.This will have wider benefits on and through the determinants of health, leading amongst others to a healthier workforce and more appropriate use of limited HSC resources.

The main suggestion for achieving the benefits arising from implementation of Standards 1 and 2 is to:

! Facilitate HSC staff in improving communication with and participation of service users and the wider public in service design and delivery.

8.1.2 Health Improvement (CVSFW Section 2; Standards 3- 9)

3 Health and social care should work in cooperation with voluntary, education, youth and community organisations to prevent the recruitment of young people to smoking.

4 All health and social care professionals should identify people who smoke, make them aware of the dangers of smoking, advise them to stop and provide information and then to signpost to the well developed specialist cessation services available.

5 Health and social care professionals should identify inactive individuals and, where appropriate, provide them with advice and support to accumulate a minimum of 30 minutes of moderate activity** on 5 days of the week or more.*

6 All people should be provided with healthy eating support and advice, appropriate to their needs, in a range of settings.

7 Health and social care professionals should work with early years settings, schools, workplaces and communities in the promotion and support of breastfeeding, healthy eating and physical activity to prevent obesity.

8 Primary care professionals should identify people who consume hazardous / harmful amounts of alcohol, make them aware of the dangers, advise them to reduce or stop and provide information and signposting to specialist services if appropriate.

9 Health and social care professionals should work with schools, workplaces and communities to raise awareness of and access to emergency life support (ELS) skills.

The HIA identified existing health inequalities and inequities as well as many barriers to implementation in relation to all standards in the health improvement section. Standard 8 (management of alcohol misuse in primary care) has the highest number of such inequalities in the whole CVSFW.

The HIA has also identified pre-existing age, gender and disability related inequalities for some health improvement standards and inequities in access to services especially for rural dwellers and some population groups less likely to use available services.

The socio-economic gradient in healthy lifestyle behaviours and capability for change is already well recognised and has again been demonstrated in this report. It is equally well known that sustainability of HSC services is dependent on improvements in population health through the wider determinants of health, many of which lie beyond the immediate influence of

such services. Therefore this section is particularly relevant and challenging when engaging other sectors as partners for health improvement.

Investment in health improvement interventions can take time to generate identifiable returns, and evaluation of health outcomes can be challenging because of this and the complexity of modelling or measuring them. This is borne out by the HIA findings, which recognise that implementation of Standards 3 to 9 will initially increase demand for relevant services but in the longer term through improved health of people decrease their need for such services by reducing the burden of long term ill health and disability from chronic illnesses like heart disease, diabetes and cerebrovascular disease (stroke).

The risk of increasing existing health inequities and inequalities among socio economically disadvantaged people is high with health improvement interventions which, like those in the CVSFW, are aimed at changing individuals' life styles and behaviours. Those most in need of a service are least likely to make use of or benefit from it because of other competing priorities in their lives (inverse care law).

It is therefore of critical importance for the success of health improvement interventions aimed at individual risk factor reduction that they are designed and delivered in ways that make them accessible and effective for all people who need them. The recommendations from the Health Action Plan recognise this and seek to shape health improvement interventions in ways that make them useful for all members of society:

! Integrate health improvement activities across topics, settings and sectors by:

- *Co ordinating brief intervention training for all HSC staff to support behaviour change and self management,*

- *Supporting collaboration between HSC organisations, communities and local government in creating healthier environments, and*

- *Creating synergy between communities, voluntary organisations and HSC providers including pharmacies and primary care providers.*

! Implement Obesity Prevention Strategic Framework on an interagency basis to take account of determinants of health.

! Develop Regional Emergency Life Support business case, strategy, policy and implementation plan.

! Advocate for salt reduction in food stuffs.

Hypertension (CVSFW Section 3; Standards 10 and 11)

10 All adults should be offered lifestyle advice as to the prevention of hypertension and have their blood pressure measured and recorded using standardised techniques every five years from age 45 years.

11 All patients should be offered drug therapy if they have (a) persistent blood pressure of 160/100 mmHg or more and/or (b) raised cardiovascular risk (10 year risk of cardiovascular disease of 20% or existing cardiovascular disease / target organ damage) with persistent blood pressure of 140/90 mm/Hg.

There are health inequalities and inequities associated with these standards, but not all, like age and family history, are socio economically patterned.

It can be seen from Figures 7 and 8 that there are differences in the performance of GP practices across Northern Ireland in identifying and managing hypertension, but these differences are not related to deprivation scores of geographical areas. Interventions to improve implementation of these standards in primary care therefore need to be targeted at individual practices rather than deprived areas.

Figure 7 Northern Ireland GP practice performance in measuring blood pressure in patients aged 45 years and over

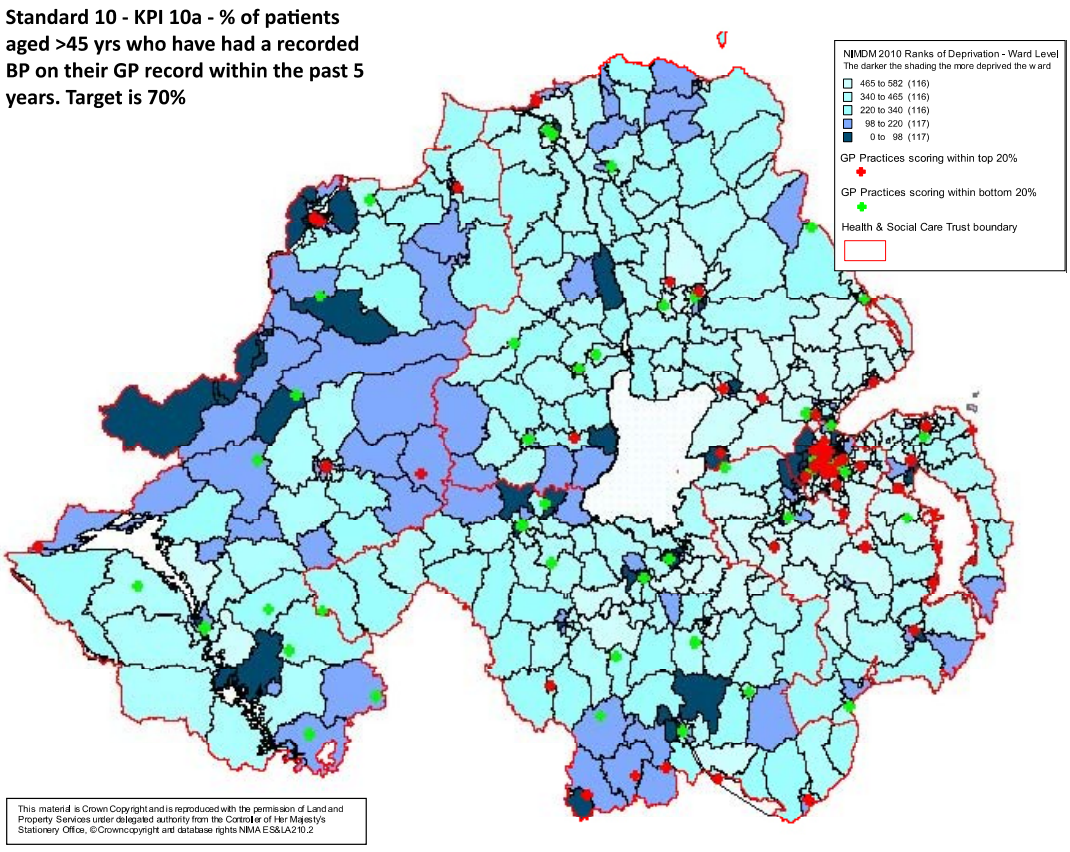
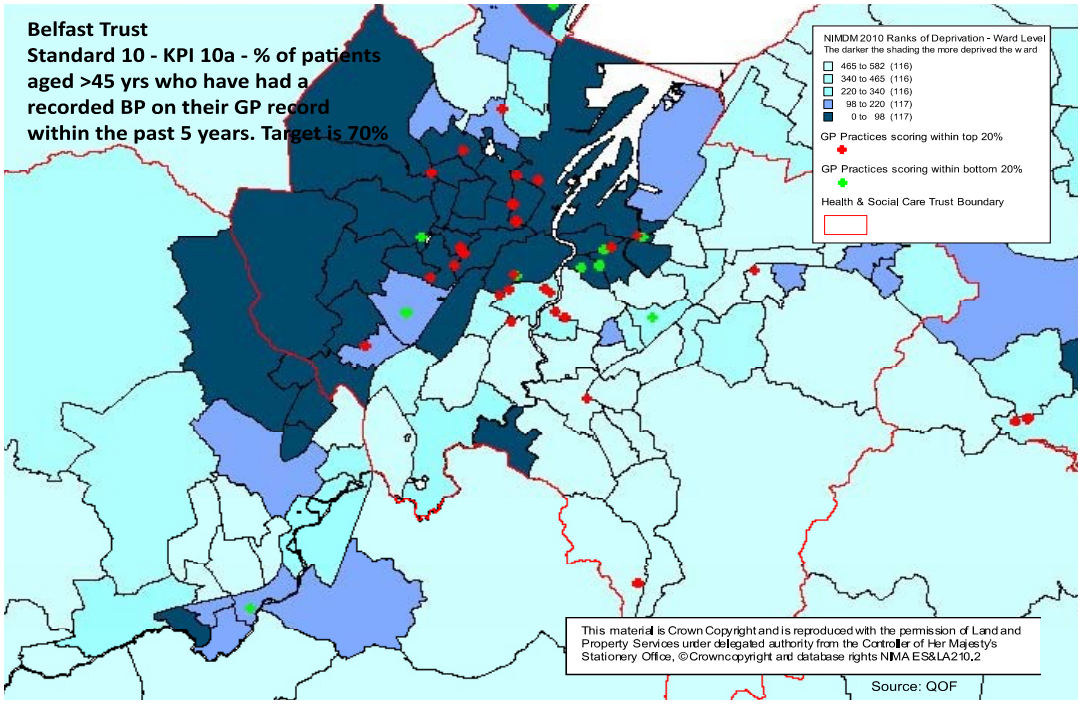


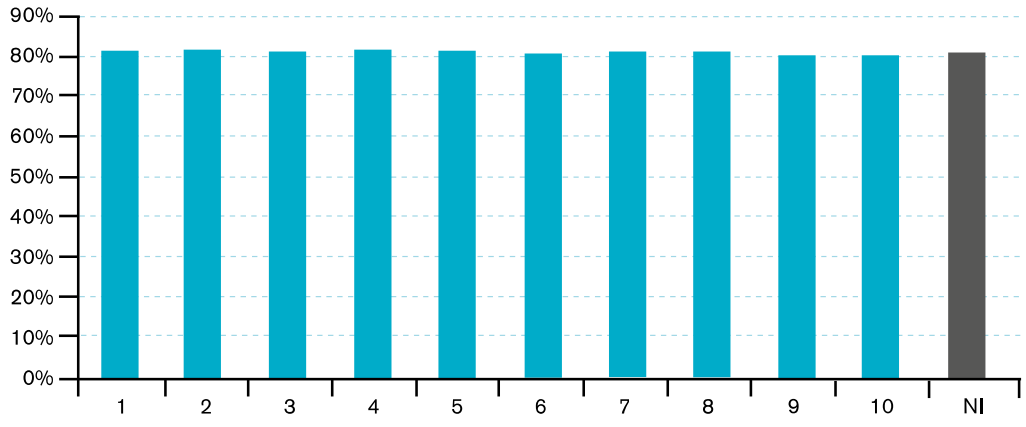
Figure 8 Belfast Health and Social Care Trust GP practice performance in measuring blood pressure in patients aged 45 years and over



Once identified, it is important to ensure that all patients with hypertension are treated effectively. This is more challenging in patients with other conditions of chronic ill health like diabetes.

Figure 9 however shows little variation in diabetic blood pressure control based on information from the primary care Quality and Outcomes Framework (QOF) looked at by deprivation areas.

Figure 9 Diabetic blood pressure control by deprivation decile



Source: Public Health Intelligence Unit, 2010

For staff delivering these services in primary care, there will likely be further increases in workloads through higher service activity and efforts to reach all patients in need of identification and treatment. These seemingly adverse effects are likely to be balanced in the longer term through improved health of people and less need for health services both in primary and secondary care.

But in the short term patients might feel 'medicalised' by being offered treatment for a condition which in itself is not causing them any symptoms. This can have adverse effects on mental health and physical wellbeing, which in the eyes of some are not worth bearing in light of the small individual benefits that come from treating especially mild hypertension.

In the longer term there might be benefits to individual and population health though through positive effects on the wider determinants of health like employment, income and productivity.

In light of this, the HIA recommends to:

! Address inequities in primary care service provider performance.

! Integrate health improvement work for reducing hypertension with health improvement activity suggestions in CVSFW Section 2.

Familial Hyperlipidaemia (CVSFW Section 4; Standard 12)

12 All people with genetically linked high cholesterol (familial hypercholesterolaemia) should be identified and treated and their names entered on a regional register so that other family members can be identified in order that measures can be introduced to prevent the development of cardiovascular disease.

This standard refers to an estimated 3,500 people in Northern Ireland living with an inherited lipid disorder, which puts them at a much higher risk of cardiovascular disease than others. Just over 700 of this patient group have been identified to date and are receiving treatment mainly through a specialist service that is under resourced to provide adequately for this condition.

So in addition to socio economically patterned health inequities and inequalities, there is a very high level of under diagnosis also experienced in other parts of the UK. To address this, investment in the service is required, and the HIA supports earlier recommendations to:

! Pursue funding and implementation of business case for expansion of regional hyperlipidaemia service and establishment of a regional database and genetic support outreach service.

Diabetes (CVSFW Section 5; Standards 13- 15)

13 All people with diabetes should have an accurate diagnosis made.

14 All patients with diabetes have access to education programmes & emotional/psychological support. Services will encourage partnership in decision making, support in managing their diabetes & help to adopt and maintain a healthy lifestyle.

15 All patients with diabetes should have access to, at a minimum, an annual review to a defined standard by an appropriate m(ulti) d(isciplinary) team.

There are well documented health inequalities and inequities for people living with diabetes, and these were confirmed in the HIA. These include socioeconomic disadvantage, ethnicity, age and disability.

Standard 14 (access to Structured Patient Education Programmes including psycho emotional support) was found by the HIA to be beset by the largest number of health inequities within the CVSFW. This is because of the patchy and inadequate availability of such programmes across Northern Ireland.

The HIA also identified many barriers to standard implementation and potential negative effects on staff through an increase in demand for services in the short to medium term. Improved and more equitable service provision on the other hand was considered to be good for staff morale.

From a service user perspective, the effects of standard implementation were considered to be largely beneficial both for population and individual health, but caution will be needed to meet patient expectations for improved services and ensure that all patients get the support they as individuals and their families or carers need to benefit fairly from patient education and self management programmes.

For those living in disadvantage, it is also important that barriers to health arising from the wider determinants of health like social and environmental factors are lessened. Otherwise existing health inequities and inequalities might worsen.

There are approximately 60,000 people with diabetes living in Northern Ireland and this figure is set to increase sharply unless the obesity epidemic can be halted and reversed. It is therefore critical for the health and well being of people in Northern Ireland and the sustainability of HSC services as well as the wider economy that improvements in the prevention and management of diabetes are achieved.

In light of this challenge, the HIA recommends that a strong infrastructure is established to drive these improvements:

! Establish regional and local networks to facilitate service improvement including equitable access to Structured Patient Education (SPE).

Heart Disease (CVSFW Section 6; Standards 16- 28)

Congenital Heart Disease (ConHD)

16 All pregnant women should have appropriate antenatal screening for congenital heart disease (ConHD), with specialist services available to those in whom a diagnosis of ConHD is made.

17 All children with suspected major congenital and acquired heart disease should have access to prompt diagnosis and appropriate management in line with Ministerial targets.

18 All patients with suspected inherited cardiac disease should have access to a consultant led service specifically designed to meet their needs.

19 All adults with major congenital heart disease should have access to a specialist consultant led service specifically designed to meet their needs.

The first four standards in the heart disease section refer to congenital, i.e. inborn, and inherited heart disease as well as children who develop heart disease. These conditions do not follow a socioeconomic distribution pattern. Life expectancy in this numerically small but growing group of patients has improved due to better treatment over recent decades.

Many of these patients would have died during childhood or from 'unexplained' cardiac death in later life in the past, but most now live into adulthood. They need treatment and support that cannot be provided by existing services. Their number grows every year, putting unsustainable pressures on paediatric cardiology and inherited cardiology services.

While some investments have been made, more is needed. Detailed recommendations arising from the HIA relating to these standards are contained in the Health Action Plan in Appendix 9 and have been included in relevant working, service development and commissioning plans through the Cardiac Network.

Cardiac Arrhythmia

20 All patients with a diagnosis of non atrial fibrillation arrhythmia should receive timely assessment, treatment and support based on individual need.

21 All patients with a diagnosis of atrial fibrillation should receive timely assessment, treatment and support based on individual need.

Heart Failure

22 All patients with a clinical suspicion of heart failure should have access to ECG and BNP for first level rule out in a primary care setting.

23 All patients with diagnosis of heart failure should be prescribed evidence

based medication as appropriate, under the guidance of the multidisciplinary specialist team

Myocardial Infarction

24 All eligible patients suffering an acute myocardial infarction with ST-segment elevation heart attack should receive thrombolysis within one hour of calling for professional help. (*this excludes those patients with contraindications to thrombolysis or those undergoing primary Percutaneous Coronary Interventions (PCI) = Angioplasty= widening of narrowed or blocked coronary arteries without open heart surgery).*

Cardiac Rehabilitation

25 All patients identified as requiring cardiac rehabilitation, in line with the regional guidelines, should be offered this service.

Angina

26 All patients who develop new onset chest pain, suggestive of angina should be reviewed at a rapid access chest pain clinic (RACPC) within 2 calendar weeks of referral by the GP/appropriate clinician.

27 All high risk patients presenting with non ST elevation acute coronary syndromes should undergo angiography / revascularisation within 72 hours of diagnosis in accordance with clinical need.

Pulmonary Hypertension

28 All patients with suspected pulmonary arterial hypertension should be managed in a timely fashion by a specialist multidisciplinary team in line with National Specialist Cardiac Assessment Groups (NSCAG).

Heart disease with the exception of its inborn forms affects people from disadvantaged backgrounds more commonly and more severely than others but there is no evidence from Northern Ireland GP generated data that treatment varies according to deprivation (Figure 10 and 11).

Figure 10

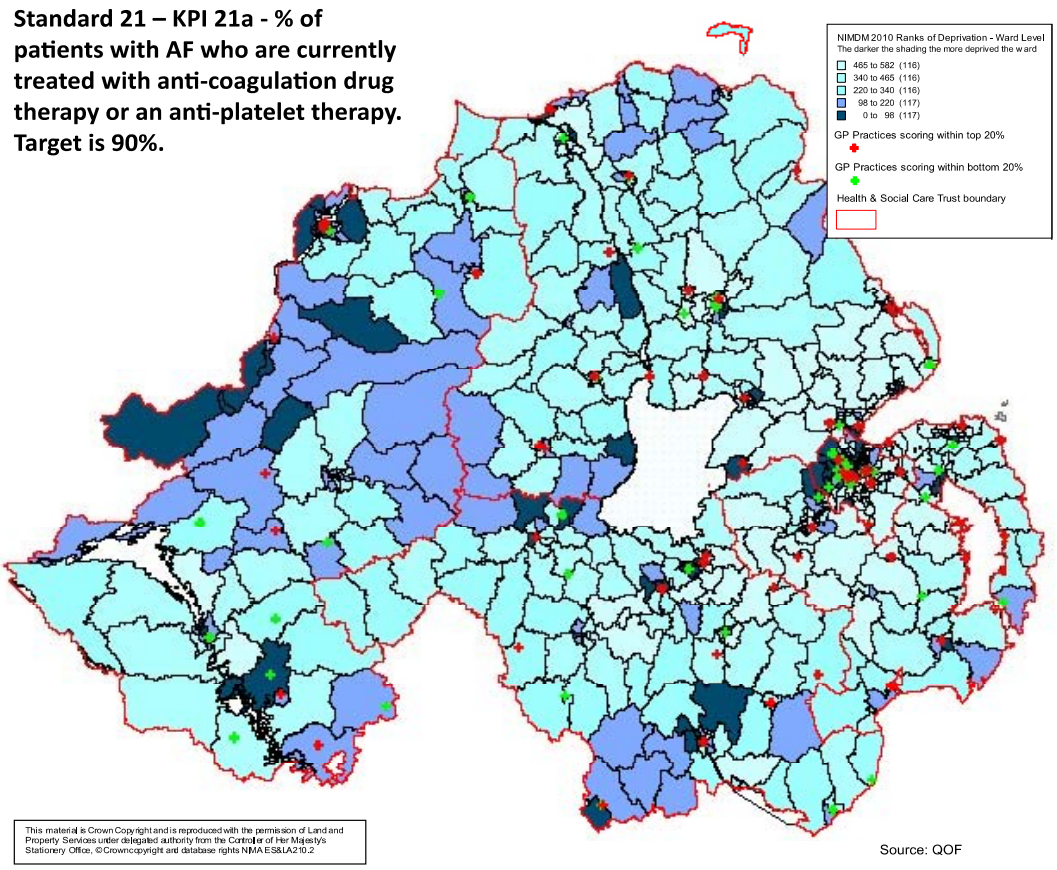
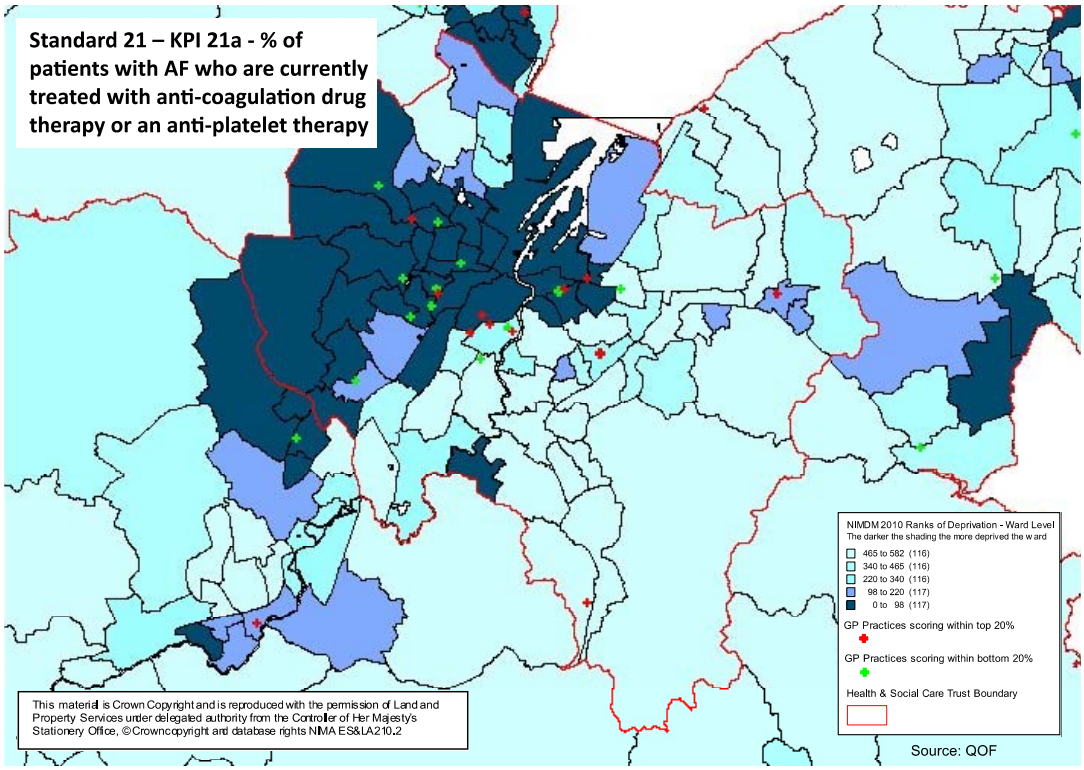


Figure 11



The HIA confirmed many health inequalities as well as inequities in access to services. The latter are mostly due to inequitable access to services for reasons of geography, either because some services are only available in certain central locations or difficult to access in rural areas.

In common with other sections of the CVSFW, the HIA identified barriers to implementation of standards and impacts on staff arising from increasing demands for services in the short to medium term. In light of existing pressures on frontline staff, it is important to manage these additional demands carefully and actively in supportive ways that build sustainable service capacity.

With anticipated improvements in population and individual health, need for cardiac surgery and cardiology services should reduce in the longer term, but demand on and need for community based services is likely to increase as patients seek management of long term ill health arising from cardiovascular diseases closer to home. This will especially apply to chronically debilitating conditions like heart failure and rehabilitation after heart disease.

Inborn and inherited cardiac conditions affect relatively small but increasing numbers of people. Investment in services for this population will incur opportunity costs which might need to be carefully managed in times of financial scarcity. Without clearly defined budgets for the implementation of service frameworks, it will be difficult to have meaningful health economic debates and reinvestment for more effective health improvement and treatment.

Recommendations arising from the HIA have been referred to the Northern Ireland Cardiac Network for actioning and include:

! Increase investment in congenital and inherited heart disease services to meet the needs of a growing patient population;

! Increase investment in the prevention of atrial fibrillation

! Support patients in their adherence to treatment

! Establish self help groups for patients with heart failure

! Identify key workers for patients with heart failure

! Introduce programme budgeting and marginal analysis to facilitate allocation of resources to management of long term conditions including heart failure

! Improve communication through data linkage between primary and secondary care for patients needing cardiac rehabilitation

! Streamline referrals for patients with acute chest pain from primary to secondary care by improving patient pathways

Cerebrovascular Disease (CVSFW Section 7; Standards 29- 32)

29 All patients with suspected transient ischaemic attack should have rapid specialist assessment and investigation to confirm the diagnosis and should have a management plan urgently put in place to reduce short term and long term cardiovascular complications. (See also Standard 35).

30 All patients with suspected acute stroke should have rapid access to specialist assessment, appropriate brain imaging and emergency treatment, including thrombolysis.

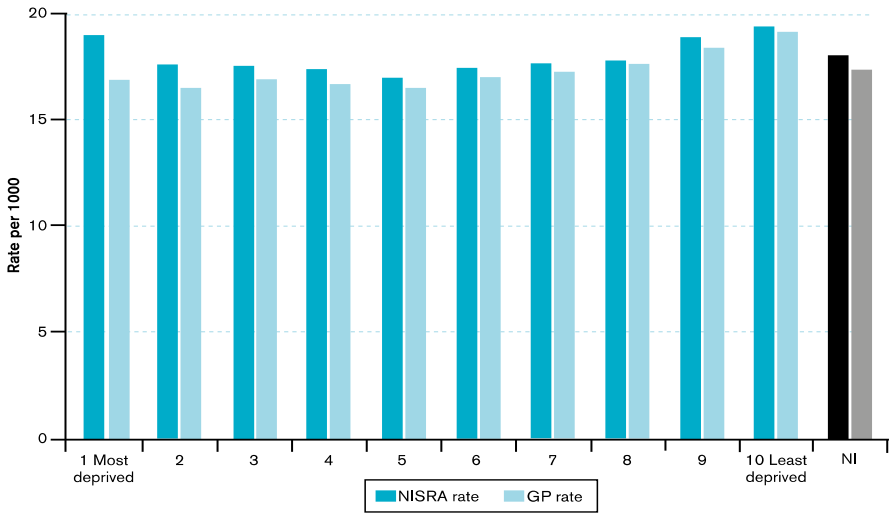
31 All patients who have had a stroke should have their rehabilitation delivered by a Specialist Stroke Rehabilitation Team in a Stroke Unit, starting immediately after admission to hospital.

32 All patients who have had a stroke or TIA are reviewed post discharge by primary care services at 6 weeks, 6 months, and annually. Stroke patients with persisting disability at 6 months should be reviewed by a member of a specialist team to determine the need for a further targeted period of rehabilitation. As part of ongoing review referral to neuropsychology services should be considered where appropriate.

The HIA confirmed many pre-existing health inequalities in the area of cerebrovascular health, including socio economic deprivation and being a member of an ethnic minority group.

Recent GP data show a picture that is different from the socio economic gradient usually associated with circulatory diseases. The least deprived wards have the highest rates of stroke/ TIA. The most deprived wards have the second highest rates (Figure 12).

Figure 12 Prevalence of stroke/TIA by population deprivation deciles, using NISRA or GP list



Since primary care QOF data are not age adjusted, the high prevalence of CVD in affluent areas may reflect the older age profile of people living there. These data also need to be interpreted with caution because their quality depends on that of GP patient registration data, which are influenced by access by patients to GP services; in addition, patient area of residence is being used as a proxy for individual socio economic status in the absence of easily available alternatives by means of data linkage.

Concerns about inequities in access to services and quality of referral to specialist services for stroke patients were indentified for several of the standards in this section.

There are many barriers to implementation of the CVD standards as in any other change management situation, but the HIA findings emphasise how improved services will lead to better staff morale and more efficient use of resources in the medium to longer term.

The effect on standard implementation will be mainly positive for population health and that of individuals, their families and carers. Health inequalities might be reduced ultimately if equity in service distribution and access for all population groups can be achieved.

Many positive impacts through improved cerebrovascular health and the wider determinants of health were identified, including lifestyle and personal circumstances, social and economic factors.

The main suggestions from the HIA to the Regional Stroke Strategy Implementation Group include:

! Agree on referral pathways

! Establish a regionally available 24/7 lysis service

! Share good practice between service provider and users through effective mechanisms, i.e. networks

Peripheral Vascular Disease (CVSFW Section 8; Standards 33- 38)

The standards for peripheral vascular disease (PVD) refer to distinct conditions and therefore need to be considered separately. They all carry pre-existing health inequalities and inequities in access to services as well as barriers to implementation common to other service improvement initiatives, but vary in their impact on health service providers and users. Deprivation and being a smoker, older person or male were considered in the HIA to predispose to peripheral vascular disease.

Peripheral Vascular Disease

33 All people with a high risk of developing PVD such as patients with diabetes, chronic kidney disease, smokers and the elderly should have accessible and timely care delivered by the appropriate members of the multi-disciplinary foot care team

36 Patients with leg pain on exertion, suggestive of peripheral arterial disease should have an ankle brachial pressure index (ABPI) test performed in primary care.

These two standards refer to primary care services for people either at risk of or presenting with PVD.

Their implementation will improve service quality for patients and therefore impact positively on their and potentially also population health, but will increase workloads in primary care.

Like other interventions aimed at risk factor reduction and treatment of symptomatic people, implementation of these standards is likely to increase health inequalities because of inequitable provision and uptake of primary care services.

The main recommendations arising from the HIA to the establishing Vascular Network are:

! Provide support to primary care teams for participation in, and delivery of, PVD Direct Enhanced Service (DES).

! Provide alternatives to GP services through community based provision especially in deprived areas.

Aortic Disease

34 All patients with abdominal aortic aneurysm (AAA) should have their medical therapy optimised, particularly, all patients should be on statin therapy. Aneurysm repair should be considered in patients whose aneurysm exceeds 5.5cm in diameter. Patients should be offered open or endovascular repair if possible. All men aged 65 should be offered AAA screening in line with National Screening Committee recommendations.

37 All patients presenting with features of thoracic aortic dissection should be assessed and referred immediately to an appropriate management centre.

These two standards cover many aspects of service quality improvement for people with aortic disease from screening over management to surgical treatment and rehabilitation.

Early identification of AAA through screening has been shown to reduce mortality in men and will reduce the need for emergency treatment, which has poorer outcomes than planned surgery.

In common with other screening programmes, AAA will increase workload for health service providers, result in anxiety and potential harm for patients from discovery and treatment of an otherwise unknown health problem and increase health inequalities and inequities if some people are more likely than others to avail of or benefit from screening.

AAA screening is only recommended for men, because they are more likely to get the disease and at an earlier age than women.

Recommendations from the HIA to PHA staff responsible for organising the AAA screening programme include:

! Identify and address barriers for patients in making informed choices about treatment for AAA.

! Raise awareness and improve management of thoracic aortic dissection amongst the public and professionals

Lymphoedema

38 All patients who are at risk of, or who have developed lymphoedema, should have access to timely information, diagnosis and treatment within the Northern Ireland Lymphoedema Network in accordance with the CREST Lymphoedema Guidelines.

This standard refers to the management of a condition that can, among others, complicate cancer treatment. Awareness and availability of improved services will increase demand initially where there has been unmet need. Earlier and more proactive treatment will ultimately reduce need for services.

The impact on staff arising from standard implementation is thought to be positive as a result of improved satisfaction that comes with delivering better services despite increases in workload.

Individual and population health will improve quickly with better treatment of a disabling condition, because it will improve patients' quality of life in relation to several determinants of health, eg by allowing them to return to work. Health inequalities will be reduced as service capacity increases to match need.

The HIA recommendations to the Lymphoedema Network centre on:

! Provide awareness raising and training to service users and providers in identification and management of lymphoedema.

Cerebrovascular Disease

35 All patients who experience an anterior circulation TIA and carotid artery stenosis of 70-99% should be referred to a vascular surgeon, investigated and have their carotid surgery within 2 weeks of the event. The long term goal should include carotid intervention within 48 hours.

(See Standard 29, CVSFW Section 7 on CVD, which is similar.)

Renal Disease (CVSFW Section 9; Standards 39- 42)

39 All patients with a diagnosis of chronic kidney disease (CKD) should receive timely, appropriate and effective investigation, treatment and follow-up to reduce the risk of progression and complications.

40 Renal services are to ensure the delivery of high quality, safe and effective dialysis care which is designed around the individual's needs and preferences and are available to all patients of all ages. This should be delivered by a highly skilled multiprofessional workforce to maximise dialysis capacity, improve quality of life and reduce complications.

41 All children, young people and adults likely to benefit from a kidney transplant should receive a high quality service which supports them in managing their transplant and enables them to achieve the best possible quality of life.

42 All people at risk of, or suffering from, acute kidney injury (AKI) / acute renal failure should be identified promptly, with hospital services delivering high quality, clinically appropriate care in partnership with specialised renal teams. Prevention of AKI should be a priority for all clinicians in both primary and secondary care.

The renal standards refer to both AKI and CKD in the community (Standards 39 and 42) and the specialist treatment of kidney failure with dialysis and kidney transplant (Standards 40 and 41).

The HIA identified pre-existing inequities in access to services and service quality as well as barriers to implementation for all four standards, but health inequalities only for Standards 39 and 40 and possibly for 41, namely socio economic disadvantage and impacts arising from the different approaches across Northern Ireland to providing vascular access for dialysis.

Improved services were considered to increase workloads for some staff by moving preferences from one intervention to another, but also lead to mainly increased satisfaction amongst service providers that comes with delivering better services for patients.

Patient and population health outcomes will ultimately improve as a result of standard implementation, but earlier identification of CKD could worry some patients.

Health inequalities and inequities could be reduced if standards can be implemented fully to reach all population groups equitably, but especially with Standard 39 (management of CKD in primary care) and Standard 40 (access to evidence based dialysis services) there is a risk of increasing health inequities through differential access to and compliance with treatment.

Impact on quality of life and wider determinants of health including lifestyle, personal circumstances, social and economic activity is likely to be mainly positive.

HIA recommendations to the Regional Renal Implementation Group included:

! Support patients, especially those from marginalised groups, in managing psychosocial (anxiety and adherence to treatment) aspects of CKD identification and treatment.

! Consider home visits for hard to reach patients.

! Ensure geographical equity of dialysis service provision, in line with evidence for best practice across Northern Ireland.

! Review CVSFW to reflect changing practice in and evidence for effective management of AKI.

The commissioning arrangements for renal services in Northern Ireland have changed since and work is ongoing to identify a mechanism for implementing these recommendations.

Palliative Care (CVSFW Section 10; Standards 43- 45)

43 Health and social care professionals, in consultation with the patient, will identify, assess and communicate the unique supportive, palliative and end of life care needs of that person, their caregiver/s and family.

44 All patients, carers and families should have access to responsive, integrated services which are coordinated by an identified team member according to an agreed plan of care, based on their needs.

45 All people with advanced progressive conditions, their caregivers and families, will be informed about the choices available to them, by an identified

team member, and have their dignity protected through the management of symptoms and provision of comfort in end of life care.

Health inequalities and inequities exist in relation to the standards for palliative care which, like the communication and health improvement standards in CVSFW Section 1 and 2, are generic and shared across service frameworks. These include socioeconomic disadvantage, age, disability and low literacy or educational attainment levels, which mitigate against health equalities. Variable availability of services currently creates health inequity.

There are many barriers to implementation as would be expected with complex and multifaceted service improvement interventions. The effects on HSC providers will also be variable, encompassing both positive impacts arising from better and more integrated service provision and negative consequences resulting from increased workloads and the demands that change brings with it.

Implementation of all standards is expected to increase both demand due to higher levels of awareness amongst service users and need as a result of broadening the scope of palliative care services to include life limiting conditions of ill health arising from diseases other than cancer.

There will be improvements to individual wellbeing and population health, but resources are needed for expansion of palliative care services and such investment could lead to shortages in other areas of service provision through opportunity costs.

Also, there could be both positive and negative effects on health inequalities and inequities arising from standard implementation if access to and availability of palliative care services is not evenly distributed among population groups, disease groups and geographical areas.

The positive effects of standard implementation on individual and population health will in part come from improvements in the wider determinants of health, including better lifestyle and personal circumstances, economic and social factors.

The suggestions from the HIA to the Regional Palliative Care Strategy Implementation Board include:

! Increase health literacy through community development approaches (which will benefit other HSC service areas also).

! Engage especially with vulnerable and potentially marginalised population groups to reduce health inequities.

8.2 Overarching Learning

Beyond the suggestions and insights relating to specific sections and standards of the CVSFW contained in this report, the HIA has also generated many less tangible but equally important outcomes.

Health inequalities and health and social care equity
Like any other health policy or strategy, the CVSFW is intended to improve health and wellbeing and to do so fairly and sustainably.

The HIA provides a qualitative and quantitative analysis of the CVSFW's ability to achieve its stated aims of improving access to HSC services equitably and ultimately contributing to a reduction in health inequalities. It gives clear understanding where additional steps need to be taken to protect vulnerable population groups from unintended harms like an increase in the health inequalities gap between the affluent and the poor people of Northern Ireland, which could otherwise result from implementation of the CVSFW.

Health is not evenly distributed in Northern Ireland, nor is the ability of individuals within its population to benefit from HSC interventions. We need to be mindful of this as we wish to contribute to reducing the health inequalities gap rather than continue increasing it through potentially inequitable health and social care service provision.

Health intelligence for health improvement
Implementation of the CVSFW has thrown up many challenges for information systems and data management within HSC. The HIA has brought these into sharp focus because it reinforces the importance of measuring HSC performance and population health outcomes beyond geographical areas at the level of individuals and in ways that meaningfully link the interplay of factors which influence health and wellbeing for people from different backgrounds.

This poses challenges for all actors, should they be governmental, statutory, voluntary, community and private organisations with an interest in health and sustainability, to work on data linkage and information sharing – within the confines of data protection legislation- to create better understanding of health and wellbeing for the people in Northern Ireland.

This learning is already being shared in governmental fora so that it benefits other service frameworks and ultimately Information and Communication Technology strategic approaches and operational system developments.

Capacity building in learning organisations
The HIA of health policy implementation is the first of its kind on the island of Ireland. The contribution of an international authority in HIA ensured its excellence and success, but many people have contributed to it, learning new knowledge and skills in the process. This will benefit and strengthen HSC organisations in their endeavour to improve health and reduce health inequities.

Members of the HIA management team and steering group had opportunities to improve their analytical, research and consultative skills, but many others, including members of the public, expressed their appreciation for better understanding of health, its determinants and distribution across Northern Ireland and what this means for service providers and users.

The dissemination strategy for the HIA includes printed and web based publications, a public launch event, speaking engagements at national and international conferences and training events as well as other scientific publications.

There will be an evaluation in early 2012 to review progress.

Participation, partnerships and networks
Development, implementation and HIA of the CVSFW by necessity and design embrace the principles of participation and depend on collaborative working across agencies, organisations, communities and individuals.

The HIA has added value to Health and Social Care Services by strengthening its connections beyond institutional boundaries, which are neither affordable nor sustainable.

Both the project structure with its large and diverse steering group and the wide ranging consultative process have created opportunities for further innovation. These include community development approaches to risk factor reduction for cardiovascular diseases and stronger links with the voluntary and community sector to support advocacy for cardiovascular health improvement.

Appendix 1

Management group and steering group members

HIA management group

Name	Organisation
Christine McMaster (Chair)	Public Health Agency
Diane Anderson	Public Health Agency
Leslie Boydell	Belfast Health and Social Care Trust
Avril Craig	Public Health Agency/Patient Client Council
Ffiona Dunbar	Health and Social Care Board
Louise Herron	Public Health Agency
Claire Higgins	Institute of Public Health in Ireland
Erica Ison	Independent HIA Practitioner
Sinead Malone	Stroke Service Development Team Northern Ireland Chest Heart and Stroke Association
Elaine O'Doherty	Public Health Agency

HIA steering group

Name	Organisation
Adrian Mairs (Chair)	Public Health Agency
Loraine Adair	Southern Health and Social Care Trust
Diane Anderson	Public Health Agency
Leslie Boydell	Belfast Health and Social Care Trust
Avril Craig	Public Health Agency (until July 2010); Patient and Client Council
Iain Deboys	Belfast Local Commissioning Group, Health and Social Care Board
Ffiona Dunbar	Public Health Agency (until April 2010); Performance Management and Service Improvement and Development, Health and Social Care Board
Veronica Gillen	Department of Health, Social Services and Public Safety (until April 2010)
Mark Harbinson	Belfast Health and Social Care Trust and Queen's University Belfast
Brendan Heaney	Diabetes UK

Louise Herron	Public Health Agency
Claire Higgins	Institute of Public Health in Ireland
Erica Ison	Independent HIA Practitioner
Stephanie Leckey	British Heart Foundation
Jim Livingstone	Department of Health, Social Services and Public Safety
Houston Magee	General Practitioner, Health and Social Care Board
Sinead Malone	Northern Ireland Chest Heart and Stroke Association
Sheelin McKeagney	Southern Area Local Commissioning Group, Health and Social Care Board
Christine McMaster	Public Health Agency
Liz McShane	Maureen Sheehan Healthy Living Centre, West Belfast
Lorna Nevin	Northern Ireland Cancer Network
Elaine O'Doherty	Public Health Agency
Jillian Patchett	Northern Ireland Chest Heart and Stroke Association
Emma Quinn	Health and Social Care Board
John Yarnell	Queen's University Belfast (until September 2010)

Appendix 2

Terms of reference for the HIA steering group

Core objective

- To provide governance for the health impact assessment (HIA) of the implementation of the Cardiovascular Health and Wellbeing Service Framework (CVSFW) in Northern Ireland (NI).

Core functions

- To provide guidance to the HIA Management Team,
- To raise awareness, and the profile, of the HIA within each steering group member's own team or organisation,
- To quality assure appropriate stakeholder participation methodology in the HIA,
- To oversee that effective connections with and inputs are provided to:
    - Patients of cardiovascular services and their carers
    - Other clients of cardiovascular services
    - Patient groups/representatives
    - Primary care staff providing cardiovascular-related services
    - Secondary care staff providing cardiovascular services
    - Tertiary care staff providing cardiovascular services
    - Staff and carers providing palliative cardiovascular-related services
    - Relevant voluntary sector organisations providing cardiovascular-related services and support
    - Local commissioning groups
    - DHSSPS
    - PHA and HSCB
    - Health and Social Care Trusts
    - Local government,
- To receive the results of the HIA and the draft Final Report,
- To make comment on the results of the HIA and the draft Final Report, including the suggestions arising from them, before presentation of results and suggestions to the various decision-making fora outlined in the Terms of Reference (see above),
- To plan how the findings and recommendations of the HIA will be taken forward, i.e. advocate for the importance of addressing the potential impacts - both positive and negative - on health,

well-being, quality of life and equity resulting from the implementation of the CVSFW in NI,
- To report on progress and the final report to the Agency Management Team of the Public Health Agency (PHA),
- To ensure that a mechanism is in place for dissemination of the results of the HIA,
- To oversee the delivery of the HIA results to relevant decision-making fora and stakeholder groups,
- To ensure that mechanisms and/or appropriate processes are in place to monitor whether the suggestions that were accepted by various decision-making fora are actually implemented by the organisations and agencies responsible to those decision-making fora, and
- To oversee the evaluation of the process of the HIA.

Membership
- The membership will reflect key stakeholders for the HIA.
- Members will be allowed to send deputies or appropriate officers.
- Other officers may be invited to attend as relevant in accordance with agenda items for discussion.

Operating arrangements
- The chair will be confirmed at the first meeting.
- Meetings will be held at key points in the HIA:
  - To support scoping and project appraisal,
  - To prepare for participatory workshops, and
  - To contribute to completion of the draft Final Report
- Evidence presented in the context of the HIA will be treated confidentially and communicated only by collective agreement or approval by the chair
- Meetings will be held in Belfast.
- Agenda support will be provided by Public Health Agency.
- Members of the HIA Management Team will be responsible for providing information for discussion by the HIA Steering Group.
- Meetings will not be open to the public.
- Evidence presented in the context of the HIA will be treated confidentially and communicated only by collective agreement or approval by the Chair.

Appendix 3

Scope of the HIA

Proposal on which the HIA is being conducted	Department of Health, Social Services and Public Safety, Service Framework for Cardiovascular Health and Wellbeing (CVSFW), adapted from a tool developed by E. Ison.
Aim of the HIA	• To identify and assess the potential effects of the implementation of the CVSFW on health and health inequalities, including those that are unintended • To frame recommendations to enhance any positive and mitigate or avoid any harmful effects on health and health inequalities that could be attributed to implementation of CVSFW • To support, complement and add to the evidence base on which health and social care standards are based • To inform and help to refocus where necessary the development and implementation of subsequent service frameworks.
Values underpinning the HIA	• **Equity** – the focus of the HIA will be on equity in the provision and quality of health and social care which does not vary in quality because of personal characteristics such as age, gender, ethnicity, race, geographical location or socioeconomic status • **Accessibility –** the HIA will address access to health and social care that is timely, geographically reasonable, and provided in a setting where skills and resources are appropriate to need • **Democracy** – the HIA will be conducted in an open and transparent manner • **Sustainability –** the HIA will look at both the short term and long term impacts of implementation of the CVSFW to support the sustainability of the population, particularly in terms of the public health

Objectives of the HIA	• To describe information and data management needs to monitor the health inequalities impact of CVSFW implementation, identify gaps and make recommendations for research • To strengthen the CVSFW with a focus on the evolving work and role of Local Commissioning Groups • To contribute to staff training needs identification and development of an education programme for a learning organisation as envisaged in the CVSFW • To develop and present suggestions to enhance the health equity focus of the CVSFW implementation process • To enhance quality improvement in health and social service delivery • To evaluate the process and effectiveness of the HIA on the CVSFW and inform implementation and development processes of further service frameworks.
Geographical boundary for the HIA	• Northern Ireland
Particular groups to be investigated for potential impacts on health and well-being	• Service users • Families and carers of service users • Staff providing services described in the Cardiovascular Service Framework – includes, public, private and voluntary sectors • Population of Northern Ireland
Potentially vulnerable groups	• People who already have a cardiovascular condition • People who already have a respiratory condition • People who are diabetic • People who have hypertension • People who have a BMI of >30 • People with comorbidities • People black and minority ethnic groups, e.g. South Asians • People from lower socio-economic groups • Men • Women • Post-menopausal women • People who smoke including young women • People who regularly drink more than the recommended limits of alcohol • People who have a sedentary lifestyle • Carers • People with a physical disability • People with a learning disability • People with mental health problems • People with chronic kidney disease • People with hypercholesterolemia

<table>
<tr><td>Main stakeholders and key informants:</td><td colspan="3">• Patients of cardiovascular services
• Clients of cardiovascular services
• Patient groups/representatives
• Primary care staff providing cardiovascular-related services
• Secondary care staff providing cardiovascular services
• Tertiary care staff providing cardiovascular services
• Staff providing palliative care cardiovascular-related services
• Relevant voluntary sector organisations e.g. British Heart Foundation, providing cardiovascular-related services/support
• DHSSPS
• PHA and HSCB
• Health and Social Care Trusts
• Local commissioning groups
• Private sector providing cardiovascular services
• Local government
• Schools/school nurses</td></tr>
<tr><td>Proposal analysis</td><td colspan="3">Erica Ison to undertake proposal analysis assisted by Claire Higgins</td></tr>
<tr><td rowspan="8">Gathering evidence</td><td>HIA area of work</td><td>To be undertaken by</td><td>Agreed timescale</td></tr>
<tr><td>Proposal analysis</td><td>• Erica Ison</td><td>February/March 2010</td></tr>
<tr><td>Community profile</td><td>• Template to be developed by CH
• Community profile to be developed by Ffiona Dunbar, PHA</td><td>February 2010

March/April 2010</td></tr>
<tr><td>Literature review</td><td>• Literature review to be undertaken by Diane Anderson, PHA</td><td>March/April 2010</td></tr>
<tr><td>Desktop appraisal</td><td>• HIA Management Group facilitated by Erica Ison</td><td>21st April 2010</td></tr>
<tr><td>Policy analysis</td><td>• Christine McMaster, Diane Anderson and Louise Herron, PHA</td><td>March/April 2010</td></tr>
<tr><td>Stakeholder engagement</td><td>• Management group to organise sessions
• PHA/IPH to facilitate
• All Management and Steering group members to be involved</td><td>May/June 2010</td></tr>
</table>

<table>
<tr><td>Appraise evidence and form recommendations responsibility</td><td colspan="2">HIA Management group</td></tr>
<tr><td>Presenting and disseminating HIA results</td><td colspan="2">• Recommendations to be presented and approved by the Public Health Agency Management
• Recommendations to be disseminated to DHSSPS, CVSFW Commissioning and Implementation Group and Section Leads and HSCT and any other identified decision-makers or agencies
• HIA report to be developed and disseminated to all stakeholders
• HIA report to be sent to all Steering group members
• HIA report to be placed on IPH, BHC and other relevant websites</td></tr>
<tr><td>Evaluation of the HIA</td><td colspan="2">• On-going monitoring to take place throughout the HIA process by reviewing each meeting.
• Process evaluation to be undertaken by the Management Group when the HIA has been conducted and recommendations disseminated (late 2010). Criteria for undertaking process evaluation listed in Appendix 2.
• Management group to agree a process for outcome evaluation</td></tr>
<tr><td rowspan="5">HIA budget</td><td>Item</td><td>Cost</td></tr>
<tr><td>External HIA expert</td><td>TBA</td></tr>
<tr><td>Consultation events</td><td>£500</td></tr>
<tr><td>Dissemination of findings</td><td>£500</td></tr>
<tr><td>In-kind costs:
PHA
Belfast Health and Social Care Trust
Institute of Public Health in Ireland</td><td></td></tr>
</table>

Operating arrangements for **Steering group**	Chair – Adrian Mairs, PHA Dates and times of meetings: • Thursday 25th March, 2pm, Public Health Agency, Conference room 5, Floor 1, Champion House, 12-22 Linenhall Street, Belfast • Wednesday 5th May, 10am, Institute of Public Health in Ireland, Forestview, Purdy's Lane, Belfast • Wednesday 6th October, 10am, Institute of Public Health in Ireland, Forestview, Purdy's Lane, Belfast Location of meetings - Belfast Secretariat – Public Health Agency
Operating arrangements for **Management group**	Chair – Christine McMaster, PHA Date and location of meetings to be agreed by the group Secretariat - PHA

Appendix 4

Data inventory

Domain	Indicator	Level	Source	Year (s)
Demographics	Resident Population	NI, LCG	http://www.nisra.gov.uk/demography/default.asp17.htm	2008
	Population Projections	NI, LCG	http://www.nisra.gov.uk/demography/default.asp47.htm	2010, 2015,2020
	Population Density	NI, LCG	http://www.ninis.nisra.gov.uk/	2008 pop
	Births	NI Trust	http://www.ninis.nisra.gov.uk/	2009
	Deaths	NI LCG	http://www.ninis.nisra.gov.uk/	2009
	Deaths by Social Class	NI, LGD	http://www.ninis.nisra.gov.uk/	2007
(Migration)	Average health card registrations from non-UK national (per 1,000 resident population)			
	A8 Stock Population by Local Government District 2007	NI, LGD	Census.nisra@dfpni.gov.uk	2007
Deprivation	Multiple Deprivation Measure (composite)	SOA	http://www.nisra.gov.uk/deprivation/archive/ Updateof2005Measures/NIMDM_2010_Results_SOA.xls	2010
	Proximity to Services	SOA	http://www.nisra.gov.uk/deprivation/archive/ Updateof2005Measures/NIMDM_2010_Results_SOA.xls	2010
	Living Environment	SOA	http://www.nisra.gov.uk/deprivation/archive/ Updateof2005Measures/NIMDM_2010_Results_SOA.xls	2010
	Crime and Disorder	SOA	http://www.nisra.gov.uk/deprivation/archive/ Updateof2005Measures/NIMDM_2010_Results_SOA.xls	2010

Domain	Indicator	Level	Source	Year (s)
Health and Mortality	Life Expectancy	NI	www.ninis@nisra.gov.uk	2005-2007
	General Health Question	NI LGD Trust	www.ninis@nisra.gov.uk	2001
	Persons reporting General Health as good, not good		Census	
	Limiting long term illness (LLTI) by age and gender	NI LGD Trust	www.ninis@nisra.gov.uk	2001
	Number of households with at least one member with LLTI	NI LGD Trust	www.ninis@nisra.gov.uk	2001
	Health Disability and Deprivation	SOA	http://www.nisra.gov.uk/deprivation/archive/Updateof2005Measures/NIMDM_2010_Results_SOA.xls	2010
	Standard Mortality Rate (SMR), All ages, Under 75s	NI, HSSB, LGD	www.ninis@nisra.gov.uk	2003-2007
	Directly standardised death rates 1999-2008 for selected major causes of death, age 15-74 years; Ischaemic Heart Disease Cerebrovascular Disease	NI, LCG	NISRA	1999-2008
	QOF	HSCT	www.dhsspsni.gov.uk	2009
	Standardised Hospital Rate All Admissions – Circulatory Diseases	NI, HSSB, LGD	www.ninis@nisra.gov.uk	2005-2008
	Ethnicity by General Health	NI, HSSB, LGD	www.ninis@nisra.gov.uk	2001
	Disability Living Allowance (DLA) claimants by age and sex	LCG, LGD	www.ninis@nisra.gov.uk	2002- 07

Domain	Indicator	Level	Source	Year (s)
	DLA claimants as proportion of total population	LCG, LGD	www.ninis@nisra.gov.uk	2009
Mental Health	Patients with anxiolytic or antidepressant prescription as portion of all GP registered patients (%)	NI, Trust	Health and Social Care Trust, Personal Communication	2008/09
	Proportion of adults with a potential psychiatric disorder as measured by the GH12 score	NI, HSSB	Health and Social Wellbeing Survey, 2005/06, available at http://www.ninis.nisra.gov.uk/mapxtreme/DataCatalogue.asp?button=Health	2005/06
	Proportion of adults who stated they recently had felt unhappy or depressed	NI, HSSB	Health and Social Wellbeing Survey, 2005/06, available at http://www.ninis.nisra.gov.uk/mapxtreme/DataCatalogue.asp?button=Health	2005/06
	Health and wellbeing survey indicates that 10% of persons aged 16 and over experience a great deal of worry or stress compared to 67% who experience little or no worry or stress (over a 12 month period). The survey also suggested that 19% of people aged 16 and over showed signs that suggest they are at risk of a possible mental health problem. Women were more likely to report signs of a possible mental health problem (21%) than men (16%).		Northern Ireland Statistics and Research Agency, Health and Social Wellbeing Survey 2005/6. Available at http://www.csu.nisra.gov.uk/survey.asp46.htm (accessed 1st May 2009)	2005/2006

Domain	Indicator	Level	Source	Year (s)
Child Health	Percentage of mothers reporting smoking during pregnancy	HSSB	Project Support Analysis Branch DHSSPSNI, 2010.	2004/05-2007/08
	Percentage/ number of Low Birth Weight (LBW) babies	Trust	Project Support Analysis Branch DHSSPSNI, 2010.	2003-2007
	Proportion of mothers breastfeeding	HSSB, Trust	Project Support Analysis Branch DHSSPSNI, 2010.	2005, 2006,2007,2008
	Percentage of P1 obese (Girls, Boys and Total)	PC/ LGD	Profile/ Child Health System	2005, 2006,2007,2008
	Teenage pregnancy (births/ birth rate/ % of all births to mothers aged < 20)	PC	Child Health System	2008
Deprivation	Income deprivation affecting Children	SOA	http://www.nisra.gov.uk/deprivation/archive/ Updateof2005Measures/NIMDM_2010_Results_SOA.xls	2010
Lifestyle	Adult drinking Patterns; Health and Wellbeing Survey	NI, HSSB	Adult Drinking Patterns Survey; Continuous Household Survey, CSU; Health & Wellbeing Survey	2008; 2005/06
	Young Peoples Drinking Patterns	NI HSSB	YPBAS, 2007, CSU, www.DHSSPSNI.gov.uk	2007
	Smoking Cessation Services by Local Government District 2008-09	NI, LGD	Check with Louise	2008
	Prevalence of Smoking	HSSB	www.ninis@nisra.gov.uk; YPBAS, 2007, CSU, www.DHSSPSNI.gov.uk	2008/09

Domain	Indicator	Level	Source	Year (s)
	How often do you eat fruit (including fresh, tinned, dried or pure fruit juice)?	HSSB	www.ninis@nisra.gov.uk; YPBAS, 2007, CSU, www.DHSSPSNI.gov.uk	2007
	How often do you eat vegetables and salads (not including potatoes)?	HSSB	www.ninis@nisra.gov.uk; YPBAS, 2007, CSU, www.DHSSPSNI.gov.uk	2007
	How many portions of fruit/vegetables (including fresh, dried, tinned, juiced and frozen) do you usually eat each day?	HSSB	www.ninis@nisra.gov.uk; YPBAS, 2007, CSU, www.DHSSPSNI.gov.uk	2007
Health Service Use	GP practices, patients and average list size	PC/ LGD	Business Support Organisation	2009
	Standardised Hospital Rate All Admissions	LCG/LDG	www.ninis@nisra.gov.uk	2008
Income and Employment	Working aged adults in employment	NI	Northern Ireland Labour Market Structure: Seasonally adjusted, available at http://www.detini.gov.uk/deti-stats-index/stats-surveys.htm	2009/2010
	Working aged adults in unemployment	NI	Northern Ireland Labour Market Structure: Seasonally adjusted, available at http://www.detini.gov.uk/deti-stats-index/stats-surveys.htm	2009/2010
	Working aged adults economically active	NI	Northern Ireland Labour Market Structure: Seasonally adjusted, available at http://www.detini.gov.uk/deti-stats-index/stats-surveys.htm	2009/2010
Deprivation	Income	SOA	http://www.nisra.gov.uk/deprivation/archive/Updateof2005Measures/NIMDM_2010_Results_SOA.xls	2010

Domain	Indicator	Level	Source	Year (s)
	Employment	SOA	http://www.nisra.gov.uk/deprivation/archive/Updateof2005Measures/NIMDM_2010_Results_SOA.xls	2010
	Income deprivation affecting Older people	SOA	http://www.nisra.gov.uk/deprivation/archive/Updateof2005Measures/NIMDM_2010_Results_SOA.xls	2010
Education	% of pupils entitled to free school meals	NI, Also available at LGD or ELB level	DENI, Percentage of Pupils entitled to free school meals at Educational Establishments in Northern Ireland, available at: *www.**deni**.gov.uk/percent_fsme_by_elb_suppressed_07_08-2.xls*	2009/2010
	School leavers who achieved 5 + GCSEs at grades A* - C	NI, LGD	DENI, (May 2009) Qualifications and Destinations of Northern Ireland School Leavers 2007/08, available at http://www.deni.gov.uk/school_leavers_0708r-2.pdf	2007/2008
	School leavers who achieved no GCSEs	NI,LGD	DENI, (May 2009) Qualifications and Destinations of Northern Ireland School Leavers 2007/08, available at http://www.deni.gov.uk/school_leavers_0708r-2.pdf	2007/2008
	Proportion of working age population without any qualifications, aged 20 – retirement; aged 20 – 39 years	NI	Labour Force Survey (up-dated March 2010) Working-age adults without qualifications, sourced at The Poverty Site, http://www.poverty.org.uk/i59/index.shtml?2	Average 2007 - 2009
	Proportion of people who lack any educational attainment broken down by age	NI	Labour Force Survey (up-dated March 2010) Working-age adults without qualifications, sourced at The Poverty Site, http://www.poverty.org.uk/i59/index.shtml?2	Average 2007 - 2009
Deprivation	Education Skills and Training	SOA	http://www.nisra.gov.uk/deprivation/archive/Updateof2005Measures/NIMDM_2010_Results_SOA.xls	2010

Domain	Indicator	Level	Source	Year (s)
Housing	Number of Households (Census 2001)	LCG, LGD,	www.ninis@nisra.gov.uk	2001
	Average Household size (Census 2001	LCG, LGD,	www.ninis@nisra.gov.uk	2001
	Households owner occupied; rented (%) (Census 2001)	LCG, LGD,	www.ninis@nisra.gov.uk	2001
	Lone Pensioner households (%) (Census 2001)	LCG, LGD,	www.ninis@nisra.gov.uk	2001
	Lone parents households with dependent children households (%) (Census 2001)	LCG, LGD,	www.ninis@nisra.gov.uk	2001
	Households without central heating or without sole use of bath/shower/toilet or without both (%) (Census 2001)	LCG, LGD,	www.ninis@nisra.gov.uk	2001
	Housing Occupancy rating -1 or less (%)	LCG, LGD,	www.ninis@nisra.gov.uk	2001
	Homes assessed as unfit (%) 2006	LCG, LGD,	www.ninis@nisra.gov.uk	2001
	Homes dependent on solid fuels or electricity as a source of heating 2006	LCG, LGD,	www.ninis@nisra.gov.uk	2001
	Projected Households 2021	LCG, LGD,	www.ninis@nisra.gov.uk	2001
	Projected Households average size 2021	LCG, LGD,	www.ninis@nisra.gov.uk	2001
	Number of Households presenting as Homeless	NIHE Area	Homelessness Statistics NI, NIHE.	2008/9

Domain	Indicator	Level	Source	Year (s)
Transport	Modes of travel:	NI	DRD, Roads Service, 2010, Travel Survey for Northern Ireland 2006-2008, available at http://www.roadsni.gov.uk/trav_survey_for_ni_06-08.pdf	2010
	Percentage of households with access to a car or van	NI, Trust, LGD.	Census 2001, sourced http://www.ninis.nisra.gov.uk/mapxtreme/DataCatalogue.asp?button=Census	2001
Environment	Current Air Quality Management Areas in NI (tab2); Summary of measurements made for the most important air pollutants	NI, District	Air Pollution in Northern Ireland 2008, A report for the DOE NI.	2008
	PM10 Concentrations and Deprivation	NI	Air Quality and Social Deprivation in the UK: an environmental inequalities analysis	2006
	Air quality monitoring stations in Belfast and Castlereagh and air quality management areas	Belfast	Profile/ Belfast City Council; www.airquality.co.uk; also check CHP/ Stephen Kerr or Siobhan Toland (AQMA)-+	2008
	Percentage Green Spaces		http://www.ninis.nisragov.uk/; Natural and Built Environment	2008

Appendix 5

Stakeholder workshop templates

Rapid appraisal of the Northern Ireland Cardiovascular Service Framework
Example – statutory stakeholders' worksheet

Standard 10: Hypertension
All adults should be offered lifestyle advice as to the prevention of hypertension and have their blood pressure measured and recorded using standardised techniques every 5 years from age 45 years

Key performance indicators

1. Percentage of patients aged over 45 who have had a recorded blood pressure on their GP record within the past 5 years

Actions

- To offer lifestyle advice to all adults to prevent hypertension
    - To record the blood pressure of all adults aged 45 years and over using standardised techniques
        - To repeat blood pressure measurements in this group of adults every 5 years

Comments
During the first 5 years of the implementation of the NI CVSFW the key performance indicator will not reflect completely activity as a result of the cardiovascular service framework

Potential impacts on health inequalities and health inequities

Health inequalities are differences in health status experienced by various individuals or groups in society; inequities in health are avoidable differences in the opportunity to be healthy, and in the risk of illness and premature death; inequities can arise from an unfair distribution of services, resources or power

Are there any pre-existing health inequalities associated with this standard? Please outline them below.
Are there any inequities in health associated with this standard? Please outline them below.

Potential barriers to realising the standard's intended impacts on health

Are there any barriers to the implementation of the standard as a whole? Please outline them below.
Are there any barriers to the implementation of one or more of the actions contained within the standard? Please outline them below.

Potential impacts on health services

Impacts on the service(s) are important for future planning. Changes in demand and need that are not reflected in service planning and delivery can affect access to services, a potential source of health inequalities. Increased demand can mean, for instance, increased demand for primary care, increased prescription of medication, increased rates of testing, of referral to hospital, of intervention (including surgery), etc.

Will the implementation of the standard affect demand for the services described in the standard?

	Increase demand	**Neutral**	**Reduce demand**	**Time-span**	**Comment**

Will the implementation of the standard affect need for health and social care services in future?

	Increase need	**Neutral**	**Reduce need**	**Time-span**	**Comment**

How will the implementation of the standard affect staff responsible for delivering the services described in the standard?

	Negative	**Neutral**	**Positive**	**Time-span**	**Comment**

Potential impacts of the implementation of the standard on health and well-being

Impacts on population and population groups

	Negative	Neutral	Positive	Time-span	Comment

Impacts on patients and clients, including health outcomes

	Negative	Neutral	Positive	Time-span	Comment

Potential impacts of the implementation of the standard on health inequalities and inequities

To help identify the potential impacts of the implementation of this standard on health inequalities and/or health inequities, refer to the responses on page 2 about pre-existing health inequalities and health inequities. However, there may be additional and unintended health inequalities and/or health inequities that arise as a result of the implementation of the standard.

Definition: Health inequalities are differences in health status experienced by various individuals or groups in society; inequities in health are <u>avoidable</u> differences in the opportunity to be healthy, and in the risk of illness and premature death; inequities can arise from an unfair distribution of services, resources or power.

What is the effect of the implementation of the standard on health inequalities?

	Widens health inequalities gap	**Neutral**	**Narrows health inequalities gap**	**Time-span**	**Comment**

What is the effect of the implementation of the standard on health inequities?

	Widens health inequities gap	**Neutral**	**Narrows health inequities gap**	**Time-span**	**Comment**

Potential impacts of the implementation of the standard on the determinants of health

Mark the determinants of health with a green pen for positive or beneficial effects and with a red pen for negative or harmful effects; use both colours if you think the effect could be positive or negative.

Lifestyle & personal circumstances	***Access to Services***	***Social***	***Economic***	***Environment***
Diet Physical activity Smoking Alcohol consumption Prescription drug use Illicit drug use Other health-related behaviours, e.g. hygiene Employment Income Housing conditions Educational attainment	Primary care services Secondary care services Tertiary care services Rehabilitation services Palliative care services Respite care Specialist services Social services Voluntary sector services Leisure & recreation	Social contact: • Family; • Friends Social support: • Emotional; • Technical; • Practical	Creation of wealth Economic activity Absenteeism Availability and quality of education opportunities Availability and quality of training or skills development opportunities Availability & quality of employment opportunities	Green and open space Active travel infrastructure Public transport infrastructure

Population groups	***Determinants affected***
Clients	
Patients	
Patients' families	
Carers	
Staff	
Population of NI	

Suggestions to address potential impacts on health, health inequalities and health inequities

How can we enhance any positive effects of the standard and its implementation, including ways to reduce health inequalities and/or health inequities?

How can we minimise or avoid any unintended negative effects of the standard and its implementation, including those that could exacerbate health inequalities and/or health inequities?

Rapid appraisal of the Northern Ireland Cardiovascular Service Framework
Example – community stakeholders' worksheet

Standard 7: Prevention
Health and social care professionals should work with early years settings, schools, workplaces and communities in the promotion and support of breastfeeding, healthy eating and physical activity to prevent obesity

Key performance indicators
Percentage of people who have a BMI >25
Percentage of Primary 1 children who have a BMI >25

Actions
- Health and social care organisations to identify early settings, schools, workplaces and communities in which to promote and support breastfeeding, healthy eating and physical activity
    - Health and social care organisations to develop strategies and action plans to undertake joint work in early settings, schools, workplaces and communities

        - Health and social care professionals to promote breastfeeding
            - Health and social care professionals to support breastfeeding

        - Health and social care professionals to promote healthy eating
            - Health and social care professionals to support healthy eating

        - Health and social care professionals to promote physical activity
            - Health and social care professionals to support physical activity

Comments
There are no process performance indicators associated with this standard

Contextual information

Are you aware of any difficulties or problems people might have accessing the services described in the standard? ***The people involved might be from a particular geographical area, from a particular cultural or ethnic group, from a particular age group, from a particular social group or from a particular gender.***

Do you think that there are any barriers to implementing this standard?

What are your positive expectations of this standard?

Potential impacts on health services

Do you think the implementation of this standard will increase or decrease the demand for the services described? Or do you think the effect will be neutral? Give the reasons for your response.

Do you think the implementation of this standard will increase or decrease the future need for the services described? Or do you think the effect will be neutral? Give the reasons for your response.

What do you think will be the effects of the implementation of this standard on staff responsible for providing the services described?

Potential impacts on health and well-being

What do you think will be the impact of the standard on patients and/or clients, including outcomes for their health and well-being?

	Negative	**Positive**	**Comment**

What do you think will be the effect of the standard on people experiencing inequalities or inequities in health? To help you, refer to the responses to the 1st question under the heading "Contextual information".

	Widens health inequalities or inequities gap	**Narrows health inequalities or inequities gap**	**Comment**

Definition: Health inequalities are differences in health status experienced by various individuals or groups in society; inequities in health are avoidable differences in the opportunity to be healthy, and in the risk of illness and premature death; inequities can arise from an unfair distribution of services, resources or power.

Potential impacts of the implementation of the standard on the determinants of health

What do you think will be the impact of the standard on some of the wider influences on health and well-being? Do you think it will have an impact on people's lifestyle and personal circumstances, on their access to various types of services, on the social contact or social support they have, on economic factors, e.g. absenteeism from work, and on environmental factors such as people's access to green and open space and public transport and active travel infrastructure?

Mark the determinants of health either with a green pen for positive or beneficial effects and with a red pen for negative or harmful effects.

Lifestyle & personal circumstances	***Access to Services***	***Social***	***Economic***	***Environment***
Diet Physical activity Smoking Alcohol consumption Prescription drug use Illicit drug use Other health-related behaviours, e.g. hygiene Employment Income Housing conditions Educational attainment	Primary care services Secondary care services Tertiary care services Rehabilitation services Palliative care services Respite care Specialist services Social services Voluntary sector services Leisure & recreation	Social contact: • Family; • Friends Social support: • Emotional; • Technical; • Practical	Creation of wealth Economic activity Absenteeism Availability and quality of education opportunities Availability and quality of training or skills development opportunities Availability & quality of employment opportunities	Green and open space Active travel infrastructure Public transport infrastructure

Suggestions to address the potential impacts on health and well-being of implementing the standard

How can we increase or enhance any positive effects of the standard, including ways to reduce health inequalities and/or health inequities?

How can we minimise or avoid any unintended negative effects of the standard, including those that could exacerbate health inequalities and/or health inequities?

Appendix 6

Prioritisation worksheet

HIA suggestion	Will the suggestion affect few Δ / some Δ Δ or many Δ Δ Δ people?	Does the suggestion increase ↑ / not affect ↔ or reduce ↓ health inequities and inequalities?	Is there no − / some + or strong ++ evidence of effectiveness for the suggestion?	Is the suggestion likely to be implemented? No X , or yes in the short 🕐 / medium 🕐🕐 or long term 🕐🕐🕐?	Can the suggestion be achieved through service redesign? No X, or yes in the short 🕐 / medium 🕐🕐 or long term 🕐🕐🕐?
Ensure that healthcare professionals accord appropriate priority to effective communication with patients and carers	Δ Δ Δ	↓	++	🕐🕐🕐	🕐🕐🕐
Undertake audits of communication with patients and carers	Δ Δ Δ	↓	++	🕐	🕐
Provide patient advice services within Healthy Living Centres	Δ Δ Δ	↓	+	🕐🕐	🕐🕐🕐
Healthcare organisations need to conduct consultations about Public and Patient Involvement in a way that members of the general public and service users can respond to easily and effectively	Δ Δ Δ	↓	+	🕐🕐🕐	🕐🕐🕐
During the development of Patient and Public Involvement strategies, and in any information produced, make clear the opportunities available to service users to become involved and actively engaged	Δ Δ Δ	↓	++	🕐🕐🕐	🕐🕐🕐
Develop, in a coherent way, an holistic evidence-based programme with the partners mentioned in the standard	Δ Δ Δ	↓	++	🕐🕐🕐	X
Increase support (staff and resources) for smoking cessation for the organisations mentioned in the standard; ensure the support is sustainable and implementation is not simply a one-off activity	Δ Δ Δ	↓	++	🕐🕐	🕐🕐🕐

HIA suggestion	Will the suggestion affect few Δ / some Δ Δ or many Δ Δ Δ people?	Does the suggestion increase ↑ / not affect ↔ or reduce ↓ health inequities and inequalities?	Is there no – / some + or strong ++ evidence of effectiveness for the suggestion?	Is the suggestion likely to be implemented? No X, or yes in the short 🕐 / medium 🕐🕐 or long term 🕐🕐🕐?	Can the suggestion be achieved through service redesign? No X, or yes in the short 🕐 / medium 🕐🕐 or long term 🕐🕐🕐?
Undertake individual area-based needs assessments to ensure that the programmes implemented are effective for the local population	Δ Δ Δ	↓	++	🕐🕐	🕐🕐🕐
Ensure all staff involved from all organisations are communicating the same message to service users about smoking	Δ Δ Δ	↓	++	🕐🕐	X
Provide training for staff in brief interventions, but ensure the training provided is appropriate to each organisation	Δ Δ Δ	↓	++	🕐🕐	X
Develop and establish a mentoring scheme that can be implemented at a local level.	Δ Δ	↓	–	🕐	🕐🕐🕐
Develop education programmes for parents to make them aware of the key messages about smoking	Δ Δ Δ	↓	–	🕐🕐	X
Implement a ban on smoking in open spaces, in cars, and in the presence of young people	Δ Δ Δ	↓	++	🕐	🕐🕐🕐
If the standard applies to "all staff, insert the standard into management objectives as core business and staff management	Δ Δ Δ	↓	++	🕐🕐	🕐🕐🕐
Provide appropriate training for health and social care professionals to ensure staff can identify whether people are ready to stop smoking, and be clear on their role on advising people (e.g. opportunistic chat and signposting to services)	Δ Δ Δ	↓	++	🕐🕐🕐	X

HIA suggestion	Will the suggestion affect few Δ / some Δ Δ or many Δ Δ Δ people?	Does the suggestion increase ↑ / not affect ↔ or reduce ↓ health inequities and inequalities?	Is there no – / some + or strong ++ evidence of effectiveness for the suggestion?	Is the suggestion likely to be implemented? No X, or yes in the short 🕐 / medium 🕐🕐 or long term 🕐🕐🕐?	Can the suggestion be achieved through service redesign? No X, or yes in the short 🕐 / medium 🕐🕐 or long term 🕐🕐🕐?
Implement the standard by focussing on target groups and target settings as identified in the NICE Guidance, which needs to be incorporated into the standard; ensure that older people are considered as one of the target groups	Δ Δ	↓	++	🕐🕐🕐	X
Provide smoking cessation services at a local level, and address the needs of the local population, e.g. need for travel, and need for childcare	Δ Δ	↓	++	🕐🕐	🕐🕐🕐
Include this standard in the corporate objectives of the responsible organisations, and amend staff remits accordingly	Δ Δ Δ	↓	++	🕐🕐	🕐🕐🕐
Need to be specific about which "health professionals" are to be involved in the implementation of/take responsibility for this standard – is it all health workers in the HPSS or just a defined group?	Δ Δ Δ	↓	++	🕐🕐	🕐🕐🕐
Need to identify more precisely how and when it is appropriate to identify inactive individuals and provide them with advice and support, for instance: what is meant by the use of "support" in the wording of the standard; need to include children and young people in the identification of "inactive individuals".	Δ Δ Δ	↓	++	🕐	🕐🕐🕐
To ascertain whether the implementation of this standard is affecting people's health status, a mechanism for regular review needs to be established and a KPI defined	Δ Δ Δ	↓	++	🕐	🕐🕐🕐

HIA suggestion	Will the suggestion affect few Δ / some Δ Δ or many Δ Δ Δ people?	Does the suggestion increase ↑ / not affect ↔ or reduce ↓ health inequities and inequalities?	Is there no – / some + or strong ++ evidence of effectiveness for the suggestion?	Is the suggestion likely to be implemented? No X, or yes in the short 🕐 / medium 🕐🕐 or long term 🕐🕐🕐?	Can the suggestion be achieved through service redesign? No X, or yes in the short 🕐 / medium 🕐🕐 or long term 🕐🕐🕐?
Develop a training programme on brief interventions	Δ Δ	↓	++	🕐🕐🕐	X
Working in partnership with local councils needs to be incorporated into the implementation of this standard, in order to increase people's access to green infrastructure	Δ Δ Δ	↓	++	🕐	🕐🕐🕐
Provide staff with training in interventions for healthy eating support and advice	Δ Δ Δ	↓	++	🕐🕐🕐	🕐🕐🕐
Provide information in the different languages used by the local population	Δ Δ Δ	↓	++	🕐🕐🕐	🕐🕐🕐
Once initial advice and support have been given, provide follow-up support to people/community organisations	Δ Δ	↓	+	🕐	🕐🕐
Encourage people to grow their own fruit and vegetables (which will also increase their level of physical activity)	Δ	↔	++	X	🕐🕐
Provide a display in GP surgeries to show people the impact of an unhealthy lifestyle on health, together with examples of potential changes that they could make in the future and the consequences of not making those changes	Δ Δ	↔	+	X	X
Support the implementation of this standard through the PfA targets	Δ Δ Δ	↓	++	🕐🕐	X
Identify appropriate interventions for active cultural change within health and social care services to enhance the effectiveness of the implementation of this standard, particularly in reducing health inequalities and inequities	Δ Δ	↓	+	🕐🕐	🕐🕐🕐

HIA suggestion	Will the suggestion affect few Δ / some Δ Δ or many Δ Δ Δ people?	Does the suggestion increase ↑ / not affect ↔ or reduce ↓ health inequities and inequalities?	Is there no – / some + or strong ++ evidence of effectiveness for the suggestion?	Is the suggestion likely to be implemented? No X, or yes in the short 🕐 / medium 🕐🕐 or long term 🕐🕐🕐?	Can the suggestion be achieved through service redesign? No X, or yes in the short 🕐 / medium 🕐🕐 or long term 🕐🕐🕐?
Encourage people to take physical activity outdoors, e.g. work on an allotment	Δ Δ	↓	++	🕐🕐🕐	🕐🕐🕐
Implement the standard opportunistically	Δ Δ	↔	++	🕐🕐🕐	🕐🕐🕐
Establish a greater number of centres to support people who consume hazardous amounts of alcohol to improve systems for delivery of specialist alcohol services	Δ	↓	+	🕐	🕐🕐🕐
Encourage parents and carers to spend time with their children so that young people do not start to consume harmful amounts of alcohol from an early age	Δ Δ Δ	↓	++	🕐🕐🕐	🕐🕐🕐
Increase the level of education in schools about the harms associated with consuming hazardous amounts of alcohol	Δ Δ Δ	↔	+	🕐🕐	🕐🕐🕐
The emergency department should be used as a point of contact for people who consume potentially hazardous amounts of alcohol, and as an entry point to relevant services	Δ Δ	↓	++	🕐🕐	🕐🕐🕐
Use community groups to deliver ELS	Δ Δ Δ	↓	++	🕐🕐	🕐🕐🕐
Advocate a reduction in the amount of salt in food	Δ Δ	↓	++	🕐🕐🕐	🕐🕐🕐
Promote workplace health initiatives, including blood pressure measurement and lifestyle advice	Δ Δ	↓	++	🕐🕐	X
Organise outreach initiatives in pharmacies to provide blood pressure measurement and lifestyle advice	Δ Δ	↓	++	🕐	🕐🕐

HIA suggestion	Will the suggestion affect few Δ / some Δ Δ or many Δ Δ Δ people?	Does the suggestion increase ↑ / not affect ↔ or reduce ↓ health inequities and inequalities?	Is there no – / some + or strong ++ evidence of effectiveness for the suggestion?	Is the suggestion likely to be implemented? No X, or yes in the short 🕐 / medium 🕐🕐 or long term 🕐🕐🕐?	Can the suggestion be achieved through service redesign? No X, or yes in the short 🕐 / medium 🕐🕐 or long term 🕐🕐🕐?
Involve patients in self-management	Δ Δ Δ	↔	++	🕐🕐	🕐🕐🕐
Work with insurance industry to create positive incentives	Δ Δ	↑	++	X	🕐🕐🕐
Consider reducing the age at which blood pressure measurement and lifestyle advice is given, and consider colleges of further and higher education as locations for these checks	Δ Δ	↑	–	X	🕐🕐
Consider employing a dietician in primary care practices to support the provision of lifestyle advice	Δ Δ Δ	↓	+	🕐	X
Work with pharmacies to improve levels of compliance with drug regimens, e.g. provision of pill mills, combination products, drug lists on discharge, and also patients carrying drug lists with them at all times	Δ Δ	↓	–	X	🕐🕐🕐
Raise awareness of hyperlipidaemia in the general population	Δ Δ Δ	↔	–	🕐🕐🕐	🕐🕐🕐
Provide training to primary care teams for effective identification and management of people with hyperlipidaemia	Δ Δ Δ	↔	++	X	🕐🕐🕐
Provide support to identified index patients and family members	Δ	↔	++	🕐🕐	X
Raise awareness among members of the public about the risk factors for and symptoms of diabetes, with strategies for reaching people in hard-to-reach groups, including raising the level of community-based awareness	Δ Δ Δ	↓	–	🕐🕐	🕐🕐🕐

HIA suggestion	Will the suggestion affect few Δ / some Δ Δ or many Δ Δ Δ people?	Does the suggestion increase ↑ / not affect ↔ or reduce ↓ health inequities and inequalities?	Is there no – / some + or strong ++ evidence of effectiveness for the suggestion?	Is the suggestion likely to be implemented? No X, or yes in the short 🕐 / medium 🕐🕐 or long term 🕐🕐🕐?	Can the suggestion be achieved through service redesign? No X, or yes in the short 🕐 / medium 🕐🕐 or long term 🕐🕐🕐?
Provide regular training and skills development in the identification and management of diabetes for healthcare professionals	Δ Δ Δ	↔	++	🕐🕐	🕐🕐🕐
Improve communication between primary and secondary care to ensure that a diagnosis of diabetes is shared as soon as it is made	Δ Δ	↓	++	🕐🕐	🕐🕐🕐

Appendix 7

Analysis of results by question

Pre-existing health inequalities

Of the 45 standards in the Cardiovascular Service Framework, 43 (96%) were assessed with respect to this question. (There was no response to standards 15 and 42.)

Forty-one of the standards (91%) were judged to have pre-existing health inequalities associated with them. For standard 28, respondents were not aware of any pre-existing health inequalities, and for standard 41 respondents thought there could be pre-existing health inequalities but were not sure.

The range of pre-existing inequalities associated with standards from the Cardiovascular Service Framework was 1-8, with a median of 3. The standard associated with the greatest number of pre-existing inequalities was standard 8 in the *Prevention* section. Ten standards were associated with the least number of pre-existing inequalities (n=1).

Nine of the standards (20%) were associated with a greater number of pre-existing health inequalities than the median (standards 1, 3, 4, 5, 10, 19, 30, 31, 44), which includes half of the standards in the *Communication* section (1/2), in the *Hypertension* section (1/2), and in the *Cerebrovascular Disease* section (2/4), over two-fifths (43%) of the standards in the *Prevention* section (3/7), one-third of the standards in the *Supportive and Palliative Care* section (1/3), and only 8% of the standards in the *Heart Disease* section (1/13).

Thirty-two types of pre-existing inequalities were identified in relation to the standards in the Cardiovascular Service Framework (see Table 1). The number of times a pre-existing inequality was mentioned ranged from 1-24, with a median of 2. Fourteen of the pre-existing inequalities (44%) were mentioned a greater number of times than the median.

The inequality most frequently mentioned was belonging to a ***lower socio-economic group;*** more than half of the standards in the Cardiovascular Service Framework were associated with this

pre-existing health inequality. The next most frequently mentioned were being an ***older person***, experiencing high levels of ***deprivation*** and belonging to an ***ethnic minority group;*** around a fifth of the standards were associated with each of these pre-existing health inequalities. If the last category is added to two similar categories – belonging to a ***black and minority ethnic group***, and belonging to a different ***cultural group*** – this becomes the second most frequently mentioned pre-existing health inequality, and more than two fifths of the standards in the framework were associated with these inequalities.

The next most frequently mentioned pre-existing inequality is being ***male***, followed by being ***female,*** being a ***young person*** and having a ***low level of education/literacy***. Finally, the last group of inequalities that were mentioned more than the median were having a ***physical disability/disablement***, having a ***first language that is not English***, ***genetic factors/predisposition***, and ***smoking habit***.

Table 2

Pre-existing inequality	***Standards for which inequality is relevant***	***No. standards for which inequality is relevant***	***% standards for which inequality is relevant***
People in lower socio-economic groups	1, 3, 4, 5, 10, 13, 14, 16, 17, 18, 19, 20, 21, 22?, 23, 24, 25, 27, 29, 30, 31, 32, 39, 45	24 + 1?	53%; 56% if include standard where respondents were uncertain
People experiencing high levels of deprivation	3, 10, 21, 23, 26, 27, 33, 36, 37	9	20%
People from ethnic minority groups	3, 6, 19, 23, 29, 30, 31, 45	8	18%
People from black and minority ethnic groups	2, 13, 16, 17, 24, 27	6	13%
People from different cultural groups	1, 23, 29, 30, 31, 45	6	13%
Older people	5, 6, 20, 21 (frail elderly), 22 (with co-morbidities), 30, 34, 35, 38, 44	10	22%
Young people	3 (female; those not interested in sport), 4 (female), 19 (lost to follow-up), 30	4	9%
Children	3 (of smokers), 20	2	4%
Women	1 (single), 3 (young), 4 (young), 38	4	9%
Men	8, 33 (>50), 34, 35, 36 (>50), 37 (middle to old age)	6	13%
People with a physical disability or disablement	1, 5, 32 (disablement after stroke)	3	7%
People with a learning disability or difficulty	5, 19	2	4%
People with a hearing impairment	1, 44	2	4%
People with a visual impairment	1	1	2%
People with low levels of communication	2, 31	2	4%
People with low levels of education/literacy	2, 43, 44, 45	4	9%
People whose 1st language is not English	29, 30, 31	3	7%
People in manual occupations	3, 4	2	4%
Irish travellers	19	1	2%
Students	19	1	2%
People unable to afford childcare	4	1	2%
Genetic factors/predisposition	9, 10, 11	3	7%
Familial inheritance	9	1	2%
Age	10, 11	2	4%
Geographical incidence	12	1	2%
Environmental conditions	16, 17	2	4%
Lack of access to transport	1, 4	2	4%
Smoking habit	3, 34, 35	3	7%
People with a mental health problem	4	1	2%
People with more than 1 disease	21	1	2%
Patients with a central line	40	1	2%
Availability of organ donors	41	1	2%

The health inequalities associated with sections of standards in the Cardiovascular Service Framework are shown in Table 3.

Being in a ***lower socio-economic group*** is a pre-existing inequality associated with all of the standards in the *Cerebrovascular Disease* section (4/4), more than three-quarters of the standards in the *Heart Disease* section (10 + 1?), two-thirds of the standards in the *Diabetes* section (2/3), and two-fifths of the standards in the *Prevention* section (3/7).

Experiencing high levels of ***deprivation*** is an inequality associated with half of the standards in the *Peripheral Vascular Disease* section (3/6), and almost a third of the standards in the *Heart Disease* section (4/13).

All of the standards in the *Supportive and Palliative Care* section (3/3) are associated with the inequality of a ***low level of education or literacy***.

Smoking is an inequality associated with one-third of the standards in the *Peripheral Vascular Disease* section (2/6).

Pre-existing inequalities associated with three-quarters of the standards in the *Cerebrovascular Disease* section (3/4) are being in an ***ethnic minority group,*** being in a different ***cultural group***, and having a ***first language that is not English***. Being in a ***black and minority ethnic group*** or an ***ethnic minority group*** is a pre-existing inequity for almost half of the standards in the *Heart Disease* section (6/13).

Being an ***older*** person is a pre-existing health inequality associated with half of the standards in the *Peripheral Vascular Disease* section (3/6), over a quarter of the standards in the *Prevention* section (2/7), and almost a quarter of the standards in the *Heart Disease* section (3/13). Being an ***younger woman*** is a pre-existing health inequity associated with over a quarter of the standards in the *Prevention* section (2/7), whereas being ***male*** is an inequality associated with four-fifths of the standards in the *Peripheral Vascular Disease* section (5/6).

Pre-existing inequalities associated with both of the standards in the *Hypertension* section (2/2) are ***genetic factors/predisposition*** and ***age***.

Pre-existing health inequities
Of the 45 standards in the Cardiovascular Service Framework, 43 (96%) were assessed with respect to this question. (There was no response to standards 35 and 44.)

Forty-three of the standards (96%) were judged to have pre-existing health inequities associated with them.

The range of pre-existing inequities associated with standards from the Cardiovascular Service Framework was 1-10, with a median of 3. The standard associated with the greatest number of pre-existing health inequities was standard 14 in the *Diabetes* section. Twenty-seven standards were associated with the least number of pre-existing inequities (n=1).

Fifteen of the standards (33%) were associated with a greater number of pre-existing health inequities than the median (standards 1, 3, 7, 11, 12, 13, 14, 18, 20, 21, 23, 25, 41, 42, 43), which includes the only standard in the *Hyperlipidaemia* section (1/1), two-thirds of the standards in the *Diabetes* section (2/3), half of the standards in the *Communication* section (1/2), in the *Hypertension* section (1/2) and in the *Renal Disease* section (2/4), almost two-fifths of the standards in the *Heart Disease* section (5/13), one-third of the standards in the *Supportive and Palliative Care* section (1/3), and almost a third of the standards in the *Prevention* section (2/7).

Fifty types of pre-existing inequities were identified in relation to the standards in the Cardiovascular Service Framework (see Table 2). The number of times a pre-existing inequity was mentioned ranged from 1-22, with a median of 1. Twenty-two of the pre-existing inequities were mentioned a greater number of times than the median.

The inequity most frequently mentioned was ***geographical access*** to health and social care services; almost half of the standards in the Cardiovascular Service Framework were associated with this pre-existing health inequity. The next most frequently mentioned were ***access to services*** and being in a ***lower socio-economic group***; over one-fifth of the standards in the Framework were associated with each of these inequities. If the two inequities relating to access to services are combined, 32 of the 45 standards

are affected by this pre-existing inequity, that is over 70% or more than two-thirds of the standards.

Related to the inequity of access to services is service users' ***access to transport***; almost one-fifth of the standards in the framework are associated with this inequity, with just over one-tenth of the standards associated in particular with poor access to transport in ***rural areas***. Pre-existing inequities in the ***quality of services geographically*** and in the ***quality of referral*** each affect just over one-tenth of the standards, as does experiencing high levels of ***deprivation***. Almost one-tenth of standards are associated with each of the following pre-inequities: the ***availability of services***, the ***quality of diagnosis***, being an ***older*** person, and being a ***younger*** person.

NB: Table 3 is overleaf – text continues after Table 3.

Table 3

Pre-existing inequity	*Standards for which inequity is relevant*	*No. standards for which inequity is relevant*	*% standards for which inequity is relevant*
Geographical access to services	1, 2 (rural areas), 3, 5, 7 (rural areas), 9 (rural areas),13 (rural areas), 14, 15, 20, 21, 22, 23, 25 (rural areas), 26, 27, 29, 33, 34, 36, 40, 43	22	49%
Access to services	3, 16, 17 (for population subgroups), 18 (specialised), 26 (spread), 28, 29 (specialised), 30, 31, 41	10	22%
Availability of services	20 (geographically), 23, 31, 34	4	9%
Quality of services geographically	1, 16, 17, 20, 42, 43	5	11%
Quality of services in general	31	1	2%
Quality of referral	12, 18 (specialised services), 23, 29 (specialised services), 30	5	11% in total; 4% to specialised services
Quality of diagnosis	12, 14, 39, 42	4	9%
Quality of testing	12	1	2%
Availability of staff	41	1	2%
Availability of infrastructure	41	1	2%
Availability of training for staff	14, 15 (specialised)	2	4%
Lack of knowledge in healthcare professionals	7	1	2%
Availability of monitoring	42	1	2%
Disruption to care	42	1	2%
Unmet needs	43	1	2%
Poor identification of needs	43	1	2%
Inconsistency of implementation	23	1	2%
Variations in reporting in primary care	21	1	2%
Inconsistency in message	7	1	2%
GP waiting times	1	1	2%
Availability of interpreting services	1	1	2%
Lack of access to transport	2 (rural), 3 (rural), 4 (rural), 5, 6 (rural), 8 (general & rural), 25, 32	8	18% in total; 11% in rural areas
Time taken to access services	6, 25	2	4%
Distance travelled to access services	25, 29	2	4%
Money spent to access services	6	1	2%
Access to child care	8	1	2%
Knowledge of service provision	1, 6	2	4%
People in lower socio-economic groups	11, 12, 18, 19, 21, 22, 24, 27, 41, 45	10	22%
People experiencing high levels of deprivation	5, 10, 11, 38, 39	5	11%
Older people	7, 11, 13, 14	4	9%
Young people	14, 18, 19, 25 (working age)	4	9%

Table 3 continued

Pre-existing inequity	*Standards for which inequity is relevant*	*No. standards for which inequity is relevant*	*% standards for which inequity is relevant*
Children	14	1	2%
Babies born outside a specialist unit	16, 17	2	4%
People with a physical disability	13, 14	2	4%
People with a learning disability	13, 14	2	4%
People with dementia	13, 14	2	4%
People whose 1st language is not English	13, 14, 20	3	7%
People from different ethnic groups	11, 39	2	4%
People from different cultural groups	20	1	2%
People with low levels of education/literacy	21, 43	2	4%
People with low levels of health literacy	43	1	2%
Women	25	1	2%
Men	10 (working age)	1	2%
Workers	25	1	2%
People in nursing homes	32	1	2%
People who have apparently recovered but are not well	32	1	2%
Patients with co-morbidities	42	1	2%
Obesity	34, 38	2	4%
Lack of physical activity	38	1	2%
Lifestyle	37	1	2%

The health inequities associated with sections of standards in the Cardiovascular Service Framework are shown in Table 4.

The pre-existing inequity of ***geographical access*** to services was associated with all of the standards in the *Communication* section (2/2), all of the standards in the *Diabetes* section (3/3), more than half of the standards in the *Prevention* section (4/7) and in the *Heart Disease* section (7/13), and half of the standards in the *Peripheral Vascular Disease* section (3/6).

Pre-existing inequity in ***access to services*** was associated with three-quarters of the standards in the *Cerebrovascular Disease* section (3/4), and almost two-fifths of the standards in *Heart Disease* section (5/13).

Taken together, over 90% of the standards in the *Heart Disease* section (12/13) are associated with pre-existing inequities of access to services.

Inequities in the quality of ***referral*** exist with respect to half of the standards in the *Cerebrovascular Disease* section (2/4), and inequities in the quality of ***diagnosis*** are associated with half of the

standards in the *Renal Disease* section (2/4). Both inequities are associated with the only standard in the *Hyperlipidaemia* section (1/1).

Lack of ***access to transport*** is a pre-existing inequity associated with more than two-thirds (71%) of the standards in the *Prevention* section (5/7).

Being in a ***lower socio-economic group*** is a pre-existing inequity with respect to the only standard in the *Hyperlipidaemia* section (1/1), and almost half of the standards in the *Heart Disease* section (6/13). Experiencing high levels of ***deprivation*** is a pre-existing inequity in relation to all of the standards in the *Hypertension* section (2/2).

Several pre-existing inequities are associated with the same two out of three standards (13 and 14; two-thirds) in the *Diabetes* section: being an ***older*** person, having a ***physical*** or a ***learning disability***, having ***dementia***, and having a ***first language*** that is ***not English***.

A pre-existing inequity associated with almost a quarter of standards in the *Heart Disease* section (3/13) is being a ***young*** person; ***obesity*** is a pre-existing inequity for one-third of the standards in the *Peripheral Vascular Disease* section (2/6).

Table 4: Individual health inequalities associated with a relatively high proportion of standards within the various sections of the Cardiovascular Service Framework

	Sections in the Cardiovascular Service Framework									
	Communication	***Prevention***	***Hypertension***	***Hyperlipidaemia***	***Diabetes***	***Heart Disease***	***Cerebrovascular Disease***	***Peripheral Vascular Disease***	***Renal Disease***	***Supportive & Palliative Care***
Lower socio-economic group		3/7			2/3	10 +1?/13	4/4			
High level of deprivation						4/13		3/6		
Low level of education or literacy										3/3
BME/ethnic or cultural group/1st language not English						6/13	3/4			
Older people		2/7				3/13		3/6		
Younger women		2/7								
Men								5/6		
Genetic factors or predisposition			2/2							
Age			2/2							
Smoking								2/6		

Table 4: Individual health inequities associated with a relatively high proportion of standards within the various sections of the Cardiovascular Service Framework

	Sections in the Cardiovascular Service Framework									
	Communication	***Prevention***	***Hypertension***	***Hyperlipidaemia***	***Diabetes***	***Heart Disease***	***Cerebrovascular Disease***	***Peripheral Vascular Disease***	***Renal Disease***	***Supportive & Palliative Care***
Geographical access to services	2/2	4/7			3/3	7/13		3/6		
Access to services						5/13	3/4			
Quality of referral				1/1			2/4		2/4	
Quality of diagnosis				1/1						
Access to transport		5/7								
Lower socio-economic group				1/1		6/13				
High level of deprivation			2/2							
Older people					2/3					
People with physical disability					2/3					
People with learning disability					2/3					
People with dementia					2/3					
1st language not English					2/3					
Young people						3/13				
Obesity								2/6		

Barriers to implementation
All of the 45 standards in the Cardiovascular Service Framework were assessed with respect to this question.

Barriers to implementation were identified for ***every standard***, ranging from one potential barrier (standard 36, *Peripheral Vascular Disease* section) to 32 (standard 6, *Prevention* section). The median number of barriers identified was 9 (standards 13, 17, 18, 20, 25, 31, 44).

Nineteen of the standards (42%) were associated with barriers to implementation greater than the median (standards 1, 3, 4, 5, 6, 7, 8, 10, 14, 16, 19, 21, 22, 23, 27, 29, 30, 43, 45).

Six of the seven standards (86%) for *Prevention* were associated with barriers to implementation ***greater than*** the median. Thus, the *Prevention* section has the highest proportion of standards associated with a considerable number of barriers to implementation.

Two-thirds of the standards in the *Supportive and Palliative Care* section (2/3) were associated with barriers to implementation ***greater than*** the median, making *Supportive and Palliative Care* section with the second highest proportion of standards associated with a considerable number of barriers to implementation. Half of the standards in the *Communication* section (1/2), the *Hypertension* section (1/2), and the *Cerebrovascular Disease* section (2/4), more than two-fifths of the standards in the *Heart Disease* section (6/13), and one-third of the standards in the *Diabetes* section (1/3) are associated with a considerable number of barriers to implementation.

By contrast, all of the standards for *Peripheral Vascular Disease* and for *Renal Disease* were associated with a number of barriers ***less than*** the median. The average number of barriers to the implementation of *Peripheral Vascular Disease* standards was 4, and for *Renal Disease* standards it was 5.75. Only 4 barriers to implementation were identified for the single standard in the *Hyperlipidaemia* section.

Positive expectations
Positive expectations of the implementation of a standard were elicited only when working with non-professional stakeholder groups. Sixteen of the standards (just over one-third) were assessed for positive expectations.

The range of positive expectations identified was 1-12, and the median number of positive expectations was 5.5.

The greatest number of positive expectations was associated with standard 29 (in the *Cerebrovascular Disease* section) – this was the only standard of 16 for which the positive expectations outstripped the number of barriers.

The lowest number of positive expectations was associated with standard 10 (in the *Hypertension* section).

All of the standards in the *Communication with patients, clients and carers* section were associated with a number of positive expectations greater than the median, as were 75% of the standards in the *Cerebrovascular Disease* section.

Effect of implementation on demand
Of the 45 standards in the Cardiovascular Service Framework, 43 (96%) were assessed with respect to this question. (There was no response to standards 15 and 35.)

Implementation of 20 of the 45 standards (44%) was assessed as likely to ***increase demand*** for health and social care services (standards 4, 6, 10, 12-14, 17, 20, 23, 28, 29, 31, 33, 36-39, 43-45). For three of these standards (12, 33, 43), respondents gave timescales over which the increase in demand would take place, and for four of these standards (17, 36-38) respondents highlighted which services would be affected by increases in demand.

Implementation of all of the standards (100%) in the *Supportive and Palliative Care* section was judged to increase demand, as was implementation of the only standard in the *Hyperlipidaemia* section. In addition, implementation of two-thirds (67%) of the standards in the *Peripheral Vascular Disease* section (4/6) and in the *Diabetes* section (2/3), and implementation of half of the standards in the *Cerebrovascular Disease* section (2/4) and the

Hypertension section (1/2) was judged to increase demand for health and social care services.

Implementation of nearly a third of the standards in the *Prevention* section (2/7) and the *Heart Disease* section (4/13), and one-quarter of the standards in the *Renal Disease* section (1/4) was judged to increase demand for health and social care services.

However, assessment of some standards revealed a more complicated pattern with respect to the effects of implementation on demand for health and social care services.
For one-third of the standards (15/45, 33%), the assessment was that demand would either increase and then decrease (4/45, 9%), or increase for some services and decrease for others (11/45, 22%).

Both standards in the *Communication* section (standards 1 and 2) were judged to increase demand in the short term but for it to decrease in the long term (or, for standard 1, to be neutral), as were standards 25 (*Heart Disease* section) and 30 (*Cerebrovascular Disease* section).

Three-quarters of the standards in the *Renal Disease* section (standards 40-42; 3/4, 75%) were judged to increase demand for some services and decrease demand for others, and almost two-fifths of the standards in the *Heart Disease* section (standards 16, 18, 19, 22 and 26; 5/13, 39%). In comparison, only one-quarter of the standards in the *Cerebrovascular Disease* section (standard 32; 1/4, 25%) and less than one-fifth of the standards in the *Peripheral Vascular Disease* section (standard 34; 1/6, 17%) were judged to increase demand for some services and decrease demand for others.

Finally, for five of the 45 standards (standards 3, 5, 7, 8, and 27; 11%), there was a difference of opinion about what the effect of implementation would be on demand for health and social care services. In some cases, the difference of opinion was stark, e.g. for standard 5, one group thought there would be an increase in demand and another group thought there would be a decrease. In other cases, the difference of opinion was less stark, e.g. for standard 3, one group thought there would be an increase in demand, whereas another thought there would be a neutral effect on some services and an increase in demand on others. Four of

the standards about which there is a difference of opinion (3, 5, 7, and 8) are in the *Prevention* section of the Cardiovascular Framework (although, in general, it should be noted that this is the section that was subjected to consultation by a greater number of stakeholder groups).

Effect of implementation on need
Of the 45 standards in the Cardiovascular Service Framework, 41 (91%) were assessed with respect to this question. (There was no response to standards 9, 15, 34 and 35.)

For nine of the standards (20%), implementation was assessed as ***decreasing*** future need (standards 1, 5, 23, 24, 31, 32, 33, 38, 42), which includes 50% of the standards in the *Cerebrovascular Disease* section (2/4) and in the *Communication* section (1/2), 33% of the standards in the *Peripheral Vascular Disease* section (2/6), 25% of the standards in the *Renal Disease* section (1/4), and 15% of the standards in the *Heart Disease* section (2/13). Standard 42 was thought to decrease need over the ***medium*** term, whereas standards 1, 23, 31, 33, and 38 were thought to decrease need over the ***long*** term. Standards 18 and 19 (both in the *Heart Disease* section; 15%) were thought to decrease need if there were ***technological advances*** in the future.

Assessment of some standards in the Cardiovascular Framework revealed a more complicated pattern with respect to the effects of implementation on future need for health and social care services. For three of the standards (7%) – 2, 6 and 13 – implementation was assessed as increasing need in the short term but decreasing it over the long term, and for standard 11 the effect was thought to be similar except that for people with complex needs implementation would probably mean an increase in need over the long term. Implementation of standard 14 was judged to be neutral in effect in the medium term but to decrease need in the long term.

Implementation of seven of the standards (16%) was judged to ***increase*** the need for some services but ***decrease*** the need for others (standards 10, 12, 25, 26, 29, 39, 41), which includes the only standard in the *Hyperlipidaemia* section (1/1), 50% of the standards in the *Renal Disease* section (2/4) and in the *Hypertension* section (1/2), 25% of the standards in the *Cerebrovascular Disease* section (1/4), and 15% of the standards in the *Heart Disease* section (2/13). In contrast, implementation of

standard 16 was thought to increase the need for some services but be neutral in effect for others.

Implementing three of the standards was judged to ***increase*** future need (standards 43, 44, 45), which represents all the standards in the *Supportive and Palliative Care* section (3/3).

Implementation of standards 28 and 36 was considered ***neutral*** with respect to future need, and implementation of standard 37 was thought to have ***no effect***.

There was a difference of opinion among stakeholder groups about the effect of nine standards (20%). For standards 22 and 27, one group thought implementation would increase need and another thought it would decrease. For standard 40, one group thought the effect of implementation would be neutral whereas another thought it would decrease need; for standard 20, one group thought the effect would be neutral whereas another group thought implementation would increase need. For standards 3, 4, 7, 8 and 30, the differences in assessment are complex.

Effect of implementation on health and social care staff
All of the 45 standards in the Cardiovascular Service Framework were assessed with respect to this question.

Implementation of 20 of the standards (44%) was considered to have both ***negative and positive*** effects on health and social care staff (standards 2, 3, 4, 5, 6, 8, 14, 15, 16, 17, 18, 19, 20, 21, 22, 39, 40, 42, 43, 44, 45), which includes all of the standards in the *Supportive and Palliative Care* section (3/3), 75% of the standards in the *Renal Disease* section (3/4), 71% of the standards in the *Prevention* section (5/7), 67% of the standards in the *Diabetes* section (2/3), 54% of the standards in the *Heart Disease* section (7/13), and 50% of the standards in the *Communication* section (1/2). For 10 of these standards (22% of the total number of standards), workload was mentioned as one of the negative aspects of standard implementation (standards 5, 6, 8, 16, 17, 18, 19, 22, 39, 40).

Implementing six of the standards (13%) was thought to have wholly ***negative*** effects on health and social care staff (10, 11, 13, 33, 36, 37), which includes all of the standards in the *Hypertension* section (2/2), and 50% of the standards in the *Peripheral Vascular*

Disease section (3/6) – workload was mentioned as an aspect of the negative effect for all of these standards apart from standard 33.

Implementation of five of the standards (11%) was judged to be wholly ***positive*** in their effects on health and social care staff (standards 23, 25, 34, 38, 41), which includes 33% of the standards in the *Peripheral Vascular Disease* section (2/6), 25% of the standards in the *Renal Disease* section (1/4), and 15% of the standards in the *Heart Disease* section (2/13).

For five of the standards (11% of the total number of standards), the effect on staff was thought to be positive ***if*** implementation was ***properly resourced*** (standards 29, 30, 31, 32, 35), which includes all of the standards in the *Cerebrovascular Disease* section (4/4), and one of the standards in the *Peripheral Vascular Disease* section (1/4). For standards 29, 30 and 32, negative effects were also identified, and for standards 29 and 32 these included workload. Implementation of standard 12 (*Hyperlipidaemia*) was seen to be negative for some staff in terms of workload but positive for others, whereas implementation of standard 1 was judged to be negative in the short term but positive in the long term.

Implementation of standard 26 was seen as ***neutral*** for some staff, whereas implementation of standard 27 was neutral for some but negative for others. Finally, standards 24 and 28 in the *Heart Disease* section were considered to introduce ***changes*** and required change management.

There were differences of opinion among stakeholder groups about two standards with respect to their effects on health and social care staff. For standard 9, one group thought implementation would be positive, another thought it would be negative. For standard 7, one group thought it could be negative in the short to medium term due to increased workload but positive in the long term, and another group thought it could be positive depending on the level of financial resources invested in implementation.

Effect of implementation on population health
Of the 45 standards in the Cardiovascular Service Framework, 37 (82%) were assessed with respect to this question. (There was no response to standards 2, 9, 15, 32, 36, 40, 41, 42.)

Implementation of 24 of the standards (53%) was considered ***beneficial*** for population health (standards 1, 3, 4, 5, 6, 7, 8, 12, 13, 14, 21, 22, 24, 25, 26, 27, 28, 30, 33, 35, 38, 39, 44, 45), which includes the only standard in the *Hyperlipidaemia* section, 86% of the standards in the *Prevention* section (6/7), 67% of the standards in the *Diabetes* section (2/3) and in the *Supportive and Palliative Care* section (2/3), 54% of the standards in the *Heart Disease* section (7/13), 50% of the standards in the *Peripheral Vascular Disease* section (3/6) and in the *Communication* section (1/2), and 25% of the standards in the *Cerebrovascular Disease* section (1/4) and in the *Renal Disease* section (1/4). Although considered beneficial for population health as a whole, implementation of standards 3, 33, and 38 was also thought to be especially beneficial for certain population subgroups (e.g. standard 3 is particularly beneficial for young people). Implementation of standard 34 was thought to be beneficial only for particular population subgroups.

Assessment of some standards in the Cardiovascular Framework revealed a more complicated pattern with respect to the effects of implementation on population health. Implementation of two standards – 19 and 23 – was thought to be beneficial but at ***high cost***; moreover, standard 19 was thought to be beneficial to only a small number of people. Implementation of five standards (11%) – 16, 17, 18, 20, 43 – four of which are in the *Heart Disease* section, was judged to be beneficial but associated with ***opportunity costs***. Standard 20 was thought to benefit vulnerable groups in particular, and standard 18 was thought to benefit only a small number of people.

With respect to the *Hypertension* section, implementing standard 11, although thought to be beneficial, was considered to medicalise people, which could be harmful, and implementing standard 10 was judged to be harmful to population health in the short term but beneficial in the medium to long term.

The effect of standard 31 on population health was judged to be ***neutral***, and standard 37 was assessed as having ***no effect***.

There was a difference of opinion about only one standard with regard to its effect on population health: one group thought standard 29 would have a neutral effect, and another thought it would be beneficial.

Effect of implementation on individuals' health
Of the 45 standards in the Cardiovascular Service Framework, 44 (98%) were assessed with respect to this question. (There was no response to standard 15.)

Implementation of 18 of the standards (40%) was considered ***beneficial*** to individuals' health (standards 2, 19, 20, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 40, 41, 42, 43, 45), which includes 75% of the standards in the *Cerebrovascular Disease* section (3/4) and in the *Renal Disease* section (3/4), 69% of the standards in the *Heart Disease* section (9/13), 67% of the standards in the *Supportive and Palliative Care* section (2/3), and 50% of the standards in the *Communication* section (1/2). In addition, standards 31, 32 and 43 were thought to have a beneficial effect on the health of patients' families and carers.

Implementation of four of the standards (9%) was thought to be beneficial for individuals in particular population ***subgroups*** (standards 33, 36, 37, 38), comprising 67% of the *Peripheral Vascular Disease* section. In addition, standard 37 was judged to be beneficial to the health of patients' families and carers.

Implementing standards 16 and 18 (both in the *Heart Disease* section) was thought to be beneficial ***if*** patients wanted engagement.

Although the implementation of 10 of the standards (22%) was considered to be beneficial to people's health, it was also considered to cause ***some harms*** as well (standards 1, 3, 4, 5, 6, 7, 8, 34, 39, 44), which includes 86% of the standards in the *Prevention* section (6/7), 50% of the standards in the *Communication* section (1/2), 33% of the standards in the *Supportive and Palliative Care* section (1/3), 25% of the standards in the *Renal Disease* section (1/4), and 17% of the standards in the *Peripheral Vascular Disease* section (1/6). The effect of implementing two of the standards – 11 (in the *Hypertension*

section; 1/2) and 12 (in the *Hyperlipidaemia* section; 1/1) – was thought to be beneficial but that it could ***medicalise*** people.

Implementation of six of the standards (13%) was thought to be beneficial to most people but ***harmful to some*** (standards 13, 14, 17, 21, 30, 35): standards 13 and 14 (67% of the *Diabetes* standards) were considered harmful to one population subgroup, standard 17 was judged to have poor outcomes for a small number of people, standard 21 was likely to incur complications for a small number of people, standard 30 was thought to confer harm on a small number of people, and with respect to standard 35 there is a group at high risk with respect to surgery.

Finally, for standard 10, it was thought the effect of implementation on individuals would be negative in the short term but beneficial in the long term, and for standard 9 the effect would depend on whether an individual's life was saved or whether the intervention simply prolonged suffering.

There were no differences of opinion among stakeholder groups consulted.

Effect of implementation on health inequalities
Of the 45 standards in the Cardiovascular Service Framework, 41 (91%) were assessed with respect to this question. (There was no response to standards 9, 15, 41, 42.)

Implementation of four of the standards (9%) was thought to ***reduce*** health inequalities – standards 1, 2, 32, and 44 – which includes all of the standards in the *Communication* section, 33% of the standards in the *Supportive and Palliative Care* section (1/3), and 25% of the standards in the *Cerebrovascular Disease* section (1/4). A further two standards (4%) were thought to reduce health inequalities for certain population subgroups – standards 3 and 38 – in the *Prevention* and *Renal Disease* sections, respectively.

Implementation of 11 of the standards (24%) were thought to reduce health inequalities ***only if*** vulnerable groups in the population were targeted (standards 16, 17, 18, 19, 21, 23, 24, 25, 26, 27, 28). It is interesting to note that these standards are all in the *Heart Disease* section, comprising 85% of the standards in that section.

Standard 13 was judged to reduce health inequalities ***only if*** there was compliance with treatment for people in lower socio-economic groups. When assessing both of the standards in the *Hypertension* section, standard 10 was thought to reduce health inequalities if all relevant people were treated, and standard 11 was thought to reduce health inequalities if people in lower socio-economic groups received the service. For standard 6 in the *Prevention* section, it was thought implementation would reduce health inequalities if all relevant people received the information. For standards 17 and 21 (both in the *Heart Disease* section), the effect was judged to be a reduction in health inequalities unless outreach was limited (standard 17) or there were co-morbidities present (standard 21), in which case the effect would be neutral.

For standard 35, the effect would be to ***increase*** health inequalities. For standard 12 (*Hyperlipidaemia*), the effect was thought to be an increase in health inequalities ***depending*** on the level of diagnosis. The effect of implementing standard 34 was assessed as reducing the health inequalities for one population subgroup but increasing them for another. However, the effect of implementing three of the standards (4, 5, 20; 7%) could serve to increase or decrease health inequalities.
Implementation of two of the standards (36 and 40; 4%) was thought to be ***neutral*** on health inequalities, and for one standard (37; 2%) it was thought to have only a ***minimal*** effect. For standard 14, the effect was judged to depend on the programme,

There was a difference of opinion among stakeholder groups about the effect of implementation on health inequalities for nine of the standards (7, 8, 22, 29, 30, 31, 39, 43, 45; 20%). For five of them (11%), the effect was thought to be either neutral or a reduction in health inequalities (standards 29, 30, 31, 39, 43). For one of the standards (45), the effect was judged to be either neutral or an increase in health inequalities, and for another (22) it was assessed as either a reduction or an increase in health inequalities. For standards 7 and 8, the differences in opinion represented different caveats that would allow a reduction in health inequalities.

Effect of implementation on health inequities
Of the 45 standards in the Cardiovascular Service Framework, 41 (91%) were assessed with respect to this question. (There was no response to standards 1, 6, 15, 34.)

Implementation of 14 of the standards (31%) was thought to ***reduce*** health inequities (standards 2, 21, 23, 24, 25, 26, 28, 29, 30, 32, 35, 38, 41, 42), which includes 75% of the standards in the *Cerebrovascular Disease* section (3/4), 50% of the standards in the *Renal Disease* section (2/4) and the *Communication* section (1/2), 46% of the standards in the *Heart Disease* section (6/13), and 33% of the standards in the *Peripheral Vascular Disease* section (2/6).

Implementation of standard 9 was thought to reduce health inequities in rural areas.

For seven of the standards (3, 7, 8, 10, 11, 13, 31; 16%), implementation was thought to reduce health inequities ***only if*** certain caveats were fulfilled; this includes all of the standards in the *Hypertension* section (2/2), 43% of the standards in the *Prevention* section (3/7), 33% of the standards in the *Diabetes* section (1/3), and 25% of the standards in the *Cerebrovascular Disease* section (1/4).

For five of the standards (11%), it was thought that although implementation would reduce health inequities in their specific context, it was likely that this would incur ***opportunity costs*** and cause inequities elsewhere (standards 16, 18, 19, 43, 44); this includes 67% of the standards in the *Supportive and Palliative Care* section (2/3), and 23% of the standards in the *Heart Disease* section (3/13).

Implementation of standard 36 was thought to be ***neutral*** on health inequities, and implementation of standard 37 was thought to have no effect (both in the *Peripheral Vascular Disease* section). Implementation of standard 27 was also thought to be neutral ***unless*** referral improved.

Implementation of three of the standards (7%) was judged either to increase or to reduce health inequities (standards 5, 17, 20), and for standard 14 the effect was thought to be dependent on the programme.

For only two standards – 12 and 39 – was implementation thought to ***increase*** health inequities (in the *Hyperlipidaemia* and *Renal Disease* sections, respectively).

However, for four of the standards (9%), there was a difference of opinion among the stakeholder groups. For standards 22, 40 and 45, one group thought implementation would reduce health inequities and another group thought it would increase them. For standard 4, one group thought health inequities would be reduced, but another group thought the effect depended on the nature of implementation.

Effect of implementation through the determinants of health
Positive effects
Of the 45 standards in the Cardiovascular Service Framework, 44 (98%) were assessed with respect to this question. (There was no response to standard 25.)

Of the 44 standards assessed, ***all*** were judged to have ***positive*** effects on health by acting through the determinants of health in one or more of five domains – lifestyle and personal circumstances, access to services and facilities, social factors, economic factors and environmental factors.

The number of determinants of health positively affected by implementation of standards in the Cardiovascular Service Framework ranged from 1 to 32, with a median of 17. Two standards affected 32 determinants positively – standards 8 (*Prevention* section) and 20 (*Heart Disease* section), and two standards were judged to affect only one determinant – standards 34 (*Peripheral Vascular Disease* section) and 40 (*Renal Disease* section).

Twenty-one of the standards (47%) were associated with positive effects on a greater number of determinants of health than the median (standards 1, 2, 3, 4, 5, 6, 7, 8, 10, 17, 18, 19, 20, 21, 22, 26, 29, 30, 31, 32, 42), which includes all of the standards in the *Communication* (2/2) and the *Cerebrovascular Disease* (4/4) sections, 86% of the standards in the *Prevention* section (6/7), 54% of the standards in the *Heart Disease* section (7/13), 50% of the standards in the *Hypertension* section (1/2), and 25% of the standards in the *Renal Disease* section (1/4).

Out of the five domains of determinants of health, 42 standards (93%) were found to have positive effects on the access to services and facilities domain, 40 standards (89%) were thought to

have a positive effect on the lifestyle and personal circumstances domain, 31 standards (69%) were judged to have a positive effect on the social domain and on the economic domain, and only 10 standards (22%) were assessed as having a positive effect on determinants of health in the environmental domain.

Eight of the standards had positive effects in ***all*** of the five domains (standards 4, 5, 6, 7, 8, 10, 20, 22), which includes 71% of standards in the *Prevention* section (5/7), 50% of the standards in the *Hypertension* section (1/2), and 15% of the standards in the *Heart Disease* section (2/13). Sixteen of the standards had positive effects in ***four*** of the five domains: lifestyle and personal circumstances, access to services and facilities, social factors and economic factors (standards 1, 2, 3, 16, 17, 18, 19, 21, 24, 29, 30, 31, 32, 42, 43, 45), which includes all of the standards in the *Communication* and *Cerebrovascular Disease* sections, 67% of the standards in the *Supportive and Palliative Care* section (2/3), 46% of the standards in the *Heart Disease* section (6/13), 25% of the standards in the *Renal Disease* section (1/4), and 14% of the standards in the *Prevention* section (1/7).

Negative effects

Of the 45 standards in the Cardiovascular Service Framework, 44 (98%) were assessed with respect to this question. (There was no response to standard 25.)

Twenty-five of the standards (56%) were judged to have ***negative*** effects on health by acting through the determinants of health in one or more of five domains – lifestyle and personal circumstances, access to services and facilities, social factors, economic factors and environmental factors.

The number of determinants of health negatively affected by implementation of standards in the Cardiovascular Framework ranged from 0 to 11, with a median of 1.

Eighteen of the standards were associated with negative effects on a greater number of the determinants of health than the median (standards 3, 4, 5, 6, 7, 10, 11, 13, 15, 20, 21, 22, 24, 29, 35, 39, 41, 43), which includes all of the standards in the *Hypertension* section (2/2), 71% of the standards in the *Prevention* section (5/7), 67% of the standards in the *Diabetes* section (2/3), 50% of the standards in the *Renal Disease* section (2/4), 33% of the standards

in the *Supportive and Palliative Care* section (1/3), 31% of the standards in the Heart Disease section (4/13), 25% of the standards in the Cerebrovascular Disease section (1/4), and 17% of the standards in the *Peripheral Vascular Disease* section (1/6).

Of the five domains of the determinants of health, 14 standards (31%) were assessed as having a negative effect on the access to services and facilities domain, 11 standards (24%) were judged to be negative for the lifestyle and personal circumstances domain, seven standards (16%) were thought to have a negative effect in the social domain, five standards (11%) were associated with a negative impact in the economic domain, and only three standards (7%) were believed to have a negative effect in the environmental domain.

None of the standards were found to have a negative effect in all five domains, and only one standard (10) was judged to affect four of the domains negatively – lifestyle and personal circumstances, access to services and facilities, social factors and economic factors. Moreover, only one standard (3) affected three domains negatively – lifestyle and personal circumstances, access to services and facilities, and social factors.

However, 19 of the standards were judged ***not*** to have any negative effects on health through the determinants of health (standards 2, 8, 9, 12, 14, 23, 27, 28, 30, 31, 32, 33, 34, 36, 37, 38, 42, 44, 45), which includes the only standard in the *Hyperlipidaemia* section (1/1), 83% of the standards in the *Peripheral Vascular Disease* section (5/6), 75% of the standards in the *Cerebrovascular Disease* section (3/4), 67% of the standards in the *Supportive and Palliative Care* section (2/3), 50% of the standards in the *Communication* section (1/2), 33% of the standards in the *Diabetes* section (1/3), 29% of the standards in the *Prevention* section (2/7), 25% of the standards in the *Renal Disease* section (1/4), and 23% of the standards in the *Heart Disease* section (3/13). Seven of the standards were thought to have a negative effect through only one determinant (standards 1, 16, 17, 18, 19, 26, 40), which includes 50% of the standards in the *Communication* section (1/2), 39% of the standards in the *Heart Disease* section (5/13), and 25% of the standards in the *Renal Disease* section (1/4).

Suggestions to reduce health inequalities and inequities through implementation of the Cardiovascular Service Framework

Respondents made suggestions about ways to address the potential impacts of implementing the Cardiovascular Service Framework on health inequalities and health inequities for ***all*** of the standards.

The range for the number of suggestions was 2-24, with a median of 8. The standard associated with the highest number of suggestions was standard 3 (*Prevention* section), and the standard associated with the lowest number of suggestions was standard 11 (*Hypertension* section).

Twenty-two of the standards had a greater number of suggestions than the median made about them (standards 1, 3, 4, 5, 6, 7, 8, 10, 13, 16, 17, 19, 20, 21, 22, 23, 29, 30, 31, 39, 43, 44), which includes 86% of the standards in the *Prevention* section (6/7), 75% of the standards in the *Peripheral Vascular Disease* section (3/4), 67% of the standards in the *Supportive and Palliative Care* section (2/3), 54% of the standards in the *Heart Disease* section (7/13), 50% of the standards in the *Communication* section (1/2) and in the *Hypertension* section (1/2), 33% of the standards in the *Diabetes* section (1/3), and 25% of the *Renal Disease* section (1/4).

Appendix 8

Analysis of results by section

Communication with patients, clients and carers – standards 1 and 2

Pre-existing health inequalities were identified for both standards 1 and 2.
Pre-existing health inequities were identified for both standards 1 and 2.

In terms of barriers to the implementation of the whole standard, or part of it, 24 were identified for standard 1, and 8 were identified for standard 2. However, 8 positive expectations were identified by non-professional stakeholders for standard 1, and 6 were identified for standard 2.

With respect to the effects on services for standard 1:

- an immediate increase in demand was identified, although the implementation of the standard was thought either to have a neutral effect or to reduce demand in the long term;
- a decrease in need was identified in the long term;
- they were thought to be negative for staff in the short to medium term but positive in the long term.

With respect to effects on services for standard 2:

- A short-term increase in demand followed by a long-term decrease was identified;
- An increase in need was identified in the short term, although this would become neutral by the medium term or drop with a decrease in need overall;
- They were thought to be both positive and negative for staff, the negative effect being through increased feelings of pressure.

The effects on population health were thought to be beneficial for standard 1; no response was recorded for standard 2. The effects on individuals' health were thought to be beneficial for both standards 1 and 2, although a small amount of harmful effects were identified for standard 1.

It was thought that implementation of standard 1 would reduce health inequalities, and health inequities, and implementation of standard 2 would reduce health inequities (no response was recorded for health inequalities).

In terms of effects on health through the determinants of health, 23 positive impacts were identified for standard 1, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors. Only one negative impact was identified in relation to standard one which related to income.

For standard 2, 20 positive effects were identified through the determinants of health covering lifestyle and personal circumstances, access to services, and social and economic factors. No negative effects were identified.

In terms of suggestions to support the implementation of standards in the NICVSFW and to reduce health inequalities and inequities, 9 were made regarding standard 1, and 7 were made regarding standard 2.

Prevention – standards 3, 4, 5, 6, 7, 8 and 9
Pre-existing health inequalities were identified for standards 3, 4, 5, 6, 7, 8, and 9.
Pre-existing health inequities were identified for standards 3, 4, 5, 6, 7, 8, and 9.

In terms of barriers to the implementation of the whole standard, or part of it:

- 24 were identified for standard 3;
- 11 were identified for standard 4;
- 11 were identified for standard 5;
- 32 were identified for standard 6;
- 21 were identified for standard 7;
- 17 were identified for standard 8;
- 8 were identified for standard 9.

In terms of positive expectations of the standard:

- 3 were identified for standard 3;
- 5 were identified for standard 4;
- 3 were identified for standard 5;
- 11 were identified for standard 6;
- 9 were identified for standard 7;
- 6 were identified for standard 8;
- 3 were identified for standard 9.

It was thought that implementation of standard 3 would:

- increase demand for services;
- reduce need for services in the long term, but may increase the need for services in the short term;
- be negative for staff due to increased demand in the context of a lack of time and resources, but could also be positive due to better coordination of services and staff skills development.

It was thought that implementation of standard 4 would:

- increase demand for services;
- increase the need for smoking cessation services but reduce the need for cardiovascular services;
- be negative for staff due to increased workload, but may be positive for some identified professionals.

Implementation of standard 5 was judged to:

- Reduce the need for services;
- Have positive and negative effects on staff.

There was a slight difference of opinion about the effect of implementation of standard 5 on demand for services. One group thought it would increase demand for advice and support, and while another group agreed with this assessment they thought the increase in demand would occur only if people were aware of the service; the other group also added that there would be a decrease in demand for health services in future if people's health improved as a result of taking exercise. Implementation of standard 5 was also thought to increase the demand for staff training.

Implementing standard 6 was judged to:

- Increase demand for services, especially local programmes and in the school setting;
- Increase need for the services described in the standard, but could decrease need for health services in the long term if people's diets improve as a result of implementation;
- Have positive effects on staff if they receive appropriate training, however, the workload of staff involved in providing healthy eating advice and support will increase; in the long term the workload of health and social care staff could decrease if implementation has beneficial effects on people's health.

There were differences of opinion about the implementation of standard 7:

- With respect to demand for services, one group thought that demand would increase for 5 or more years for primary care services and for referrals, another group thought it was difficult to assess, a third group thought it would increase demand for exercise-related services, and a fourth group thought there was a possibility there would be less demand depending on people's health status;
- With respect to future need for services: one group thought it would increase need for 3-5 years, especially for referrals to specialist services, but that after this time period need for secondary and tertiary services was likely to decrease; a second group thought that need would be reduced; a third group thought there would be an ongoing need; and a fourth

group thought there could be less need depending on people's health status;
- With respect to effects on staff: one group thought that it could be negative for up to 5 years due to increased workload but that after 5 years if certain caveats were fulfilled it could be positive for staff; a second group thought it would be positive for staff; a third group thought the effect would depend on the level of funding available; and a fourth group thought there could be increased responsibility for healthcare staff together with partnership working which might increase workload.

There were also differences of opinion about the implementation of standard 8 on demand and need:

- With respect to demand for services, one group thought there would be an initial increase in demand with a decrease over the long term; a second group thought there would be increased demand for specialist services; a third group also thought there would be increased demand for specialist services but a reduction in demand for GP services; a fourth group thought there would be an increased demand for primary care services for 5 or more years together with an increase in referrals;
- With respect to future need for services, one group thought there would be an initial increase in need with a decrease over the long term; a second group thought there would be a decrease in need for health services, as did a third group but only if the services provided were effective; a fourth group thought there would be an increase in specialist referrals over 3-5 years but as people become healthier there would be a reduced need in the long term.

Only one group responded about the effects of the implementation of standard 8 on staff. They thought there would be increased workload for primary care staff for 3-5 years, and also that staff might be at risk given that the standard applies to the care of people with alcohol consumption problems. However, if certain caveats are fulfilled, the effect could be positive for staff after 5 years.

Implementation of standard 9 could:

- Increase demand for health services if people survive ELS, although if people survive ELS in better condition it could reduce the demand for health services;

- Affect healthcare staff positively if members of the public can alleviate the stress on emergency staff, whereas another group thought that healthcare staff could be affected negatively by an increased workload.

No response was recorded with respect to future need for services.

In terms of effects on population health, implementation of standards 3, 4, 5, 6, 7, and 8 was thought to be beneficial. No response to this question was elicited for standard 9.

In terms of effects on the health of individuals, implementation of:

- Standard 3 is likely to be beneficial for physical health, although it could be stressful for some individuals when other members of the family continue to smoke;
- Standard 4 was associated with several benefits for individuals, but also several negative effects, especially if individuals are unable to maintain smoking cessation;
- Standard 5 is likely to be beneficial for both mental and physical health, although a few negative effects were also identified;
- Standard 6 was thought to be beneficial for both individuals and their families;
- Standard 8 was also thought to be beneficial for both individuals and their families, although it may involve initial periods of stress for the individuals concerned;
- Standard 9 was associated with both benefits and potential harms for people receiving ELS and members of the public administering ELS.

There was a difference of opinion about the effect of implementing standard 7 on individuals' health. One group thought it would be beneficial in both the short term and long term, a second group thought it could be negative for children who lack parental support, and a third group thought it would be beneficial for individuals in terms of their health but may have some negative effects with respect to costs.

With respect to health inequalities, it was thought that implementation of:

- Standard 3 would reduce them;
- Standard 5 might reduce them, but if interventions were tailored they would increase;

- Standard 6 would also reduce them if everyone received services, however, they could be increased for various groups if certain caveats are not fulfilled.

There was a difference of opinion about the implementation of standard 7. One group thought the health inequalities gap could be reduced but that this depended on the appropriate management of implementation; if not well managed than the gap could widen. However, another group thought the implementation of standard 7 could widen the health inequalities gap due to differences in the uptake of breastfeeding by different socio-economic groups. There was also a slight difference of opinion about the implementation of standard 8: one group thought health inequalities would be reduced for people in lower socio-economic groups but two groups of stakeholders thought this would depend on the nature of implementation. The effect of implementation of standard 4 on health inequalities was unknown and depended on various factors – if people continue to smoke then the health inequalities gap will worsen. No response was recorded for standard 9.

With respect to health inequities, implementation of:

- Standard 3 could increase them if resources are not made available, it is done through sports clubs, and implementation is not consistent across Northern Ireland, but reduce them if a generic evidence-based programme is used;
- Standard 5 also could increase them if interventions are tailored, but reduce them if interventions are not tailored;
- Standard 7 could increase them if not managed appropriately or decrease them if managed appropriately;
- Standard 8 has the potential to increase them, depending on implementation;
- Standard 9 could reduce them for people in rural areas.

The effect of standard 4 on health inequities was thought to depend on the nature of implementation and the degree of coverage across the country. No response was recorded for standard 6.

In terms of effects of implementation on health and well-being through the determinants of health:

- 18 positive impacts were identified for standard 3, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors, and 5 negative effects were identified, covering lifestyle and

personal circumstances, access to services, and social factors;

- 27 positive impacts were identified for standard 4, covering determinants for lifestyle and personal circumstances, access to services, and social, economic and environmental factors, and 5 negative effects were identified, covering lifestyle and personal circumstances, and social factors;
- 19 positive impacts were identified for standard 5, covering determinants for lifestyle and personal circumstances, access to services, and social, economic and environmental factors, and 3 negative effects were identified, covering access to services, and environmental factors;
- 27 positive impacts were identified for standard 6, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors, and 2 negative effects were identified, covering lifestyle and personal circumstances, and environmental factors;
- 21 positive impacts were identified for standard 7, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors, and 2 negative effects were identified for lifestyle and personal circumstances;
- 32 positive impacts were identified for standard 8, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors, and no negative effects were identified;
- only 4 positive impacts were identified for standard 9 covering social and economic factors, and no negative effects were identified.

To support the implementation of the NICVSFW, and reduce health inequalities and inequities:

- 24 suggestions were made about standard 3;
- 14 suggestions were made about standard 4;
- 12 suggestions were made about standard 5;
- 20 suggestions were made about standard 6;
- 14 suggestions were made about standard 7;
- 17 suggestions were made about standard 8;
- 2 suggestions were made about standard 9.

Hypertension – standards 10 and 11
Pre-existing health inequalities were identified for both standards 10 and 11.
Pre-existing health inequities were identified for both standards 10 and 11.

In terms of barriers to the implementation of the whole standard, or part of it, 15 were identified for standard 10, and 5 were identified for standard 11. One positive expectation from non-professional stakeholders was identified for standard 10.

It was thought that implementation of standard 10 would:

- to increase demand for services;
- reduce need for some services in the long term, but may increase the need for other services due to increased life-expectancy of people effectively treated for hypertension;
- to increase workload for staff.

It was thought that implementation of standard 11 would:

- to increase demand for some services in the short to long term, but to decrease the demand for others in the medium to long term;
- to increase need for services in the short to medium term, and for people with complex needs need would increase into the long term – however, over the medium to long term need would decrease;
- to increase workload for staff.

In terms of effects on population health:

- Standard 10 was thought to be harmful in the short term due to the creation of a population of ill people who become “medicalised”, but beneficial in the medium to long term;
- Standard 11 was thought to be beneficial across the short, medium and long term, although the “medicalisation” of people was also thought to be harmful.

In terms of the health and well-being of individuals, implementation of:

- Standard 10 was thought to be negative in the short term but beneficial in the long term;

- Standard 11 was thought to be beneficial in the long term, but had a harmful component with the “medicalisation” of some people.

It was thought that implementation of standard 10 would:

- reduce health inequalities ***if*** everyone with hypertension is treated;
- reduce the health inequities gap ***if*** people from lower socio-economic groups received the services, otherwise the gap would widen.

It was thought that implementation of standard 11 would:

- reduce health inequalities ***if*** everyone with hypertension is identified and treated, although the gap could widen if people in lower socio-economic groups are not able to comply with treatment regimes and lifestyle advice;
- have the potential to reduce health inequities if there is a higher uptake in people from lower socio-economic groups.

In terms of effects on health through the determinants of health, 23 positive impacts were identified for standard 10, covering determinants for lifestyle and personal circumstances, access to services, and social, economic and environmental factors. Ten negative impacts were identified for standard 10, which related to lifestyle and personal circumstances, access to services, and social and economic factors.

For standard 11, 10 positive impacts were identified, covering determinants for lifestyle and personal circumstances, access to services, and social factors. Two negative impacts were identified, which related to access to services.

With respect to suggestions to support the implementation of standards in the NICVSFW and to reduce health inequalities and inequities, 20 were made regarding standard 10, and 2 were made regarding standard 11.

Hyperlipidaemia – standard 12
Pre-existing health inequalities were identified for standard 12.
Pre-existing health inequities were identified for standard 12.

Four barriers were identified with respect to the implementation of the whole standard.

It was thought that implementation of standard 12 would:

- increase demand for services in the short, medium and long term;
- decrease the need for some services in the long term but increase the need for secondary and tertiary care in the long term;
- increase the workload of GPs, but would have a positive effect on the morale of lipid specialists.

The effect on population health of the implementation of standard 12 was thought to be beneficial in the medium to long term.

The effect of implementing standard 12 on the health and well-being of individuals was thought to be beneficial in the short, medium and long term, although the potentially harmful effect of medicalisation was also identified.

It was thought that if people with hyperlipidaemia remained undiagnosed, there could be an increase in health inequalities; in addition, the health inequities gap could widen due to variations in practice and access to services.

In terms of effects on health through the determinants of health, 10 positive impacts were identified for standard 12, covering determinants for lifestyle and personal circumstances, access to services, and economic factors. No negative effects were identified.

Eight suggestions were made about standard 12 to support the implementation of the NICVSFW and to reduce health inequalities and inequities.

Diabetes – standards 13, 14 and 15
Pre-existing health inequalities were identified for standards 13 and 14 (no response was recorded for standard 15).
Pre-existing health inequities were identified for standards 13,14, and 15.

In terms of barriers to the implementation of the whole standard, or part of it:

- 9 were identified for standard 13;
- 15 were identified for standard 14;
- only one was identified for standard 15.

It was thought that implementation of standard 13 would:

- increase demand for services;
- increase need for services over the medium to long term but to decrease need over the long term;
- have negative effects on several groups of staff.

It was thought that implementation of standard 14 would:

- increase demand for services;
- have a neutral effect on need over the medium term , but to decrease it in the long term;
- have negative effects on staff with respect to staffing levels and resources, but to have positive effects with respect to morale.

Implementation of standard 15 was thought to have both a negative and a positive effect on staff, negative through staffing levels, and positive through increased morale. No responses were recorded for effects on demand and need.

The effects of implementation on population health for both standards 13 and 14 were thought to be beneficial (no response was recorded for standard 15).

The effects of implementation on individuals' health and well-being of:

- Standard 13 was assessed as beneficial for most people, but may be harmful in men aged 20-40 years;
- Standard 14 was assessed as beneficial for most people, but could be harmful if the standard raises patient expectations

which are then not met, and also if modern treatment practices are not used.

No response was recorded for standard 15.

It was thought that the implementation of standard 13:

- could reduce health inequalities, but that the effect might be neutral if people from lower socio-economic groups were unable to comply with self-management of their condition;
- could reduce health inequities, unless the barriers to good health were not removed in which case the health inequities gap could widen.

Whether the implementation of standard 14 reduces either health inequalities or health inequities is dependent upon the nature of structured education programmes that are developed.

No response was recorded about the effects of standard 15 on health inequalities or health inequities.

In terms of effects on health through the determinants of health:

- 15 positive impacts were identified for standard 13, covering determinants for lifestyle and personal circumstances, access to services, and environmental factors, and 6 negative effects were identified, covering lifestyle and personal circumstances, and access to services;
- 14 positive impacts were identified for standard 14, covering determinants for lifestyle and personal circumstances, access to services, and social and environmental factors (no negative effects were identified);
- 8 positive impacts were identified for standard 15, covering determinants for lifestyle and personal circumstances, and 4 negative effects were identified, also covering lifestyle and personal circumstances.

To support the implementation of the NICVSFW and to reduce health inequalities and inequities:

- 9 suggestions were made about standard 13;
- 8 suggestions were made about standard 14;
- 4 suggestions were made about standard 15.

Heart disease – standards 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27 and 28

Pre-existing health inequalities were identified for standards 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, and 27. Stakeholders were not aware of any associated with standard 28.

Pre-existing health inequities were also identified for standards16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, and 28.

In terms of barriers to the implementation of the whole standard, or part of it:

- 11 were identified for standard 16;
- 9 were identified for standard 17;
- 9 were identified for standard 18;
- 11 were identified for standard 19;
- 9 were identified for standard 20;
- 10 were identified for standard 21;
- 11 were identified for standard 22;
- 14 were identified for standard 23.
- 7 were identified for standard 24;
- 9 were identified for standard 25;
- 5 were identified for standard 26;
- 12 were identified for standard 27;
- only one was identified for standard 28.

In addition, a group of non-professional stakeholders identified 3 positive expectations associated with standard 25.

It was thought that implementation of standard 16 would:

- increase demand for some services, but have a neutral effect on surgery;
- increase the need for obstetric care, but be neutral for other services;
- have some negative effects on staff due to increased workload, but also positive effects through the ability to plan care.

It was thought that implementation of standard 17 would:

- Create a sustained increased demand for several services;
- Either decrease or increase need depending on the child's condition/health status;

- Have some negative effects on staff due to increased workload, but also positive effects through skills development.

It was thought that implementation of standard 18 would:

- Create a sustained increased in demand for some services, although there would be a decrease in demand for other services in the long term as individuals make choices about reproduction ;
- Reduce need as a result of a reduced disease burden, but there would be increased need for technological advances in treatment;
- Have some negative effects on staff due to increased workload, but also positive effects through skills development.

It was thought that implementation of standard 19 would:

- Also create a sustained increased in demand for some services;
- Also reduce need as a result of a reduced disease burden, but there would be increased need for technological advances in treatment;
- Have some negative effects on staff due to increased workload, and paediatric cardiologists would be particularly affected because they manage all adults with congenital heart disease, but also positive effects through skills development.

It was thought that implementation of standard 20 would:

- Increase demand for services;
- Have some negative effects on staff as a result of stress, but also positive effects through the provision of planned care.

In terms of need for services, there was a difference of opinion between two groups of professional stakeholders:

- One group thought the effect would be neutral;
- The other group thought there would be an increase in need.

It was thought that implementation of standard 21 would:

- Have a neutral effect on demand;
- Increase need ***if*** more cases were identified, but decrease need ***if*** patients experienced improvement;

- Have some negative effects on staff as a result of frustration, but also positive effects through increased job satisfaction.

It was thought that implementation of standard 22 would:

- Increase demand for some services, but decrease demand for others;
- Increase workload for staff, but also have some positive effects.

In terms of need for services, there was a difference of opinion between two groups of professional stakeholders:

- One group thought there would be a decrease in need;
- The other group thought there would be an increase in need.

It was thought that implementation of standard 23 would:

- Increase demand for services;
- Decrease need for services in the long term;
- Have a positive effect on staff in both primary and secondary care.

It was thought that implementation of standard 24 would:

- Have a neutral effect on demand;
- Decrease need for services;
- Involve changes for staff.

It was thought that implementation of standard 25 would:

- Increase demand for services, although in the long term demand may decrease as a result of better quality of life for patients;
- Increase need for community-based services, and decrease need for hospital-based services;
- Have positive effects for staff despite increased demand.

It was thought that implementation of standard 26 would:

- Increase demand for Rapid Access Chest Pain Clinics, although it would be neutral for already established chest pain clinics, and decrease demand for other services;
- Increase need for some services, and decrease need for others;
- Have a neutral effect on some groups of staff, e.g. chest pain nurses.

There was a difference of opinion about the effect of the implementation of standard 27:

- One group of professional stakeholders thought that there would be a neutral effect on demand, and another thought there would be an immediate increase in demand;
- One group of professional stakeholders thought that there would be a decrease in the need for services, and another thought there would be an increase in need.
- The effects on staff were thought to be varied, with new roles and rotas to be put in place. It was likely there would be a neutral effect on cardiac catheterisation staff, and a negative effect on cardiac rehabilitation staff.

It was thought that implementation of standard 28 would:

- Increase demand for services;
- Have a neutral effect on need;
- Require change management to support staff.

The effects of implementation were thought to be beneficial on population health for standards 16, 17, 18, 19, 20 (particularly for vulnerable people), 21, 22, 23, 24, 25, 26, 27 and 28, although standards 18 and 19 would have benefits for a relatively small number of people. However, stakeholders raised issues of the potential negative impact associated with standards 16, 17, 18, and 20 due to high opportunity costs, and with standards 19 and 23 due to high costs or a strain on resources.

The effects of implementation on individuals' health and well-being was thought to be beneficial with respect to standards 17, 19, 20, 21, 22, 23, 24, 25, 26, 27 and 28, although a small number of people may have poor outcomes from surgery with standard 17, and some people may experience complications or experience somatisation of their condition with standard 21. For standards 16 and 18, the effects will be beneficial if the individuals in the service want the greater level of engagement and other outcomes the standard provides; if they do not, then the effect could be harmful.

With respect to the effects of standards 16, 18, 19, 21 (if vulnerable groups were targeted), 23, 24, 25, 26, 27, and 28 on health inequalities, it was thought that all of these standards would reduce health inequalities. However, there might be a neutral effect with standard 17 ***if*** there was limited capacity for outreach work,

and a neutral effect with standard 21 ***if*** co-morbidities were present. It was thought that standard 20 could either reduce or increase health inequalities. Finally, there was a difference of opinion between two groups of professional stakeholders about the effect of standard 22:

- One group thought it would reduce health inequalities;
- Another group thought it would increase health inequalities.

With respect to the effects of standards and 16, 17, 18, 19, 21, 23, 24, 25, 26, and 28 on health inequities, it was thought that all of these standards would reduce health inequities. However, 16, 18 and 19 were thought to have opportunity costs associated with them that could affect equity in other disease groups or conditions. Standard 27 was thought to have a neutral effect on health inequities unless referrals improved and then health inequities would be reduced. The assessment for standards 17 and 20 revealed that they could either reduce or increase health inequities. Finally, there was a difference of opinion between two groups of professional stakeholders about the effect of standard 22:

- One group thought it would reduce health inequities;
- Another group thought it would increase health inequities.

In terms of effects on health through the determinants of health:

- 16 positive impacts were identified for standard 16, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors, and only one negative effect was identified, covering social contact;
- 26 positive impacts were identified for standard 17, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors, and only one negative effect was identified, covering social contact;
- 23 positive impacts were identified for standard 18, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors, and only one negative effect was identified, covering social contact;
- 27 positive impacts were identified for standard 19, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors, and

only one negative effect was identified, covering social contact;

- 32 positive impacts were identified for standard 20, covering ***all*** determinants for lifestyle and personal circumstances, access to services, and social, economic and environmental factors, and 11 negative effects were identified, covering lifestyle and personal circumstances, and access to services;
- 24 positive impacts were identified for standard 21, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors, 2 negative impacts were identified covering access to primary care services and employment;
- 19 positive impacts from the matrix provided to participants were identified for standard 22, covering determinants for lifestyle and personal circumstances, access to services, and social, economic and environmental factors; in addition, a further 2 positive impacts were added on access to nursing homes and uptake of benefits; 4 negative effects were identified, covering access to services, and environmental factors;
- 17 positive impacts were identified for standard 23 by one group of professional stakeholders, covering determinants for lifestyle and personal circumstances, access to services, and social factors (no negative effects were identified); however, another group of professional stakeholders recorded that all domains - lifestyle and personal circumstances, access to services, and social, economic and environmental factors – were affected positively;
- 10 positive impacts were identified for standard 24, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors, and 2 negative effects were identified, covering access to services;
- *no response was recorded for standard 25;*
- 20 positive impacts were identified for standard 26, covering determinants for lifestyle and personal circumstances, and access to services, and only one negative effect was identified, covering illicit drug use;
- 10 positive impacts were identified for standard 27, covering determinants for lifestyle and personal circumstances, access to services, and economic factors (no negative effects were identified);

- 15 positive impacts were identified for standard 28, covering determinants for lifestyle and personal circumstances, access to services, and social factors (no negative effects were identified).

To support the implementation of the NICVSFW and to reduce health inequalities and inequities:

- 13 suggestions were made about standard 16;
- 10 suggestions were made about standard 17;
- 7 suggestions were made about standard 18;
- 13 suggestions were made about standard 19;
- 11 suggestions were made about standard 20
- 9 suggestions were made about standard 21
- 9 suggestions were made about standard 22
- 15 suggestions were made about standard 23
- 4 suggestions were made about standard 24;
- 5 suggestions were made about standard 25;
- 5 suggestions were made about standard 26;
- 4 suggestions were made about standard 27;
- 3 suggestions were made about standard 28.

Cerebrovascular disease – standards 29, 30, 31 and 32
Pre-existing health inequalities were identified for standards 29, 30, 31 and 32.
Pre-existing health inequities were also identified for standards 29, 30, 31 and 32.

In terms of barriers to the implementation of the whole standard, or part of it:

- 10 were identified for standard 29;
- 10 were identified for standard 30;
- 9 were identified for standard 31;
- 8 were identified for standard 32.

Positive expectations were identified by non-professional stakeholders, as follows:

- 12 were identified for standard 29;
- 4 were identified for standard 30;
- 9 were identified for standard 31;
- 8 were identified for standard 32.

It was thought that implementation of standard 29 would:

- increase demand for services;
- increase the need for some services and decrease it for others;
- have positive effects on staff if the standard is properly resourced, but may be negative due to increased workload.

It was thought that implementation of standard 30 would:

- increase demand for services in the short term, but decrease it in the long term;
- have different effects according to two professional groups of stakeholders – one thought it would decrease need in the short term, and the other thought it would increase need over the same period; however, need was thought to decrease over the long term;
- have positive effects on staff if the standard is properly resourced, but may be negative due to increased demand.

It was thought that implementation of standard 31 would:

- increase demand for services, particularly in the short term;
- decrease need for services through to the long term;

- have positive effects on staff if the standard is properly resourced.

Ii was thought that implementation of standard 32 would:

- increase demand for some services and decrease the demand for others, although the effect could be neutral once the service as a whole has become established;
- decrease the need for services;
- have positive effects on staff if the standard is properly resourced, but may be negative due to increased workload.

The effects of implementation on population health was thought to be beneficial for standard 30, and neutral for standard 31 (no response was recorded for standard 32). However, two groups of professional stakeholders differed in their assessment of the impact of standard 29 on population health:

- One thought it would be neutral;
- Another thought it would positive in the short term[4].

The effects of implementation on individuals' health and well-being were assessed as beneficial for standards 29, 30, 31, and 32. In addition, standards 31 and 32 were deemed to be beneficial to the health of patients' families and/or carers.

However, with respect to standard 30, it was thought a small number of patients could be harmed.

With respect to the effect of standards 29, 30 and 31 on health inequalities, there were differences of opinion between two groups of professional stakeholders:

- One group thought that health inequalities would be reduced[5];
- Another group thought that the effect would be neutral.

Only one group of professional stakeholders commented on the effect of standard 32 on health inequalities, and they thought that levels would be reduced.[6]

[4] Where they made responses, the group of non-professional stakeholders tended to agree with the group of professional stakeholders who made a more positive assessment.
[5] As above.
[6] As above.

With respect to the effects of standards 29, 30, 31, and 32 on health inequities, it was thought that all four standards would reduce health inequities. However, there was a caveat associated with standard 31 in that health inequities would be reduced only if the provision of services was equitable.

In terms of effects on health through the determinants of health:

- 20 positive impacts were identified for standard 29, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors, and 2 negative effects were identified, covering access to services;
- 19 positive impacts were identified for standard 30, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors (no negative effects were identified);
- 20 positive impacts were identified for standard 31, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors (no negative effects were identified);
- 21 positive impacts were identified for standard 32, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors (no negative effects were identified).

To support the implementation of the NICVSFW and to reduce health inequalities and inequities:

- 12 suggestions were made about standard 29;
- 13 suggestions were made about standard 30;
- 9 suggestions were made about standard 31;
- 5 suggestions were made about standard 32.

Peripheral vascular disease – 33 (amended version), 34, 35, 36 (amended version), 37 and 38

Pre-existing health inequalities were identified for standards 33, 34, 35, 36, 37 and 38.

Pre-existing health inequities were identified for standards 33, 34, 36, 37 and 38 (no response was recorded for standard 35).

In terms of barriers to the implementation of the whole standard, or part of it:

- 3 were identified for standard 33;
- 5 were identified for standard 34;
- 7 were identified for standard 35
- 1 was identified for standard 36;
- 3 were identified for standard 37;
- 5 were identified for standard 38.

It was thought that implementation of standard 33 would:

- Increase demand for four services in the short to long term;
- Decrease need for five services in the long term;
- Be negative for primary care and podiatry staff through an increase in workload.

It was thought that implementation of standard 34 would:

- Increase demand for some services, but to decrease demand for emergency services;
- have positive effects on staff for various reasons.

No response was recorded about the effect of standard 34 on need for services.

It was thought that implementation of standard 35 would have positive effects on staff depending on the resources available for implementation. No response was recorded about the effect of standard 35 on the demand or need for services.

It was thought that implementation of standard 36 would:

- Increase demand for two services;
- Be neutral with respect to future need for services;
- Be negative for primary care staff through an increase in workload.

It was thought that implementation of standard 37 would:

- Increase demand for three services;

- Have no effect on future need for services;
- Be negative for staff involved in thoracic surgery through an increase in workload.

It was thought that implementation of standard 38 would:

- Increase demand for four services, but for three of those services the demand would be increased only for some patients;
- Decrease the need for services in the long term;
- Be positive for lymphoedema specialists in the short to medium term because they would be able to provide not only a service whose organisation was enhanced, but also more effective treatment, and positive through greater job satisfaction.

The effects of implementation of standard 33 on population health was thought to be beneficial, especially for people aged 50-70 years and older who smoke.
Implementation of standard 34 on population health was thought to be beneficial for people aged 65 years and older over the medium term. The effect of standard 35 on population health was thought to be beneficial in general. Implementation of standard 37 was thought to have no effect on population health, whereas implementation of standard 38 was thought to be beneficial for population health, in particular for women with breast or gynaecological cancer and men with prostate cancer. No response was recorded for standard 36.

The effects of implementation on individuals' health and well-being of:

- Standard 33 was assessed as beneficial for people aged 50-70 years who smoke, and their families;
- Standard 34 was assessed as beneficial for most people, but there may be harms associated with the introduction and operation of a screening programme (e.g. increased anxiety);
- Standard 35 was assessed as beneficial for most people, but could be harmful for some patients who have a high risk for surgery;
- Standard 36 was assessed as beneficial for people with peripheral vascular disease in the short to medium term;
- Standard 37 was assessed as beneficial for people with thoracic aortic dissection and their families;

- Standard 38 was assessed as beneficial for people with lymphoedema in the short to medium term.

It is likely that the effect of implementation of standard 33 will be:
- To widen the health inequalities gap for men aged 50 years and over in the medium to long term;
- To widen the health inequities gap for people in practice populations where the GP does not provide a service through DES, compared with people in practice populations where the GP does provide a service through DES.

It is likely that the effect of implementation of standard 34 will be:
- To reduce the health inequalities gap between men and women;
- To increase the health inequalities gap between people in higher and people in lower socio-economic groups, due to differential uptake of screening services.

No response was recorded in relation to health inequities.

It is likely that the effect of implementation of standard 35 will be:
- To increase health inequalities because people experiencing high levels of deprivation may not go directly to their GP;
- To reduce the health inequities gap through the provision of a standardised service.

It is likely that the effect of implementation of standard 36 will be neutral in terms of both health inequalities and health inequities.

It is likely that the effect of implementation of standard 37 will be minimal on health inequalities, and non-existent on health inequities.

It is likely that the effect of implementation of standard 38 will be:
- To narrow health inequalities between male and female patients and older and younger patients;
- To narrow health inequities for patients in the short to medium term.

In terms of effects on health through the determinants of health:
- 9 positive impacts were identified for standard 33, covering lifestyle and personal circumstances, access to services and economic factors (no negative effects were identified);

- Only one positive impact was identified for standard 34, covering access to services (no negative effects were identified);
- 5 positive impacts were identified for standard 35, covering access to services, and 2 negative effects were identified, also covering access to services;
- 10 positive impacts were identified for standard 36, covering lifestyle and personal circumstances, access to services and economic factors (no negative effects were identified);
- 6 positive impacts were identified for standard 37, covering lifestyle and personal circumstances, and access to services (no negative effects were identified);
- 7 positive impacts were identified for standard 38, covering lifestyle and personal circumstances, access to services and economic factors (no negative effects were identified).

To support the implementation of the NICVSFW and to reduce health inequalities and inequities:

- 4 suggestions were made about standard 33;
- 3 suggestions were made about standard 34;
- 3 suggestions were made about standard 35;
- 3 suggestions were made about standard 36;
- 4 suggestions were made about standard 37;
- 6 suggestions were made about standard 38.

Renal disease – standards 39, 40, 41 and 42
Pre-existing health inequalities were identified for standards 39, 40 and possibly 41 (no response was recorded for standard 42).
Pre-existing health inequities were identified for standards 39, 40, 41 and 42.

In terms of barriers to the implementation of the whole standard, or part of it:

- 7 were identified for standard 39;
- 3 were identified for standard 40;
- 6 were identified for standard 41;
- 7 were identified for standard 42.

It was thought that implementation of standard 39 would:

- increase demand for services;
- increase the need for some services, and decrease it for others;
- have some positive effects on staff, but there may also be negative effects associated with time taken to provide services and increased workload.

It was thought that implementation of standard 40 would:

- increase demand for some services (vascular access) and decrease it for others (emergency admissions for septicaemia);
- have different effects according to two professional groups of stakeholders – one thought it would have a neutral effect, and the other thought it would increase need for vascular access and dialysis;
- increase workload for vascular surgeons, and decrease workload for transplant surgeons, but otherwise would have a positive effect on staff.

It was thought that implementation of standard 41 would:

- increase the demand for a live transplant service in the short to long term, but decrease the demand for haemodialysis;
- increase the need for a live transplant service in the short to long term, but decrease the demand for haemodialysis;
- have positive effects on staff.

It was thought that implementation of standard 42 would:

- increase the demand for a renal services, but decrease demand for other services due to early diagnosis;
- decrease need in the medium term;
- have both positive and negative effects on staff.

The effects of implementation on population health was thought to be beneficial in the short to medium term for standard 39 (no response was recorded for standards 40, 41 and 42).

The effects of implementation on individuals' health and well-being were assessed as beneficial for standards 39 (short to medium term), 40 (short to medium term), 41, and 42. However, there may also be an increase in anxiety associated with standard 39.

There was a difference of opinion about the effect of implementing standard 39 on health inequalities:

- One group of professional stakeholders thought they would be reduced;
- Another group of professional stakeholders thought it would be neutral.

The effect of standard 40 was thought to be neutral, and no responses were recorded for standards 41 and 42.

It was thought that the effect of implementing standard 39 on health inequities would be to increase them over 1-5 years due to a differential uptake of services and a differential compliance with treatment.

There was a difference of opinion about the effect of implementing standard 40 on health inequities:

- One group of professional stakeholders thought they would be reduced in the medium term ***if*** there was full implementation of the standard;
- Another group of professional stakeholders thought they would be increased.

With respect to standards 41 and 42, it was thought that health inequities would be reduced (for standard 42 in the medium to long term).

In terms of effects on health through the determinants of health:

- 8 positive impacts were identified for standard 39, covering determinants for lifestyle and personal circumstances, access to services, and social factors, and 3 negative effects were identified, covering lifestyle and personal circumstances, and access to services;
- only one positive impact was identified for standard 40 covering access to secondary care services, and only one negative effects was identified also covering access to secondary care services;
- 12 positive impacts were identified for standard 41, covering determinants for lifestyle and personal circumstances, access to services, and social factors, and 2 negative impacts were identified covering lifestyle and personal circumstances, and access to services;
- 29 positive impacts were identified for standard 42, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors (no negative effects were identified).

To support the implementation of the NICVSFW and to reduce health inequalities and inequities:

- 10 suggestions were made about standard 39;
- 4 suggestions were made about standard 40;
- 3 suggestions were made about standard 41;
- 7 suggestions were made about standard 42.

Supportive and palliative care – standards 43, 44 and 45
Pre-existing health inequalities were identified for standards 43, 44 and 45.
Pre-existing health inequities were also identified for standards 43, and 45 (no response was recorded for standard 44).

In terms of barriers to the implementation of the whole standard, or part of it:

- 15 were identified for standard 43;
- 9 were identified for standard 44;
- 17 were identified for standard 45.

In addition, 2 positive expectations were identified with respect to standard 44 by a group of non-professional stakeholders.

It was thought that implementation of standard 43 would:

- Increase demand for services in the short to medium term;
- Increase need for services in the short to long term;
- Have complex effects on staff, both positive and negative.

It was thought that implementation of standard 44 would:

- Increase demand for services;
- Increase the need for services;
- Have complex effects on staff, both positive and negative.

It was thought that implementation of standard 45 would:

- Increase demand for services;
- Increase need for services in the short to long term;
- Have complex effects on staff, both positive and negative.

The effects of implementation on population health was thought to be beneficial for standards 43, 44 and 45. However, it was thought that there could be opportunity costs associated with standard 43, which could be harmful in terms of population health.

The effects of implementation on individuals' health and well-being were assessed as beneficial for standards 43, 44, and 45. However, there may also be an element of harm associated with standard 44 in that people may survive longer as a results of palliative and end-of-life care. It was thought that standard 43 would also benefit individuals' families and/or their carers. However, for all three standards, it was thought that the effect would be neutral with respect to access to services (?).

There was a difference of opinion about the effect of implementing standard 43 on health inequalities:

- One group of professional stakeholders thought they would be reduced;
- Another group of professional stakeholders thought it would be neutral.

There was also a difference of opinion about the effect of implementing standard 45 on health inequalities:

- One group of professional stakeholders thought they would be increased;
- Another group of professional stakeholders thought it would be neutral.

It was thought that the effect of standard 44 would be to reduce health inequalities.

It was thought that the effect of implementing standards 43 and 44 would be to reduce health inequities, although it could be that reducing inequities in palliative care for cardiovascular disease could increase the risk of inequities associated with another programme of care.

There was a difference of opinion about the effect of implementing standard 45 on health inequities:

- One group of professional stakeholders thought they would be increased;
- Another group of professional stakeholders they would be reduced.

In terms of effects on health through the determinants of health:

- 17 positive impacts were identified for standard 43, covering determinants for lifestyle and personal circumstances, access to services, and social and economic factors, and 4 negative effects were identified, covering lifestyle and personal circumstances, and economic factors;
- 8 positive impacts were identified for standard 44, covering determinants for lifestyle and personal circumstances, access to services, and economic factors (no negative effects were identified);
- 10 positive impacts were identified for standard 45, covering determinants for lifestyle and personal circumstances,

access to services, and social and economic factors (no negative effects were identified).

To support the implementation of the NICVSFW and to reduce health inequalities and inequities:

- 13 suggestions were made about standard 43;
- 9 suggestions were made about standard 44;
- 8 suggestions were made about standard 45.

Appendix 9

Health Action Plan

Communication: standards 1-2

CVSFW Standard	***HIA Suggestions***	***Stakeholders Lead agency underlined***	***Identify possible links or existing implementation opportunities***
1 All patients and carers should expect effective communication with them by health and social care organisations as an essential and universal component of the planning and delivery of health and social care	Ensure that healthcare professionals accord appropriate priority to effective, timely communication with patients and carers and are provided the opportunity to reflect on and discuss appropriate and effective methods of patient engagement	HSCT, PHA, PCC GPs – NIMDTA, NMC, Professional training courses, RQIA	HSCTs – as regional lead in area would have already commenced plan of work in this area.
	Develop and audit communication practices and procedures, which encourage feedback from patients and carers to facilitate dialogue and help understanding. Communication practices should ensure that written information is understandable and tailored to the needs of different population groups such as young people, vulnerable, disadvantaged or marginalised groups. Consider communications needs in different setting and how to engage people with literacy difficulties. Take into account that different people prefer different levels of engagement, and incorporate ascertaining what level of engagement people want into the process and give them a choice, subject to wide consultation with appropriate representation from various groups.	PCC, HSCT as lead and RQIA to monitor PHA, PCC, GPs – NIMDTA NMC, Professional training courses, GAIN Voluntary user groups to ensure written information is understandable.	
	Develop procedures and mechanisms to ensure good communication among all partners involved in implementation of the standard and encourage healthcare professionals and community groups to link up and inform	PCC, HSCT PHA HLCs User Groups	

	each other of the opportunities available for involvement and engagement. This can be achieved by providing patient advice services e.g. within Healthy Living Centres (HLCs).		
2 All patients, carers and the public should have opportunities to engage actively and meaningfully with health and social care organisations at all levels	Healthcare organisations need to conduct consultations about Public and Patient Involvement in a way that members of the general public and service users can respond to easily and effectively.	No lead as needs to be element of all healthcare organisations, including HSCT, PCC, PHA through regional PPI Group	
	During the development of Patient and Public Involvement strategies, and in any information produced, make clear the opportunities available to service users to become involved and actively engaged.	PHA All healthcare organisations have PPI consultation schemes in place	

Health Improvement: standards 3-9

CVSFW Standard	*HIA Suggestion*	*Stakeholders* *Lead agency underlined*	*Identify possible links or existing implementation opportunities*
3 Health and social care should work in cooperation with voluntary, education, youth and community organisations to prevent the recruitment of young people to smoking	Develop, in a coherent way, an holistic evidence-based programme with the partners mentioned in the standard	PHA, HSCT, Voluntary/community orgs, ELBs, DE	PHA currently developing Tobacco Action Plan/ Strategy (details not fully known). PHA has been identified as lead for majority of suggestions in this section and could therefore form a core component of this work.
	Increase support (staff and resources) for smoking cessation for the organisations mentioned in the standard; ensure the support is sustainable and implementation is not simply a one-off activity	DHSSPS, PHA , ELB, HSCT, Voluntary/community orgs, (UCF)	
	Undertake individual area-based needs assessments and evaluations to ensure that the programmes implemented are effective for the local population	PHA, LCG, HLC Voluntary/community orgs	
	Ensure all staff involved from all organisations are communicating the same message to service users about smoking	PHA, LCG, HLC, Primary care (PC), Voluntary/community orgs, HSCT	
	Provide training for staff in brief interventions, but ensure the training provided is appropriate to each organisation	HSCT,Voluntary/community orgs, PHA responsibility to Commission, PC	
	Develop and establish a mentoring scheme that can be implemented at a local level.	PHA – to commission and resource HSCT, Voluntary/community orgs, UCF	
	Develop education programmes for parents to make them aware of the key messages about smoking	PHA, DE, HSCT Voluntary/community orgs, Surestart	
	Implement a ban on smoking in open spaces, in cars, and in the presence of young people	PHA, DHSSPS Voluntary/community orgs, Local government, NILGA	

4 All health and social care professionals should identify people who smoke, make them aware of the dangers of smoking, advise them to stop and provide information and then to signpost to the well developed specialist cessation services available	If the standard applies to "all staff", insert the standard into management objectives as core business and include in staff PDP plans	HSCT, HSCB, PHA, PC RQIA – to inspect	All organisations have to initiate and implement therefore no lead is identified.
	Provide appropriate training for health and social care professionals to ensure staff can identify whether people are ready to stop smoking, and be clear on their role on advising people (e.g. opportunistic chat and signposting to services)	HSCT, HSCB, PHA, NIMDTA, Nursing training	Nursing training for motivational interviewing already in place. Not always easy to implement e.g. smoking outside doors at hospitals.
	Implement the standard by focussing on target groups and target settings as identified in the NICE Guidance, which needs to be incorporated into the standard; ensure that older people are considered as one of the target groups	PHA – as lead but focus is on range of organisations to take forward PC, Pharmacies, Local authorities, Workplaces	
	Provide smoking cessation services at a local level, and address the needs of the local population, e.g. need for travel, and need for childcare	Voluntary/community orgs, PHA, HSCT Primary Care	
5 Health and social care professionals should identify inactive* individuals and, where appropriate, provide them with advice and support to accumulate a minimum of 30 minutes of moderate activity** on 5 days of the week or more	Include this standard in the corporate objectives of the responsible organisations, and amend staff remits accordingly[7]	DHSSPS –direction of travel, PHA Community/Voluntary orgs, HSCTs, HSCB Clinical Advisory Group in Cardiac Rehabilitation	Undertaking in PHA Business Plan to support implementation of the NICVSFW (code Amber) NACR Database contains health behaviour information in relation to people who have had angioplasties or CABGs
	Need to be specific about which "health professionals" are to be involved in the implementation of/ take responsibility for	DHSSPS- Service Framework Informatics	Informatics Group already set up – they could address

[7] Need implementation monitoring, and performance management; Recording systems used by GPs may cause difficulties

	this standard – is it all health workers in the HPSS or just a defined group?[8]	Working Group PHA , HSCT, HSCB	how information systems can be modified to record staff activity. It could work in primary care but probably not secondary
	Need to identify more precisely how and when it is appropriate to identify inactive individuals and provide them with advice and support, for instance: what is meant by the use of "support" in the wording of the standard; need to include children and young people in the identification of "inactive individuals". There is also a need to ensure that appropriate agencies such as the Planning Service and local authorities are involved in relation to planning opportunities for activity such as open space provision and good quality footpaths in rural areas to support inactive individuals[9]	DHSSPS, PHA, HSCT, HSCB Local government DE DoE Planning Service	Joint Working Arrangements between PHA and local government – clusters focus on obesity and physical activity, Obesity Framework is out for consultation – this could be used to define greater detail with respect to this intervention, and to take forward some of the suggestions from the HIA of the NICVSFW
	To ascertain whether the implementation of this standard is affecting people's health status, a mechanism for regular review needs to be established and a KPI defined	PHA DHSSPS – SFW Forum and informatics working group HSCB	System needs to be put in place to enable this suggestion/action to happen (see 5.2) Northern Ireland Health Survey will be yearly from 2010 and gathers information on self-reported levels of physical activity – could also ask whether people had received advice
	Develop a training programme on brief interventions.[10] PHA needs to develop a training resource that takes a holistic	DHSSPS, PHA , HSC Trusts	Loughborough may have a training programme on

[8] Is there evidence that this intervention would be effective? Identification of individuals and signposting to services have been shown to be effective

[9] Need training and capacity building – identify who what, where, when & how

[10] Links to 6.1, 6.5 & 6.13. Bring together a team to look at developing a training programme; also need an evaluation of implementation of training

	approach to brief interventions to promote healthy lifestyle choices (not develop separate training programmes for each different lifestyle factor, e.g. diet, physical activity, alcohol consumption). HSC staff all need to be trained systematically so that a consistent message and application are the result. Focus on early years and continuity across HSC sectors, incl. primary and community care	HSCB LCGs Primary Care DE and schools	physical activity; Eat Well Plate Use results from HIA of NICVSFW to influence implementation of Obesity Prevention Strategic Framework;
	5.7 Work in partnership with local councils, private sector, education and voluntary sector to incorporate into the implementation of this standard, the need to increase people's access to green infrastructure and physical activity. Concessions for people/families in low-income groups needs to be considered alongside supporting inactive individuals through workplace activities and encouraging use of active travel e.g. provision of bicycle racks and showers	PHA, HSCT, HSE? Local government, including Chamber of Commerce, Community/ Voluntary sector, including Sustrans, DE, DoE Planning Service, DRD Roads Service Rural transport networks	Joint working arrangements between PHA and local government Implementation of Obesity Prevention Strategic Framework Cycle to work scheme for PHA
6 All people should be provided with healthy eating support and advice, appropriate to their needs, in a range of settings	6.5 Provide information in different languages to reflect those used by local population.[11]	HSCT	Section 75 Northern Ireland Equalities Monitoring Act;
	6.16 Encourage people to grow their own fruit and vegetables (which will also increase their level of physical activity).[12]	PHA – lead , DARD Local government	Community & voluntary sector projects Allotments
7 Health and social care professionals should work with early years settings, schools, workplaces and communities in the promotion and support of	7.3 Support the implementation of this standard through the PfA targets	PHA	Through implementation of Obesity Prevention Strategic Framework 'A Fitter Future for All'

[11] Links to 5.6. Is sign language an official language?

[12] Is there land available for this intervention? Issues with insurance

breastfeeding, healthy eating and physical activity to prevent obesity	7.5 Identify the barriers and develop appropriate interventions for active cultural change within health and social care services to enhance the effectiveness of the implementation of this standard, for example provide training for staff to address the lack of capacity		
	7.11 Encourage people to take physical activity outdoors, e.g. work on an allotment		
8 Primary care professionals should identify people who consume hazardous / harmful amounts of alcohol, make them aware of the dangers, advise them to reduce or stop and provide information and signposting to specialist services if appropriate	8.1 Build capacity within primary care to identify and support people consuming hazardous or harmful amounts of alcohol to reduce their intake	Primary care training – NIMDTA, HSCT support staff, HSCB, PHA, LCGs Community pharmacy	
	8.7 Establish a greater number of centres to support people who consume hazardous amounts of alcohol to improve systems of delivery of specialist alcohol services	HLCs, HSCB Voluntary/Community orgs EDACT, DACT, FASA, CODA etc LCGs as commissioning agents	Link into Drugs and Alcohol work currently happening across Northern Ireland
	8.10 Encourage parents and carers to spend time with their children so that young people do not start to consume harmful amounts of alcohol from an early age	Surestart, HSCT, PHA Parenting programmes in Voluntary/ Community orgs	
	8.15 Increase the level of education in schools about the harms associated with consuming hazardous amounts of alcohol	DE, ELBs, PHA, HSCT Local government	
	8.16 Health and social care staff including accident and emergency department staff should work with community groups as one way to reach people who are hazardous or harmful drinkers, especially those who are disadvantaged or experiencing health inequalities	A&E staff – little capacity GPs – through referral from A&E, Voluntary/Community orgs, HSCT	Note – this is more a signposting suggestion due to nature of A&E work.
9 Health and social care professionals should work with schools, workplaces and communities to raise awareness of and access to emergency life support (ELS) skills	9.2 Use community groups to deliver ELS	PHA, BHF, HSCTs, LTC Commissioning Group	Regional business case under development to feed into 2011/12 service plan

Hypertension: standards 10-11

CVSFW Standard	***HIA Suggestion***	***Stakeholders Lead agency underlined***	***Identify possible links or existing implementation opportunities***
10 All adults should be offered lifestyle advice as to the prevention of hypertension and have their blood pressure measured and recorded using standardised techniques every five years from age 45 years	10.2 Advocate a reduction in the amount of salt in food	PHA, NICHSA, Safefood, DHSSPS: MGPH	
	10.3 Promote workplace health initiatives, including blood pressure measurement and lifestyle advice	PHA, HSCT, NICHSA, BHF DETI	Health in all policies!
	10.4 Coordinate and strengthen ongoing work in community and voluntary organisations, outreach services, community pharmacy and primary care services in identifying and managing hypertension and unhealthy lifestyles through, amongst others, case finding and brief interventions	Pharmacies, PHA Voluntary/Community orgs PC staff, LCGs/PCPs HSCTs, DHSSPS- long term conditions strategy, HSCB (prescribing advisors)	Develop synergy between disparate health improvement initiatives aimed at preventing long term conditions in community and workplace settings by aligning health improvement functions of PHA, HSCB (primary and community care including pharmacy), community and voluntary organisations and policy makers.
	10.14 Involve patients in self management, i.e. by training staff in ways of maximising concordance with drug regimes		
11 All patients should be offered drug therapy if they have (a) persistent blood pressure of 160/100 mmHg or more and/or (b)raised cardiovascular risk (10 year risk of cardiovascular disease of 20% or existing cardiovascular disease/target organ damage) with persistent blood pressure of 140/90 mm/Hg	11.1 Work with pharmacies to improve levels of compliance with drug regimens through evidence based interventions		

Hyperlipidaemia: standard 12

CVSFW Standard	***HIA Suggestion***	***Stakeholders Lead agency underlined***	***Identify possible links or existing implementation opportunities***
12 All people with genetically linked high cholesterol (familial hypercholesterolaemia) should be identified and treated and their names entered on a regional register so that other family members can be identified in order that measures can be introduced to prevent the development of cardiovascular disease	12.1 Raise awareness of hyperlipidaemia in the general population	Health promotion PC staff	Include in awareness campaign
	12.5 Provide training to primary care teams for effective identification and management of people with hyperlipidaemia	PC staff Community/voluntary orgs with an interest in cardiovascular disease	Progress business case for development of regional familial hyperlipidaemia service
	12.6 Provide support to identified index patients and family members, i.e. through support groups		

Diabetes: standards 13-15

CVSFW Standard	*HIA Suggestion*	*Stakeholders* *<u>Lead agency underlined</u>*	*Identify possible links or existing implementation opportunities*
13 All people with diabetes should have an accurate diagnosis made	13.2 Raise awareness among members of the public about the risk factors for and symptoms of diabetes, with strategies for reaching people in hard-to-reach groups, including raising the level of community-based awareness	PHA, Community/Voluntary orgs	Include in awareness campaign for prevention of long term conditions
	13.5 Develop capacity through training and skills development for identification and management of diabetes, especially in primary care and with a focus on the provision of Structured Patient Education (SEP)	PHA, HSCB PC staff	Progress through development of diabetes network and long term conditions commissioning group
	13.9 Improve communication, sharing of information and performance management between primary and secondary care from diagnosis over creation of patient pathways to systems of care development	PHA, HSCB, PC staff Secondary care staff	

Heart Disease: standards 16-28
The following suggestions have been presented to the Cardiac Network for consideration

CVSFW Standard	***HIA Suggestion***
16 All pregnant women should have appropriate antenatal screening for congenital heart disease (ConHD), with specialist services available to those in whom a diagnosis of ConHD is made	16.1 Increase investment in service delivery for congenital heart disease, including training for healthcare professionals, and in equipment
	16.3 Improve the quality of investigation for congenital heart disease, especially in district general hospitals
	16.4 Increase the efficiency of the service in processing the results of investigation for congenital heart disease
	16.5 Ensure the capacity is available in Belfast Regional Centre to meet the increased demand as a result of the implementation of standard 16
	16.6 Develop a clearly defined referral pathway for congenital heart disease
	16.8 Conduct outcomes evaluation, and ongoing audit of screening and diagnosis of congenital heart disease
	16.12 Undertake health economic/outcomes assessment to control the opportunity costs of congenital heart disease
17 All children with suspected major congenital and acquired heart disease should have access to prompt diagnosis and appropriate management in line with Ministerial targets	17.1 Increase investment in service delivery for children with congenital heart disease and acquired heart disease, including training for healthcare professionals, and in equipment
	17.2 Increase awareness among healthcare professionals of the needs of children with congenital heart disease and acquired heart disease experiencing health inequalities and inequities
	17.4 Provide post-natal support to children and their families and/or carers, especially for children from lower socio-economic groups or who are from vulnerable or marginalised groups in society
	17.5 Consider the development of cross-border services for the treatment of children with congenital heart disease and acquired heart disease in order to obtain the appropriate level of skills in the operator (surgeon)
	17.6 Conduct outcomes evaluation, and ongoing audit of the treatment of children with congenital heart disease and acquired heart disease
	17.8 Increase the efficiency of the service in processing the results of investigations for congenital heart disease and acquired heart disease in children
	17.10 Undertake health economic/outcomes assessment to control the opportunity costs of treating children with congenital heart disease and acquired heart disease
18 All patients with suspected inherited cardiac disease should have access to a consultant led service specifically designed to meet their needs	18.1 Review the current provision of services for people with suspected inherited cardiac disease, and consider increasing investment in service delivery, including training for healthcare professionals, and in equipment
	18.2 Provide support to individuals with inherited cardiac disease and their families and/or carers, especially for those from lower socio-economic groups or who are from vulnerable or marginalised groups in society
	18.3 Increase awareness among healthcare professionals of the specialist services available for people with suspected inherited cardiac disease

	18.4 Increase the efficiency of the service in processing the results of investigation for suspected inherited cardiac disease
	18.5 Conduct outcomes evaluation, and ongoing audit of treatment and access to services for inherited cardiac disease
	18.7 Undertake health economic/outcomes assessment to control the opportunity costs of inherited cardiac disease
19 All adults with major congenital heart disease should have access to a specialist consultant led service specifically designed to meet their needs	19.1 Increase awareness in secondary and tertiary care of the needs of patients with adult congenital heart disease
	19.2 Increase investment in service delivery for patients with adult congenital heart disease, including training for healthcare professionals, and equipment
	19.3 Ensure there is sufficient capacity in adult congenital heart disease services to provide care for an increased population, including: • Investigations (echocardiography and MRI); • Interventions; • Cardiac surgery.
	19.4 Develop an effective referral pathway into specialist services for adults with congenital heart disease
	19.5 Increase the efficiency of the service in processing the results of investigation for adult congenital heart disease
	19.6 Ensure direct access to services via a specialist nurse
	19.7 Develop nurse-led transition services for young people aged 14-16 years
	19.8 Provide clinical psychology support and palliative care services
	19.9 Provide support to patients and their families and/or carers, especially for patients from lower socio-economic groups or who are from vulnerable or marginalised groups in society
	19.11 Conduct outcomes evaluation, and ongoing audit of treatment of and access to services for adult congenital heart disease
	19.12 Develop a network with other services for adults with congenital heart disease in the UK
	19.13 Undertake health economic/outcomes assessment to control the opportunity costs of adult congenital heart disease
20 All patients with a diagnosis of non-atrial fibrillation arrhythmia should receive timely assessment, treatment and support based on individual need	20.1 Invest in increasing access to services for non-atrial fibrillation arrhythmia
	20.2 Invest in staff training
	20.3 Develop the appropriate skills mix in services for patients with non-atrial fibrillation arrhythmia
	20.4 Develop a shared care protocol between primary and secondary care
	20.5 Support patients in the development of self-management skills through good-quality patient education
	20.6 Ensure all patients with non-atrial fibrillation arrhythmia are followed up by HSC services
	20.7 Monitor and evaluate the outcomes of services for patients with non-atrial fibrillation arrhythmia
	20.8 Conduct a cost-effectiveness assessment of services for patients with non-atrial fibrillation arrhythmia

	20.9 Establish mechanisms for patient feedback on services for non-atrial fibrillation arrhythmia
	20.10 Conduct ongoing quality improvement in services for non-atrial fibrillation arrhythmia
	20.11 Consider conducting opportunistic screening/case finding while patients are in hospital for other reasons, e.g. for pre-operative work-up or when hospitalised with another condition
21 All patients with a diagnosis of atrial fibrillation should receive timely assessment, treatment and support based on individual need	21.1 Increase investment in the prevention of atrial fibrillation
	21.2 Increase the amount of resources for frontline staff in the identification and management of people with atrial fibrillation
	21.3 Identify and ensure the appropriate skills mix for the identification and management of people with atrial fibrillation
	21.4 Target high risk groups for identification of atrial fibrillation, e.g. people with hypertension
	21.5 Undertake incidental finding in very frail elderly people – some treatment risk in this group
	21.6 Undertake regular reviews of patient medication
	21.7 Increase patient adherence to treatment
	21.8 Introduce change management and quality improvement initiatives to reduce health inequities
	21.9 Include KPIs that address the diagnosis and assessment of patients with atrial fibrillation
22 All patients with a clinical suspicion of heart failure should have access to ECG and BNP for first level rule out in a primary care setting	22.1 Run training courses and provide regular updates for primary care teams in the appropriate use of diagnostic test (BNP and ECG)
	22.2 Increase the use of patient pathways in the management of people with heart failure
	22.3 Increase the use of referral systems (electronic) in the management of people with heart failure, including updating primary care teams on appropriate referral
	22.4 Work with and train practice nurses in the management of shortness of breath
	22.6 Establish self-help groups for people heart failure
	22.7 Undertake regular reviews of patient medication for heart failure
	22.8 Either re-word the standard or alter the KPI – the standard concerns ruling out heart failure in a primary care setting, and the KPI measures the percentage of patients referred to a specialist heart failure services
	22.9 Define a “specialist heart failure service” (mentioned in KPI)
23 All patients with diagnosis of heart failure should be prescribed evidence-based medication as appropriate, under the guidance of the multidisciplinary specialist team	23.1 Enhance the capacity of multidisciplinary teams
	23.2 Encourage and monitor the regional standardisation of the service provided by multidisciplinary teams
	23.3 Ensure the overall clinical leadership for the management of heart failure patients is made clear in each case
	23.4 Consider the use of Nurse Prescribers in the management of patients with heart failure
	23.5 Consider ways of ensuring continuity of care for patients when several healthcare professionals are involved in their management, e.g. identifying a key worker for patients
	23.6 Consider the provision of a 24/7 service for patients with heart failure

	23.7 Ensure there is capacity in the service to support quality improvement, and the necessary change management processes
	23.8 Develop a coherent plan for the management of local approaches to commissioning healthcare services (Local Commissioning Groups)
	23.9 Consider ways to redistribute equitably funding from the voluntary sector to health and social care trusts
	23.10 Monitor expenditure on and investment in heart failure services
	23.11 Review the funding and resources for heart failure services
	23.12 Consider the introduction of programme budgeting and marginal analysis to facilitate the allocation of resources for heart failure services
	23.13 Establish a central point of contact to improve communication between primary and secondary care about patients with heart failure
	23.14 Set up and maintain a strategic central server to collect web-based data to support the management of patients with heart failure
25 All patients identified as requiring cardiac rehabilitation, in line with the regional guidelines, should be offered this service	25.1 Increase capacity to deliver rehabilitation services, e.g. by training the trainers
	25.2 Identify mechanisms of collaboration between primary and secondary care
	25.3 Set up data linkage systems between primary and secondary care
	25.4 Improve the monitoring of the KPI
	25.5 Consider the development of a patient manual of cardiac rehabilitation services
26 All patients who develop new onset chest pain, suggestive of angina should be reviewed at a rapid access chest pain clinic (RACPC) within 2 calendar weeks of referral by the GP/appropriate clinician	26.1 Establish a structured referral process for GPs
	26.2 Audit inappropriate referrals, and use the results to improve practices in referral
	26.3 Consider an increase in the number of clinics able to offer chest pain services
	26.4 To achieve equity, consider different models of providing chest pain services
	26.5 Implement NICE recommendations for the management of chest pain
27 All high risk patients presenting with non ST elevation acute coronary syndromes should undergo angiography / revascularisation within 72 hours of diagnosis in accordance with clinical need	27.1 Provide training and education for healthcare professionals, including team-building skills
	27.2 Undertake monitoring and evaluation of the service provided
	27.3 Provide feedback on performance to staff, e.g. through use of an electronic whiteboard
	27.4 Audit services against European standards to improve understanding of outcomes
28 All patients with suspected	28.1 Review the care pathways for suspected pulmonary arterial hypertension

pulmonary arterial hypertension should be managed in a timely fashion by a specialist multidisciplinary team in line with NSCAG centres	28.2 Introduce effective change management for service providers not complying with NSCAG requirements
	28.3 Provide feedback on performance in the management of pulmonary arterial hypertension

Cerebrovascular Disease: standards 29-32
The following suggestions have been presented to the Stroke Strategy Implementation Group for consideration

CVSFW Standard	***HIA Suggestion***
29 All patients with suspected transient ischaemic attack should have rapid specialist assessment and investigation to confirm the diagnosis and should have a management plan urgently put in place to reduce short term and long term cardiovascular complications. (See also Standard 35)	29.2 Ensure the implementation of NICE guidance
	29.3 Conduct an audit of compliance with NICE guidance
	29.4 Ensure there is a focus on secondary prevention throughout the service
	29.6 Conduct a programme to raise awareness among primary and secondary care staff of the symptoms and signs of suspected TIA, including information on referral and care pathways
	29.7 Ensure there is capacity in TIA clinics to provide an equitable service
	29.8 Establish an agreed referral pathway for people requiring carotid endarterectomy
	29.9 Provide training in the use of the agreed referral pathway, and provide GPs with access to immediate specialist advice on TIA symptoms, to avoid inappropriate referrals
	29.10 Establish links between the TIA service and other relevant services such as the diabetes service and the cardiac service
	29.11 Employ specialist nurses for TIA and stroke
	29.12 Increase access to urgent scanning through the investment of resources or through re-organisation of the service
30 All patients with suspected acute stroke should have rapid access to specialist assessment, appropriate brain imaging and emergency treatment, including thrombolysis	
	30.2 Conduct a programme to raise awareness among primary and secondary care staff of the symptoms and signs of suspected acute stroke, including information on referral and care pathways
	30.3 Audit the care pathway for stroke
	30.4 Establish a regional lysis service that is available 24/7
	30.5 Develop an appropriate service model to take account of health inequities, which is also practical so people are not put at risk
	30.6 Obtain informed consent from patients with the provision of good-quality information to patients
	30.8 Set up mechanisms for sharing best practice
	30.9 Establish mentoring schemes to improve staff competencies
	30.11 Provide appropriate training to healthcare professionals to ensure that they are able to deliver the service described in standard 30

	30.12 Ensure a regional coordinated and networked approach to the provision of stroke services
31 All patients who have had a stroke should have their rehabilitation delivered by a Specialist Stroke Rehabilitation Team in a Stroke Unit, starting immediately after admission to hospital. Specialist stroke rehabilitation focuses on assessing the individual needs of patients and, in consultation with the patient and their family/carer(s), addressing them in the most effective way. Ongoing specialist rehabilitation needs, as defined by the Team, should continue to be delivered by a Specialist Stroke Rehabilitation Team	31.2 Ensure a coordinated approach to stroke care across Northern Ireland
	31.5 Conduct audits of rehabilitation services for stroke patients
	31.6 Improve team-working between rehabilitation teams working in the acute sector and those working in the community
	31.7 Establish mechanisms by which healthcare professionals in the provision of stroke rehabilitation services can share good practice
	31.8 Provide a skills development programme to increase staff competencies in the rehabilitation of people with stroke
	31.9 Introduce a system for ring-fencing beds for people with stroke who need rehabilitation
32 All patients who have had a stroke or TIA are reviewed post discharge by primary care services at 6 weeks,6 months, and annually. Stroke patients with persisting disability at 6 months should be reviewed by a member of a specialist team to determine the need for a further targeted period of rehabilitation. As part of ongoing review referral to neuropsychology services should be considered where appropriate	32.1 Establish a systematic approach to the follow-up of people with stroke that will ensure all patients are followed up regardless of location or level of social support
	32.2 Provide training for primary care staff to enable them to carry out reviews effectively, as well as promoting lifestyle changes for health improvement, e.g. smoking cessation
	32.3 Ensure that reviews are holistic, patient-centred, and are conducted by a multidisciplinary team
	32.4 Establish effective mechanisms for communication and coordination between primary and secondary care, especially with respect to communicating the results of reviews
	32.5 Provide people with stroke with information on the relevant voluntary sector organisations which can provide support

Peripheral Vascular Disease: standards 33-38
The following suggestions have been presented to the Peripheral Vascular Disease Group for consideration

CVSFW Standard	***HIA Suggestion***
33 All people with a high risk of developing PVD such as patients with diabetes, chronic kidney disease, smokers and the elderly should have accessible and timely care delivered by the appropriate members of the multi-disciplinary foot care team	33.1 Encourage all GP practices to participate in the peripheral vascular disease DES
	33.2 Provide ongoing training for primary care staff
	33.3 Advise GPs to use opportunistic approaches with men who do not attend the service
	33.4 Engage with men's health groups to provide alternative community-based service in areas of deprivation
34 All patients with abdominal aortic aneurysm (AAA) should have their medical therapy optimised, particularly, all patients should be on statin therapy. Aneurysm repair should be considered in patients whose aneurysm exceeds 5.5cm in diameter. Patients should be offered open or endovascular repair if possible. All men aged 65 should be offered AAA screening in line with National Screening Committee recommendations.	34.1 Ensure the equitable geographical provision of AAA screening services across Northern Ireland.
	34.2 Identify and address barriers to patients being able to make an informed choice about treatment for AAA
	34.3 Undertake quality improvement of the AAA service with a target of reducing mortality to national standards
35 All patients who experience an anterior circulation TIA and carotid artery stenosis of 70-99% should be referred to a vascular surgeon, investigated and have their carotid surgery within 2 weeks of the event. The long term goal should include carotid intervention within 48 hours (See also Standard 29)	35.1 Establish a continuous care pathway for people with an anterior circulation TIA and a carotid artery stenosis of 70-99% that is clear and can be accessed easily
36 Patients with leg pain on exertion, suggestive of peripheral arterial disease should have an ankle brachial pressure index (ABPI) test performed in primary care	36.1 Encourage all GP practices to participate in the peripheral vascular disease Direct Enhanced Service
	36.2 Provide ongoing training for primary care staff
	36.3 Develop agreed referral guidelines between primary care and the vascular service
37 All patients presenting with features of thoracic aortic dissection should be assessed and referred immediately to an appropriate management centre	37.1 Raise awareness of thoracic aortic dissection among the public and health and social care professionals
	37.2 Provide training in the identification and management of thoracic aortic dissection for GPs
	37.3 Provide training in the identification and management of thoracic aortic dissection for clinicians especially in cardiology services and the emergency department
	37.4 Develop guidance governing the referral and management of thoracic aortic dissection

38 All patients who are at risk of, or who have developed lymphoedema, should have access to timely information, diagnosis and treatment within the Northern Ireland Lymphoedema Network in accordance with the CREST Lymphoedema Guidelines	38.1 Raise awareness of lymphoedema among patients and clinicians
	38.2 Provide training in the identification and management of lymphoedema to clinicians
	38.3 Provide adequate resources to the Lymphoedema Network in particular to enable timely data entry onto the LymphDat IT System
	38.4 Identify and enhance methods for the prevention of lymphoedema
	38.5 Ensure equitable geographical access to Lymphoedema Services
	38.6 Develop and provide patient information on lymphoedema and its effective prevention and management

Renal Disease: standards 39-42
The following suggestions have been presented to the Renal Sub-group for consideration

CVSFW Standard	*HIA Suggestion*
39 All patients with a diagnosis of chronic kidney disease (CKD) should receive timely, appropriate and effective investigation, treatment and follow-up to reduce the risk of progression and complications	39.2 Develop mechanisms for the pro-active follow-up by primary care of people at risk
	39.2 Ensure the availability of specialist nephrology advice
	39.4 Provide training for primary care staff in the management of chronic kidney disease
	39.6 Identify ways to increase compliance with treatment, particularly in people from vulnerable, disadvantaged or marginalised groups
	39.8 Provide tailored support packages for hard-to-reach groups, e.g. home visits
	39.9 Develop practices to manage patient anxiety
	39.10 Identify a data source of information for KPI 39d, and develop an appropriate information system
40 Renal services are to ensure a delivery of high quality, safe and effective dialysis care which is designed around the individual's needs and preferences and are available to all patients of all ages. This should be delivered by a highly skilled multi-professional workforce to maximise dialysis capacity, improve quality of life and reduce complications	40.2 Ensure greater geographical availability of dialysis services across Northern Ireland
	40.3 Increase the input of vascular surgeons to the provision of vascular services
	40.4 Identify ways to reduce surgical risk
41 All children, young people and adults likely to benefit from a kidney transplant should receive a high quality service which supports them in managing their transplant and enables them to achieve the best possible quality of life	41.1 Resource and develop a sustainable renal transplantation service
	41.3 Develop appropriate mechanisms to obtain donor consent, and to provide support to the donor's family and /or carers
42 All people at risk of, or suffering from, acute kidney injury/acute renal failure should be identified promptly, with hospital services delivering high quality, clinically appropriate care in partnership with specialised renal teams. Prevention of AKI should be a priority for all clinicians in both primary and secondary care	42.1 Ensure appropriate dissemination of guidance
	42.2 Ensure implementation of the guidance
	42.3 Audit the implementation of the guidance
	42.4 Incorporate guidance into the Northern Ireland Cardiovascular Service Framework
	42.5 Ensure that the management of acute kidney injury is included in training for both undergraduates and postgraduates
	42.6 Provide training for healthcare professionals involved in the identification and management of people with acute kidney injury

Palliative Care: standards 43-45
The following suggestions have been presented to the Palliative Care Implementation Board for consideration

CVSFW Standard	***HIA Suggestion***
43 Health and social care professionals, in consultation with the patient, will identify, assess and communicate the unique supportive, palliative and end of life care needs of that person, their caregiver/s and family	43.5 Consider identifying a budget for palliative and end-of-life care across all relevant programmes of care (and not just cancer), thereby developing a funding stream for each condition and/or service framework
	Establish support networks for training and education in palliative and end-of-life care
	43.11 Define clearly the roles and responsibilities of healthcare professionals in relation to the provision of palliative and end-of-life care
	43.12 Conduct qualitative research on palliative and end-of-life care services with individuals receiving care and their families, and ensure representation of the population across Northern Ireland
	43.13 Monitor and evaluate the effects of the implementation on health inequalities and health inequities
44 All patients, carers and families should have access to responsive, integrated services which are coordinated by an identified team member according to an agreed plan of care, based on their needs	44.5 Ensure there are appropriate protocols in place to manage palliative and end-of-life care
	44.8 Review whether staffing levels are appropriate for the implementation of standard 44
45 All people with advanced progressive conditions, their caregivers and families, will be informed about the choices available to them, by an identified team member, and have their dignity protected through the management of symptoms and provision of comfort in end of life care	45.1 Review the investment required to support choice for individuals during palliative and end-of-life care
	45.5 Define the role of the Patient Client Council in relation to palliative and end-of-life care
	45.7 Develop a programme with the voluntary sector to increase health literacy about palliative and end-of-life care, using a community development approach
	45.8 Engage with vulnerable, disadvantaged and marginalised groups in order to define their needs for and increase their access to palliative and end-of-life care

The remaining HIA suggestions represent those which refer to public awareness campaigns. These are listed below for considered by the Public Health Agency

CVFSW Standard	***HIA Suggestion***
3 Health and social care should work in cooperation with voluntary, education, youth and community organisations to prevent the recruitment of young people to smoking	3.13 Develop publicity material for all organisations and individuals trained in service provision at a local level
	3.18 Communicate and promote the positive outcomes of standard implementation, especially to staff so they can see the benefits of their work
5 Health and social care professionals should identify inactive* individuals and, where appropriate, provide them with advice and support to accumulate a minimum of 30 minutes of moderate activity	5.12 Increase the number of health promotion information "films" on the television
24 All eligible patients* suffering an acute myocardial infarction with ST-segment elevation heart attack should receive thrombolysis within one hour of calling for professional help. (*Excluding those with contraindications to thrombolysis or those undergoing primary PCI)	24.1 Increase public awareness of the main message, "Phone 999", when people are having a heart attack, including through the use of advertising
29 All patients with suspected transient ischaemic attack should have rapid specialist assessment and investigation to confirm the diagnosis and should have a management plan urgently put in place to reduce short term and long term cardiovascular complications. (See also Standard 35)	29.5 Conduct a public awareness campaign about the symptoms and signs of transient ischaemic attack (TIA), including what to do and where to go; ensure the campaign is able to reach people who are vulnerable, disadvantaged or marginalised
30 All patients with suspected acute stroke should have rapid access to specialist assessment, appropriate brain imaging and emergency treatment, including thrombolysis	30.1 Conduct a public awareness campaign about the symptoms and signs of stroke, including what to do and where to go; ensure the campaign is able to reach people who are vulnerable, disadvantaged or marginalised

31 All patients who have had a stroke should have their rehabilitation delivered by a Specialist Stroke Rehabilitation Team in a Stroke Unit, starting immediately after admission to hospital. Specialist stroke rehabilitation focuses on assessing the individual needs of patients and, in consultation with the patient and their family/carer(s), addressing them in the most effective way. Ongoing specialist rehabilitation needs, as defined by the Team, should continue to be delivered by a Specialist Stroke Rehabilitation Team	31.3 Increase awareness of the signs and symptoms of stroke, and its appropriate treatment
39 All patients with a diagnosis of chronic kidney disease (CKD) should receive timely, appropriate and effective investigation, treatment and follow-up to reduce the risk of progression and complications	39.5 Raise public awareness of the symptoms and signs of chronic kidney disease, and what to do about it
41 All children, young people and adults likely to benefit from a kidney transplant should receive a high quality service which supports them in managing their transplant and enables them to achieve the best possible quality of life	41.2 Conduct a public information campaign and launch it after the development of the sustainable renal transplantation service
43 Health and social care professionals, in consultation with the patient, will identify, assess and communicate the unique supportive, palliative and end of life care needs of that person, their caregiver/s and family	43.6 Conduct a public awareness campaign about palliative and end-of-life care

Abbreviations

BHF	BHF British Heart Foundation
CODA	CODA Community Drug Awareness
DACT	DACT Drugs and Alcohol Coordination Team
DE	DE Department of Education
DES	DES Direct Enhanced Service
DETI	DETI Department of Enterprise, Trade and Investment
DoE	DoE Department of the Environment
DRD	DRD Department for Regional Development
EDACT	EDACT Eastern Drugs and Alcohol Coordination Team
ELB	ELB Education and Library Board
FASA	FASA Forum for Action on Substance Abuse and Suicide Awareness
GAIN	GAIN Guidelines and Audit Implementation Network
HSCB	HSCB Health and Social Care Board
HSCT	HSCT Health and Social Care Trust
LCG	LCG Local Commissioning Group
MGPH	MGPH Ministerial Group on Public Health
NACR	NACR National Audit and Cardiac Rehabilitation
NICHSA	NICHSA Northern Ireland Chest Heart and Stroke Association
NILGA	NILGA Northern Ireland Local Government Association
NIMDTA	NIMDTA Northern Ireland Medical and Dental Training Agency
NMC	NMC Nursing and Midwifery Council
NSCAG	NSCAG National Specialist Commissioning Group
PC	PC Primary Care
PCC	PCC Patient and Client Council
PHA	PHA Public Health Agency
PPI	PPI Public and Patient Involvement
RQIA	RQIA Regulation and Quality Improvement Authority

List of figures and tables

References

1. Department of Health, Social Services and Public Safety. Investing for Health. Belfast: DHSSPS, 2002

2. WHO Regional Office for Europe. Gothenberg consensus paper: health impact assessment; main concepts and suggested approach. Brussels: European Centre for Health Policy, 1999.

3. Barton H, Grant M. A health map for the local human habitat. The Journal of the Royal Society for the Promotion of Health 2006; 126(6); 252-53.

4. Homer J, Milstein B, Wile K, Pratibhu P, Farris R, Orenstein D. Modelling the local dynamics of cardiovascular health: risk factors, context, and capacity. Prev Chronic Dis 2008; 5(2). Available at http://www.cdc.gov/pcd/issues/2008/apr/07_0230.htm Last accessed 28/09/2010.

5. Department of Health, Social Services and Public Safety. Life expectancy decomposition report 2006- 2008. Belfast: Project Support and Analysis Branch, 2011.

6. Department of Health, Social Services and Public Safety. Cardiovascular Health and Wellbeing Service Framework. Belfast: DHSSPS, 2009.

7. Institute of Public Health in Ireland. Health Impact Assessment Guidance. Dublin: IPH, 2009.

8. Northern Ireland Statistics and Research Agency. Registrar General annual report. Belfast: Nisra, 2008.

9. Health Intelligence Unit, Public Health Agency, 2010.

10. Department of Health, Social Services and Public Safety. Project support analysis branch. Belfast: DHSSPS, 2010.

11. Northern Ireland Health Inequalities Monitoring System via Health Intelligence Unit, Public Health Agency. Belfast: DHSSPS, 2010.

12. Department of Education and Learning. School leavers survey 2008. Northern Ireland Neighbourhood Information System. Belfast: NISRA, 2010.

13. Northern Ireland Housing Executive. Household Condition Survey: main report. Belfast: NIHE, 2006.

14. Departmant for Regional Development. Travel Survey for Northern Ireland 2006-2008. Belfast: DRD, 2009.