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and Public Safety
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an Fowk Siccar

SERVICE FRAMEWORK FOR CARDIOVASCULAR HEALTH AND WELLBEING

Consultation Document

Working for a Healthier People

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Foreword

The Department has commenced work on the development of a range of service frameworks which set out explicit standards for health and social care that are evidence based and are capable of being measured.

Service frameworks will set out the standard of care that patients, clients, their carers and wider family can expect to receive and will also be used by commissioners and providers to drive performance improvements.

The first round of service frameworks focus on the most significant causes of ill health and disability – cardiovascular disease, respiratory disease, cancer, mental health and learning disability.

The Service Framework for Cardiovascular Health and Wellbeing was selected as the first service framework as cardiovascular disease continues to be one of the biggest causes of death and disability in Northern Ireland. This service framework sets standards in relation to the prevention, diagnosis, treatment, care, rehabilitation and palliative care of individuals and communities who currently have a greater risk of developing cardiovascular disease.

These standards have been developed in partnership with a wide range of stakeholders with representation from all aspects of health and social care as well as service users and carers. They have the potential to transform the quality of service provision in relation to cardiovascular disease across Northern Ireland.

I would ask that you examine these proposals in detail and use the Consultation Questionnaire to make your views known and to influence the standard of care provided in relation to cardiovascular health and wellbeing.

Michael McGimpsey MLA
Minister for Health, Social Services and Public Safety

Service Framework for Cardiovascular Health and Wellbeing

Summary of Standards

Communication with Patients, Clients and Carers

	Key Performance Indicators	Anticipated Performance Level
Standard 1 All patients and carers should expect effective communication throughout their care journey	HSC organisational communication strategies should show evidence of direct patient / client feedback as part of regular audit of their effectiveness. HSC organisational complaints reports should show evidence of action where communication is the primary factor HSC organisational strategies for clinical and social care governance should show evidence that direct patient feedback is included in relevant audit and monitoring	March 2009 - 90%

Service Framework for Cardiovascular Health and Wellbeing

Summary of Standards

Standard 2 All patients, carers and the public should have opportunities to engage actively and meaningfully with Health and Social Care organisations at all levels.	HSC organisational strategies for Patient and Public Involvement	March 2009 - 90%

Prevention

	Key Performance Indicators	**Anticipated Performance Level**
Standard 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.	Percentage of 12, 14 and 16 year old boys and girls who smoke	2008 - establish baseline 2011/12 - 5% decrease on baseline for boys 2011/12 - maintain at baseline for girls

Service Framework for Cardiovascular Health and Wellbeing

Summary of Standards

Standard 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 signposting to specialist cessation services.	Number of people attending specialist smoking cessation services	2007/08 – Baseline data – Number of people attending 2008/09 - maintain 2007/08 baseline levels 2009/10 - 4% increase in uptake 2010/11 - 4% increase in uptake
	Number of clients quitting at 4 and 52 weeks	2007/08 – Baseline data 2008/09 - maintain 2007/08 levels 2009/10 - 2% increase in number of quitters (4% increase in uptake of services) 2010/11 - 2% increase in number of quitters (4% increase in uptake of services)

Summary of Standards

Standard 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. *inactive refers to all people who do not meet the recommended level of physical activity **walking briskly, walking downstairs, dancing, biking, swimming, gardening, housework eg washing floors (http://www.paho.org/English/HPP/HPN/whd2002-factsheet2.pdf)	Percentage of people being asked and advised about their physical activity Percentage of people advised who achieve the recommended level of physical activity.	2009/10 - Establish baseline Performance level to be determined once baseline established 2009/10 - Establish baseline Performance level to be determined once baseline established

Summary of Standards

Standard 6 People should be provided with healthy eating support and advice, appropriate to their needs, in a range of settings.	Percentage of nutrition advisers using the Eat Well / Getting the Balance Right Plate model. Percentage of people eating the recommended 5 pieces of fruit or vegetables a day.	2009/10 - Establish baseline Performance level to be determined once baseline established 2010/11 - 10% increase on 2005/06 baseline
Standard 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.	Percentage of people who have a BMI of above 25 Percentage of Primary 1 children who have a BMI of above 25	2010/11 - 2% decrease on 2005/06 baseline 2009/10 - Establish baseline Performance level to be determined once baseline established

Summary of Standards

Standard	Key Performance Indicators	Anticipated Performance Level
Standard 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	Percentage of people who receive Brief Intervention in Primary Care to reduce alcohol related risk	2009/10 - Establish baseline Performance level to be determined once baseline established

Hypertension

	Key Performance Indicators	Anticipated Performance Level
Standard 9 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	Percentage of patients aged 45 and over who have had a recorded blood pressure on their GP record within the past 5 years	2008/09 - 70% 2009/10 - 80% 2010/11 - 90%

Summary of Standards

Standard 10		
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	Percentage of patients with a target blood pressure of <140/90 mmHg.	2008/09 - 70% 2009/10 - 80% 2010/11 - 90%

Summary of Standards

Hyperlipidaemia

	Key Performance Indicators	**Anticipated Performance Level**
Standard 11 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.	Percentage of the putative N Ireland FH population identified Percentage of adult FH patients attaining lipid targets of cholesterol <5mmol/L and LDL<3mmol/L	2009/10 - Establish Regional Register 2010/11 - Establish baseline Performance level to be determined once baseline established 2009/10 - Establish baseline Performance level to be determined once baseline established

Service Framework for Cardiovascular Health and Wellbeing

Summary of Standards

Diabetes

	Key Performance Level	Anticipated Performance Level
Standard 12 All people with diabetes should have an accurate diagnosis made.	Percentage of people with a new diagnosis of diabetes confirmed by fasting blood sugar estimations or standardised Oral Glucose Tolerance Tests	2008/09 - 80% 2009/10 - 90% 2010/11 - 95%
Standard 13 All patients with diabetes should have access to structured education programmes and emotional and psychological support.	Percentage of newly diagnosed diabetic patients in past year who have been provided with a structured patient education programme. Percentage of diabetes teams who have access to specialist psychology support	2008/09 - 40% 2009/10 - 50% 2010/11 - 60% 2009/10 - 50% 2010/11 - 60% 2011/12 - 70%

Summary of Standards

Standard 14 All patients with diabetes should have access to, at a minimum, an annual review to a defined standard by an appropriately trained multidisciplinary team.	Percentage of people with diabetes who receive annual review to the defined standard	2008/09 - 40% 2009/10 - 60% 2010/11 - 80%

Coronary Heart Disease

	Key Performance Indicators	**Anticipated Performance Level**
Standard 15 Pregnant women should have appropriate antenatal screening for Congenital Heart Disease (CoHD), with specialist services available to those in whom a diagnosis of CoHD is made	Percentage of patients with major congenital heart disease diagnosed antenatally	March 2009 - 50% March 2010 - 60% March 2011 - 75%

Summary of Standards

Standard 16 Children with congenital and acquired heart disease should have access to prompt diagnosis and appropriate management in line with national standards.	Percentage of children with congenital and acquired heart disease who have access to prompt diagnosis and appropriate management in line with national standards.	March 2009 - 80% March 2010 - 90% March 2011 - 95%
Standard 17 To improve the quality of life / life expectancy for patients and their families affected by inherited cardiac diseases	Percentage of first degree relatives, affected by a proband's sudden cardiac death (<40 years), who receive referral to specialist service with genetic testing and follow-up, as appropriate. Percentage of families with a genetic condition, who are offered access to genetic testing and subsequent specialist follow-up, as appropriate.	March 2009 - Establish baseline Performance level to be determined once baseline established March 2009 - Establish baseline Performance level to be determined once baseline established

Summary of Standards

Standard 18 All adults with congenital heart disease should have access to a specialist consultant led service specifically designed to meet their needs.	Percentage of patients with congenital heart disease who have accessed a specialist consultant led service.	March 2009 - 80% March 2010 - 90% March 2011 - 95%
Standard 19 All patients with a diagnosis of non Atrial Fibrillation arrhythmias should receive timely assessment, treatment and support based on individual need.	Percentage of patients with a clinically significant non atrial fibrillation arrhythmia who have a preliminary diagnosis made and definitive treatment plan commenced within a maximum of 6 weeks following initial presentation.	March 2009 - 80% March 2010 - 85% March 2011 - 95%
Standard 20 All patients with a diagnosis of Atrial Fibrillation should receive timely assessment, treatment and support based on individual need.	Percentage of high risk patients, as detailed in NICE Clinical Guideline 36, who have commenced Warfarin treatments, unless contraindicated	March 2009 - 80% March 2010 - 90% March 2011 - 95%

Summary of Standards

Standard 21 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.	Percentage of patients who, on presentation to primary care with a considered diagnosis of systolic heart failure, have an ECG and BNP requested, carried out and interpreted.	March 2009 - 80% March 2010 - 85% March 2011 - 90%
Standard 22 All patients with diagnosis of heart failure should be prescribed evidence based medication as appropriate, under the guidance of the multidisciplinary specialist team.	Percentage of clinically appropriate patients on optimal evidence based medication for systolic heart failure. (Excluding those currently undergoing uptitration)	March 2009 - 70% March 2010 - 80% March 2011 - 90%

Service Framework for Cardiovascular Health and Wellbeing

Summary of Standards

Standard 23 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).	Percentage of eligible patients with AMI (STEMI or new LBBB) that receive thrombolysis within 60 minutes of calling for professional help.	March 2009 - 60% March 2010 - 65% March 2011 - 70%
Standard 24 All patients identified as requiring cardiac rehabilitation, in line with the British Association for Cardiac Rehabilitation guidelines, should be offered this service.	Percentage of patients eligible for cardiac rehabilitation who receive the components of the service based on an assessment of their need.	March 2009 - 60% March 2010 - 70% March 2011 - 85%
Standard 25 All patients who develop new onset chest pain, suggestive of angina should be reviewed at a rapid access chest pain clinic (RACPC) within 2 weeks of referral by the GP/appropriate clinician.	Percentage of patients who are seen at RACPC within the target time period from referral (excluding refusal of first offer).	March 2009 - 90% within 2 weeks March 2010 - 95% within 2 weeks March 2011 - 95% within 1 week

Summary of Standards

Standard 26 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.	Percentage of patients with acute coronary syndrome who undergo angiography (+/- PCI) within 72 hours of diagnosis. Percentage of patients requiring urgent surgical revascularisation who receive this intervention within 7 days of being clinically suitable.	March 2009 - 75% March 2010 - 85% March 2011 - 95% March 2009 - 50% March 2010 - 60% March 2011 - 80%
Standard 27 All patients with suspected Pulmonary Arterial Hypertension should be managed in a timely fashion by a specialist multidisciplinary team.	Percentage of patients seen within a maximum of 6 weeks from initial referral to completion of investigations and initiation of appropriate treatment.	March 2009 - 85% March 2010 - 90% March 2011 - 95%

Service Framework for Cardiovascular Health and Wellbeing

Summary of Standards

Cerebrovascular Disease

	Key Performance Indicators	Anticipated Performance Level
Standard 28 All patients with suspected Transcient 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 34)	Percentage of confirmed TIA patients at high risk of early stroke (ABCD2 score 4 or above) who undergo specialist assessment **AND** urgent brain imaging (preferably MRI DWI) within 24 hours of index event Percentage of TIA patients requiring carotid endarerectomy who undergo surgery within 2 weeks of index event Percentage of confirmed TIA patients seeking medical attention who receive appropriate antiplatelet and statin therapy within 24 hours of the index event	2009/10 - Establish baseline Performance level to be determined once baseline established 2009/10 - Establish baseline Performance level to be determined once baseline established 2009/10 - Establish baseline Performance level to be determined once baseline established

Summary of Standards

Standard 29		
All patients with suspected acute stroke should have rapid access to specialist assessment, appropriate brain imaging and emergency treatment, including thrombolysis.	Percentage of eligible acute stroke patients who, following an appropriate assessment, receive thrombolysis within 3 hours of onset of symptoms of stroke	2008/09 – 10% 2009/10 – 30% 2010/11 – 50%
	Percentage of acute stroke patients who have brain imaging within 24 hours of the stroke event.	2008/09 - 75% 2009/10 - 85% 2010/11 - 95%

Summary of Standards

Standard 30		
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	Percentage of stroke patients admitted to a recognised stroke unit, which is capable of providing the professional therapy hours defined in the NI Stroke Strategy, and with specialist assessment completed within the timescales specified in this Strategy document.	2008/09 - 85% 2009/10 - 95% 2010/11 - 98%
	Percentage of stroke patients admitted to a stroke unit within 24 hours of hospital admission AND who spend > 50% of their stay in the stroke unit.	2010/11 - 50%
	Percentage of stroke patients discharged from hospital who receive continued rehabilitation by a specialist community stroke team.	2010/11 - 15%

Summary of Standards

Standard 31 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 a persisting disability at 6 months should be reviewed by a member(s) of the 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.	 Percentage of survivors of stroke or TIA who have an appropriate up to date primary care and, where appropriate, specialist review. Percentage of stroke survivors with access to assessment by a neuropsychologist with experience in stroke and physical disability	 2008/09 - 75% 2009/10 - 85% 2010/11 - 95% 2009/10 – 25% 2010/11 – 40%

Summary of Standards

Peripheral Vascular Disease

	Key Performance Indicators	Anticipated Performance Level
Standard 32 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.	Percentage of appropriate patients who have had a risk assessment within the last 12 months.	March 2009 - 50% March 2010 - 75% March 2011 - 95%
Standard 33 All patients with abdominal aortic aneurysm (AAA) should have their medical therapy optimised. 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.	Post operative mortality rate following elective AAA repair (stratified by POSSUM).	2008/09 - Elective EVAR mortality should be less than 2%. 2009/10 - Elective open repair should be within the Vascular Database guidelines. 2010/11 - Commence implementation of AAA Screening Programme

Summary of Standards

Standard 34 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 28)	Percentage of patients with symptomatic carotid stenosis 70-99% who have undergone carotid intervention within 2 weeks of index event.	2008/09 - 25% 2009/10 - 50% 2010/11 - 75%
Standard 35 Patients with leg pain on exertion, suggestive of peripheral arterial disease should have an ankle-brachial pressure index (ABPI) test performed in primary care.	Percentage of patients in target groups with symptoms suggestive of peripheral arterial disease referred to vascular surgery with a documented ABPI measurement.	2008/09 - Establish baseline 2009/10 - 5% increase on baseline 2010/11 – 10% increase on previous year
Standard 36 All patients presenting with features of thoracic aortic dissection should be assessed and referred immediately to an appropriate management centre.	Percentage of patients with thoracic aortic dissection who are referred for treatment to the regional centre within 24 hours of the symptoms developing.	2008/09 - 15% increase in referred cases from baseline 2009/10 - 25% increase 2010/11 - 35% increase

Summary of Standards

Standard 37		
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	Percentage of patients deemed at risk of, or with a diagnosis of, lymphoedema being provided with information (verbal and written) on risk reduction and treatment. Percentage of patients having surgery which involves removal of regional lymph nodes who have limb measurement prior to surgery.	2009/10 - Establish baseline 2010/11 - 15% increase on baseline 2009/10 - Establish baseline 2010/11 - 15% increase on baseline

Summary of Standards

Renal Disease

	Key Performance Indicator	Anticipated Performance Level
Standard 38 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.	Percentage of CKD patients with a record of blood pressure in the previous 15 months and whose blood pressure is 140/85 mmHg or less.	<u>BP Recorded</u> 2008/09 - 80% 2009/10 - 85% 2010/11 - 90% <u>BP at Target</u> 2008/09 - 60% 2009/10 - 65% 2010/11 - 70%
	Percentage of hypertensive CKD patients treated with an angiotensin converting enzyme inhibitor (ACE-I) or, if a patient is truly intolerant to an ACE inhibitor, angiotensin receptor blocker (ARB) (unless a contraindication or side effects are recorded)	2008/09 - 60% 2009/10 - 65% 2010/11 - 70%

	Percentage of patients with CKD who have a quantitative record of a proteinuria test in the previous 15 months.	2008/09 - Establish baseline 2009/10 - 5% increase on baseline 2010/11 - 5% increase on previous year
	Percentage of patients with CKD stage 4 and 5 assessed or discussed with nephrology services.	2008/09 - Establish baseline 2009/10 - 5% increase on baseline 2010/11 - 5% increase on previous year

Summary of Standards

Standard 39		
Renal services should ensure the delivery of high quality, safe and effective dialysis care which is designed around the individuals' needs and preferences and are available to all patients of all ages.	Percentage of new haemodialysis patients offered a regular outpatient haemodialysis slot without delayed discharge.	2008/09 - Establish baseline 2009/10 - 5% increase on baseline 2010/11 - 5% increase on previous year
This should be delivered by a highly skilled multiprofessional workforce to maximise dialysis capacity, improve quality of life and reduce complications.	Percentage of prevalent dialysis patients meeting UK guidelines for permanent vascular access assessment and placement.	2008/09 - Establish baseline 2009/10 - 5% increase on baseline 2010/11 - 5% increase on previous year

Standard 40		
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.	Percentage of dialysis and CKD Stage 5 patients aged less than 70 who have evidence of transplant discussion and education.	2008/09 - 60% 2009/10 - 70% 2010/11 - 80%
	Number of living donation kidney transplants that renal transplant teams should achieve annually	2008/09 - 13 deceased and 6 living donors pmp 2009/10 - 8 living donors/pmp 2010/11 -10 living donors/pmp.
	Percentage of kidney transplantation operations where the cold ischaemia time is shorter than 24 hours	2008/09 - 50% 2009/10 - 55% 2010/11 - 60%
	Percentage of patients with a documented plan for post-transplant immunosuppression	2008/09 - 80% 2009/10 - 85% 2010/11 - 90%

Summary of Standards

Standard 41 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.	Development of evidence based consensus guidance on the prevention and management of AKI	December 2009

Service Framework for Cardiovascular Health and Wellbeing

Summary of Standards

Supportive and Palliative Care

	Key Performance Indicators	**Anticipated Performance Level**
Standard 42 Health and social care professionals, in consultation with patients, should identify, assess and communicate the unique supportive, palliative and end of life care needs of that person, their caregiver/s and family.	Percentage of patients, with a cardiovascular diagnosis, identified as requiring palliative care and on the Supportive and Palliative Care Register.	2009 - 30% 2010 - 50% 2011 - 90%
	Percentage of patients with cardiovascular diagnosis on a Supportive and Palliative Care Register having had an holistic assessment appropriate to needs and care plan developed	2009 - 50% 2010 - 70% 2011 - 90%
	Percentage of staff (professional and non professional) with appropriate generalist and / or specialist palliative care training to prescribed level of competency (as per NICaN S&PC Education)	2009/10 - Establish baseline Performance level to be determined once baseline established

Standard 43 Patients, carers and families should have access to responsive, integrated services which are co-ordinated by an identified team member according to an agreed plan of care, based on their needs.	 Percentage of patients with an identified / named key worker for services responsible for ensuring that the 24 hour plan of care is integrated. Percentage of patients on the palliative care register with unresolved symptoms and complex psychosocial needs who have been referred to specialist palliative care services for advice or management in accordance with the Regional Criteria for Specialist Palliative Care	 2010/11 - Establish baseline Performance level to be determined once baseline established 2010/11 - Establish baseline Performance level to be determined once baseline established

Summary of Standards

Standard 44		
People with advanced progressive conditions, their caregivers and families, should 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.	Percentage of patients who are enabled to die in their appropriate preferred place of care.	2010/11 - Establish baseline Performance level to be determined once baseline established
	Percentage of patients, with end stage disease, who have met the criteria of the Care of the Dying Pathway, and have been placed on it in hospital, community, hospices and care homes.	2010/11 - Establish baseline Performance level to be determined once baseline established
	Percentage of appropriate professionals trained in advance communication skills (Breaking Bad News)	2010/11 - Establish baseline Performance level to be determined once baseline established

SECTION 1 - INTRODUCTION

Background

The overall aim of the DHSSPS is to improve the health and social wellbeing of the people of Northern Ireland.

In support of this the Department has commenced the development of a range of service frameworks which set out explicit standards for health and social care that are evidence based and are capable of being measured.

The first round of service frameworks focus on the most significant causes for ill health and disability - 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 will be taken forward in 2008.

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, to include identification of those at risk, and prevent / protect individuals and local populations from harm and / or disease;
- Promote evidence-informed practice;
- Focus on safe and effective care; and,
- Enhance multidisciplinary and intersectoral working.

Aim of Service Frameworks

Service frameworks will set out the standards of care that patients, clients, their carers and wider family can expect to receive in order to help people to:

- prevent disease or harm;
- manage their own health and wellbeing including understanding how lifestyle affects health and wellbeing including the causes of ill health and its effective management;

- be aware of what types of treatment and care are available within health and social care;
- be clear about the standards of treatment and care they can expect to receive.

Service frameworks will also be used by a range of stakeholders including commissioners, statutory and non-statutory providers, and RQIA to commission services, measure performance and monitor care.

The frameworks will identify clear and consistent standards informed by expert advice and by national standard setting bodies such as the National Institute for Health and Clinical Excellence (NICE) and the Social Care Institute for Excellence (SCIE). The auditing and measuring of these standards will be assisted by the newly established Guidelines and Implementation Network (GAIN) which will develop a rolling regional audit cycle linked to priority areas, including Service Frameworks.

The standards will aim to ensure that health and social care services are:

i. Safe – health and social care which minimises risk and harm to service users and staff;

ii. Effective – health and social care that is informed by evidence base, resulting in improved health and wellbeing outcomes for individuals and communities;

iii. Efficient – health and social care that is commissioned and delivered in a manner which maximises resource use and avoids waste;

iv. Accessible – health and social care that is timely, geographically reasonable, and provided in a setting where skills and resources are appropriate to need;

v. Patient/client centred – health and social care which gives due regard to the preferences and aspirations of services users and carers and the culture of their communities; and,

vi. Equitable – 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.

Involving and communicating with the public

The Department has recently produced guidance, "Strengthening Personal and Public Involvement in Health and Social Services", which sets out values and principles which all health and social care (HSC) organisations and staff should adopt when engaging with the public and service users. These include the need to involve people at all stages in the planning and development of health and social care services.

It is important that the views of patients, clients and carers are given due regard in service planning and delivery and considered alongside clinical and other professional opinion. The integration of the views of service users, carers and local communities into all stages of the planning, development and review of service frameworks is an important part of the continuous quality improvement and the open culture which should be promoted in HSC.

Through the proactive involvement of the public in the planning of service frameworks, it is hoped that concerns and ideas for improvement can be shared and that the standards developed in partnership with service users and the public will focus on the issues that really matter to them.

It is also important that service frameworks provide patients and service users with clear and concise information, which is sensitive to their needs and abilities, so that they and their carers and families can understand their own health and wellbeing needs.

People are ultimately responsible for their own health and wellbeing, and that of their dependents, and it is important that patients, clients, their carers and wider family are made aware of the role they have to play in promoting health and wellbeing.

Involving other agencies in promoting health and wellbeing

Improving the health and wellbeing of the population requires action right across society and it is acknowledged that health and wellbeing is influenced by many other factors such as poverty,

housing, education and employment. While service frameworks set standards for providers of health and social care services it is essential that HSC works in partnership with other government departments and agencies both statutory and non statutory to seek to influence and improve the health and social wellbeing of the public.

Data Collection

As service frameworks are implemented it is important that robust accurate data is available to support decision making and service improvement. Each specialist service must ensure timely submission of robust data collection to a regionally agreed minimum dataset. Where there are gaps in the availability of data against which to monitor service improvement then work should be undertaken at an early stage to develop these minimum datasets.

Multidisciplinary Working

Patients and service users often have complex needs which cannot be addressed by a single health professional. The benefits of multidisciplinary team working are well recognised and it is a key component of decision making regarding prevention, diagnosis, treatment and ongoing care. Multidisciplinary treatment and care will be a key theme underpinning the development and implementation of service frameworks.

Research and Development

It is important that service frameworks are based on valid, relevant published research, where available, and other evidence.

Education

Education and workforce development occur at individual, team, organisational, regional and national levels: they are part of the drive to promote quality. The ongoing development and implementation of service frameworks will influence the education and training agenda and curricula content for all staff involved in the delivery of health and social care. This will require a commitment to lifelong learning and personal development alongside a focus on specific skill areas to ensure that newly

qualified and existing staff are in a position to deliver on quality services.

Leadership

Effective leadership is one of the key requirements for the implementation of service frameworks and will require health and social care professionals from primary, community and secondary care to work together across organisational boundaries. It is essential that service frameworks are given priority at senior, clinical and managerial level and implemented throughout all health and social care organisations.

SECTION 2 - SERVICE FRAMEWORK FOR CARDIOVASCULAR HEALTH AND WELLBEING

Introduction

Cardiovascular disease (CVD) is one of the major causes of ill health and disability in Northern Ireland. The aim of this framework is to improve the health and wellbeing of the population of Northern Ireland, reduce inequalities and improve the HSC quality of care in relation to cardiovascular disease. It is recognised that achievement of this aim goes beyond traditional HSC boundaries and is strongly influenced by population/individual attitudes and behaviours, and the contribution of other sectors.

The cardiovascular health and wellbeing service framework sets standards in relation to the prevention, assessment, diagnosis, treatment, care, rehabilitation and palliative care of individuals/communities who currently have or are at greater risk of developing cardiovascular disease. Recognising that several diseases can co-exist, share common risk factors and can adversely impact on prognosis, this service framework includes consideration of:

- Hypertension (high blood pressure);
- Hyperlypidaemia (high cholesterol);
- Diabetes (as a significant risk factor for the development of cardiovascular disease);
- Coronary Heart Disease (e.g. angina, heart attack, heart failure);
- Cerebrovascular Disease (e.g. stroke);
- Peripheral Vascular Disease (e.g. poor circulation in the legs causing ulcers/gangrene); and,
- Renal disease associated with cardiovascular disease (e.g. kidney failure)

Alongside this document work is ongoing on the development of an implementation plan which will set out key service components which are essential in relation to the effective implementation of this framework.

Process for developing the service framework for cardiovascular health and wellbeing

The development of Service Frameworks is overseen by a multi-disciplinary programme board, which is jointly chaired by the Chief Medical Officer and Deputy Secretary of the DHSSPS. In addition, the CVD Framework has been developed by a project team, with representation from all aspects of the service and service users and carers. The project to develop this framework is accountable, through the Project Lead, to the Departmental Service Framework Programme Board. The full membership of the Project Team is set out in Appendix 1.

Equality Screening

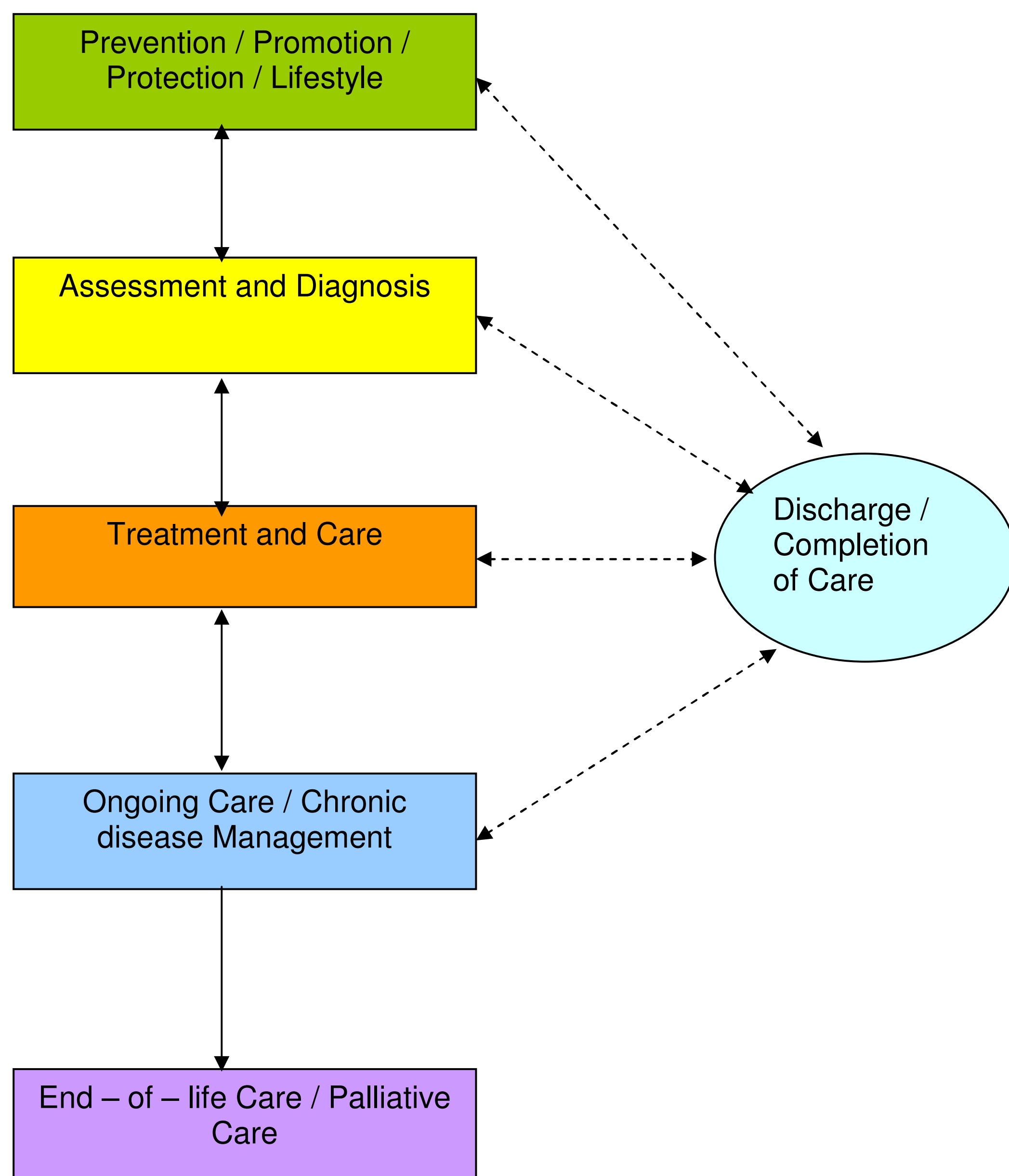
The Project Team has completed an equality screening to take account of Section 75 of the Northern Ireland Act 1998 and any potential impact that the service framework might have on human rights.

How to read the rest of this document

Each service framework follows an individual's journey, from prevention through to end-of-life care, taking into account the different health and social care needs of children and adults.

Each standard sets out the evidence base and rationale for the development of the standard, the impact of the standard on quality improvement as well as the performance indicators that will be used to measure that the standard has been achieved within a specific timeframe. The standards are colour coded for ease of reference, for example standards related to assessment and diagnosis will be yellow.

Flowchart 1 – Template for Development of Service Frameworks



The rest of this document is divided into the following sections:

- **Section 3** explains why there is a need to develop a service framework for cardiovascular health and wellbeing and describes some of the key risk factors influencing the development of cardiovascular disease;
- **Section 4** sets out standards in relation to communication and personal and public involvement which will be relevant to a number of service frameworks under development;

- **Section 5** sets out standards in relation to health promotion and prevention which will be relevant to a number of service frameworks under development;
- **Section 6** sets out standards in relation to specific conditions associated with cardiovascular disease such as stroke, diabetes, renal disease etc; and,
- **Section 7** sets out standards for people who require supportive, palliative or end of life care which will be relevant to a number of service frameworks under development.

A glossary of terms is appended to this document (Appendix 2) which explains some of the medical terms used in these standards. We would like to thank the Northern Ireland Cardiac Network for permission to use terms from their booklet “The Heart: Its Treatment and Care”. Further information on the Northern Ireland Cardiac Network can be found at http://www.mygroupni.com/nicardiacnetwork/.

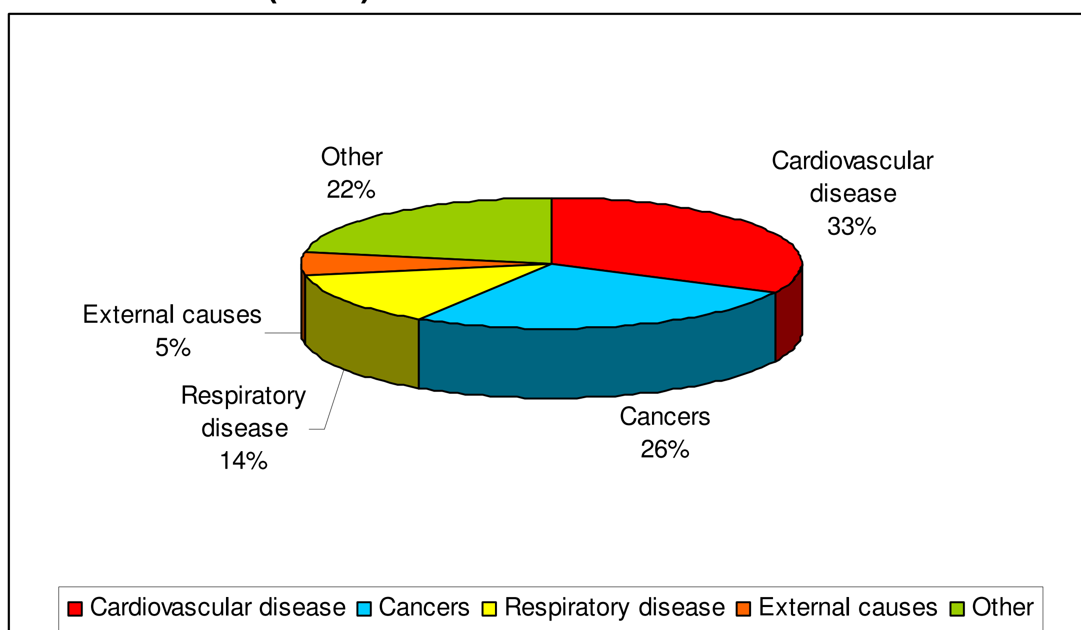
In support of this framework document work is also ongoing to develop a commissioning and implementation guide which will build on the valuable work that has already commenced in relation to the identification of service model components that are required to deliver the service framework standards.

SECTION 3: Why Develop a Service Framework for Cardiovascular Health and Wellbeing?

Cardiovascular disease (CVD) refers to a group of diseases that involve the heart and / or the blood vessels (arteries and veins). Many of the diseases that affect the cardiovascular system have a similar cause and similar risk factors. Considering these diseases together under one framework allows the development of an integrated approach to prevention and management.

CVD was selected for the first Service Framework in Northern Ireland as it continues to be one of the biggest causes of death and disability in Northern Ireland (Figure 1). The World Health Organisation (WHO) estimates that 17.5 million people died of CVD in 2005[1]. Its significance is also in the years of potential life lost, which is a measure of premature mortality (representing the number of years forgone by someone dying before the age of 75). CVD contributes proportionately less potential years of life lost because it typically affects the older population (Table 1). CVD does not have a uniform impact on the population with higher rates strongly associated with areas of deprivation and for people who are unemployed or in manual work (Annex 1).

Figure 1 – Principal causes of death in Northern Ireland as a % of total deaths (2005)



[1] http://www.who.int/mediacentre/factsheets/fs317/en/index.html. Accessed 20/06/2007.

Table 1: Potential Years of Life Lost in Northern Ireland in 2005

Cause	**ICD Code**	**Number of deaths**	**% of total deaths**	**Potential Years of Life Lost**
Cardiovascular disease	*I10-I15, I20-I25, I50, I60-I79*	4,633	32.6%	14,156
Cancers	*C00-C97*	3,735	26.3%	24,220
Respiratory disease	*J00-J99*	1,921	13.5%	4,868
External causes (accidents, accidental poisoning, suicide, homicide etc)	*V00-Y98*	761	5.4%	20,305
Other		3,174	22.3%	29,935
All causes	*A00-Y98*	*14,224*	100.1%	93,484

Source: Registrar General Office (NISRA)

Investing for Health, the Public Health Strategy for Northern Ireland[2] has set regional targets to:

- Improve the levels of life expectancy in Northern Ireland towards the levels of the best EU countries, by increasing life expectancy by at least 3 years for men and 2 years for women between 2000 and 2010;

- Halve the gap in life expectancy between those in the fifth most deprived electoral wards and the average life expectancy here for both men and women between 2000 and 2010; and,

- Halt the increase in the levels of obesity in men and women so that by 2010, the proportion of men who are obese is less than 17% and of women less than 20%.

The Regional Strategy for Northern Ireland also sets objectives for improving health and wellbeing:
http://www.dhsspsni.gov.uk/index/hss/regional_strategy.htm

[2] DHSSPSNI. Investing for Health. March 2002

What causes Cardiovascular Disease?

Although not the only cause, one of the most common causes of coronary heart disease (CHD) and stroke is the formation of fatty plaques (atheroma) in the arteries, which obstruct the flow of blood. There are a number of risk factors which are known to predispose to the development of these fatty plaques and, therefore, to the development of cardiovascular disease.

Risk Factors

Non-modifiable Risk Factors

Factors which increase risk of cardiovascular disease but which cannot be modified include hereditary factors such as ethnicity, increasing age and male gender. Men are more affected by atherosclerosis than pre-menopausal women, but after the menopause this relative protection decreases.

Modifiable Risk Factors

Smoking

Smoking is the major modifiable risk factor for chronic disease mortality in all European countries[3]. It is estimated to have caused 2,300 deaths in Northern Ireland per year over the period 1998-2002[4]. It is a major risk factor for CHD, and its effects are dose related (the more cigarettes smoked the greater the risk). Autopsy studies have shown greater atheroma development in smokers. Smoking has been shown to be a risk factor in acute myocardial infarction and sudden death[5][6][7][8].

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[3] Ezzati M, Lopez AD, Rodgers A, Vander Hoorn S, Murray CJ; Comparative Risk Assessment Collaborating Group. The Burden of Disease. Lancet 2002;360(9343):1347-60. (http://ehs.sph.berkeley.edu/guat/publications/CRA%20Lancet.pdf)

[4] Twigg L, Moon, G, Walker S. The smoking epidemic in England. Health Development Agency. (http://www.nice.org.uk/page.aspx?o=502811)

[5] Doll R, Peto R, Boreham J, Sutherland I. Mortality in relation to smoking: 50 years observations on male British doctors. *BMJ* 2004;328;1519. (http://www.bmj.com/cgi/content/full/328/7455/1519)

[6] Ramsdale DR, Faragher EB, Bray CL, Bennett DH, Ward C, Beton DC. Smoking and coronary artery disease assessed by routine coronary arteriography. *BMJ* 1985;290;197-200. (http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1417970)

[7] Weintraub WS, Klein LW, Seelaus PA, Agarwal JB, Helfant RH. Importance of total life consumption of cigarettes as a risk factor for coronary artery disease. *Am J Cardiol.*1985 Mar 1;55(6):669-72. (http://www.ncbi.nlm.nih.gov/pubmed/3976509?dopt=Abstract)

[8] Auerbach O, Carter HW, Garfinkel L, Hammond EC. Cigarette smoking and coronary artery disease. A macroscopic and microscopic study. *Chest* 1976;70;697-705. (http://www.chestjournal.org/cgi/content/abstract/70/6/697)

The Northern Ireland Health and Wellbeing Survey (NIHWBS) 2005/6 estimated the adult smoking prevalence at 26% (25% in males and 27% in females), with the highest prevalence in the 25-34 year age group. These figures are supported by the 2006/7 Continuous Household Survey (CHS) which found smoking prevalence to be 25% (25% in men; 26% in women). The latter survey found that 75% of all smokers who took part would like to quit.

Physical Inactivity

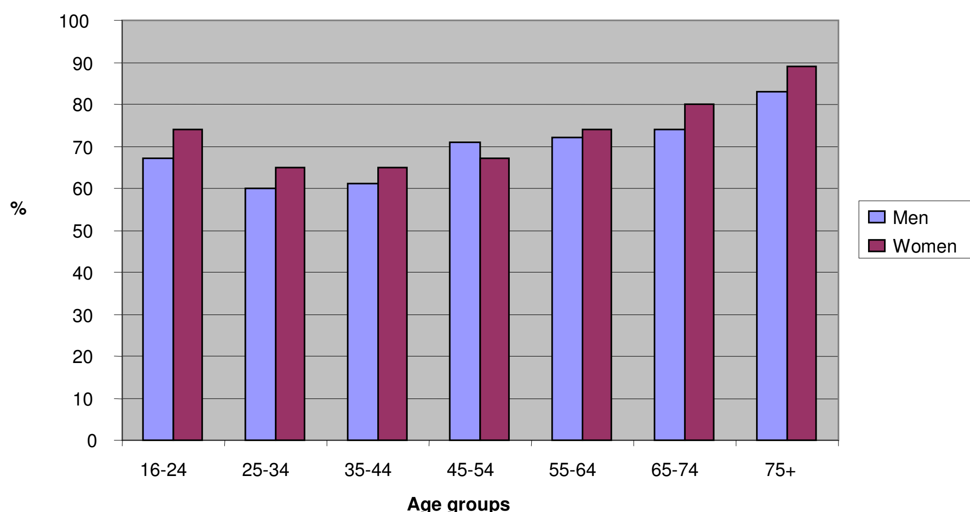
Lack of physical activity is associated with an increase in the risk of CHD[9]. The Joint British Society Guidelines on prevention of CHD in clinical practice[10] recognised the role that physical activity has to play in reducing the incidence of cardiovascular events.

The NIHWBS 2005/06 found that 23% of all people aged 16 and over can be classified as sedentary i.e. have not performed any moderate level of activity lasting 20 minutes on at least one occasion in the last 7 days. 70% of those surveyed indicated that they do not take the recommended level of physical activity of at least 30 minutes a day on 5 days per week (Figure 2).

[9] Thompson PD, Buchner D, Pina IL, *et al.* Exercise and physical activity in the prevention and treatment of atherosclerotic cardiovascular disease: A statement from the Council on Clinical Cardiology (Subcommittee on Exercise, Rehabilitation and Prevention) and the Council on Nutrition, Physical Activity and Metabolism (Subcommittee on Physical Activity). *Circulation* 2003; 107; 3109-3116. (http://circ.ahajournals.org/cgi/content/full/107/24/3109)

[10] JBS 2: Joint British Societies' Guidelines on Prevention of Cardiovascular Disease in Clinical Practice (http://www.bcs.com/download/651/JBS2final.pdf)

Figure 2 – Percentage of people aged 16 years + who are below recommended physical activity level



Source: NI Health and Wellbeing Survey 2005/06

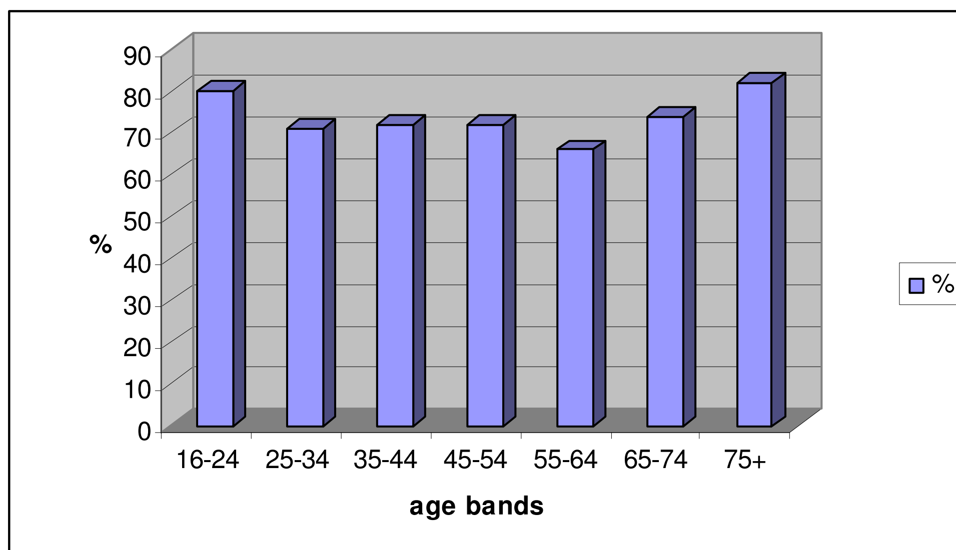
Nutrition

The relationship between what we eat and our health is complex. Studies have shown that the risk of CVD is associated with the total fat, especially saturated fat, in our diets; the amount of salt; and, the consumption of fruit and vegetables. The DASH (Dietary Approaches to Stop Hypertension) diet plus salt reduction has shown some benefit in reducing high blood pressure but the diet appears to have to be followed rigidly[11]. Emerging evidence supports looking at the diet as a whole and the amount and quality of the different components[12].

Figure 3 shows that although the Five a Day message for fruit and vegetables is widely publicised here there is still relatively poor compliance with the advice within Northern Ireland.

[11] Folsom AR, Parker ED, Harnack LJ. Degree of concordance with DASH Diet guidelines and incidence of hypertension and fatal cardiovascular disease. *AJH* 2007; 20; 225-232. (http://www.ncbi.nlm.nih.gov/pubmed/17324731)
[12] McCarron DA, Reusser ME. Reducing cardiovascular disease risk with diet. *Obesity Research* 2001; 9; S335-S340 . (http://www.nature.com/oby/journal/v9/n11s/abs/oby2001139a.html)

Figure 3 – Percentage of people aged 16 years + who ate less than 5 portions of fruit or vegetables per day by age



Source: Northern Ireland Health and Wellbeing Survey 2005/06

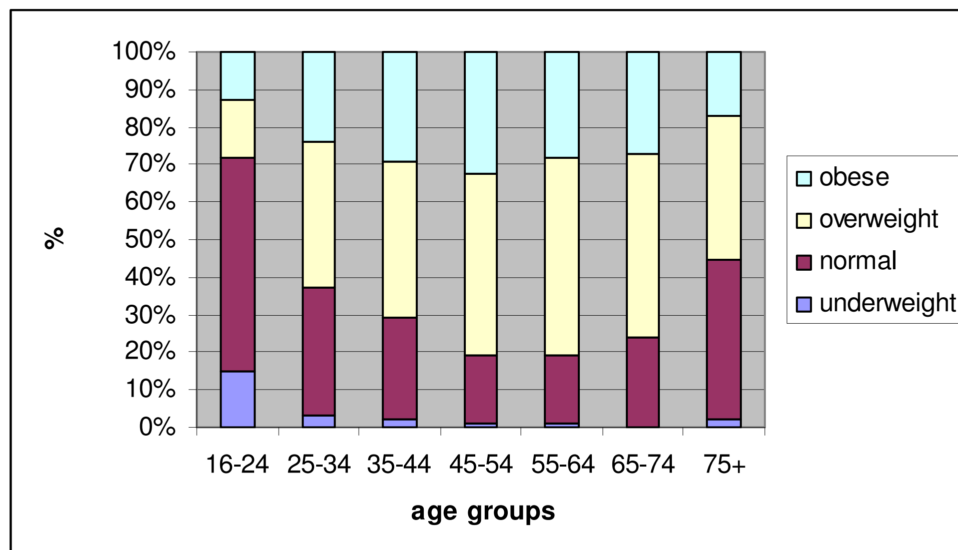
Overweight / obesity

Obesity is a risk factor for CVD, and for other diseases such as diabetes and cancer. It is often associated with other factors such as high blood pressure and raised cholesterol. Obesity is an increasing problem within Northern Ireland. The NIHWBS 2005/6 found that 64% of males and 54% of females were overweight or obese (Figures 4 and 5). The Survey also calculated BMI rates for children (based on age, sex, height and weight). Using the International Obesity Task Force method of calculation, 8% of children were obese and 26% were overweight or obese.

Analysis commissioned by Fit Futures[13], revealed that, in 1997/98, based on measurements carried out in P1, approximately 4% of children around the age of 5 years were obese and 17% were classified as overweight. In 2004/05 this had increased to 5% classified as obese and 22% overweight, and projections to 2010 estimate 7% will be obese and 27% overweight, if there is no intervention.

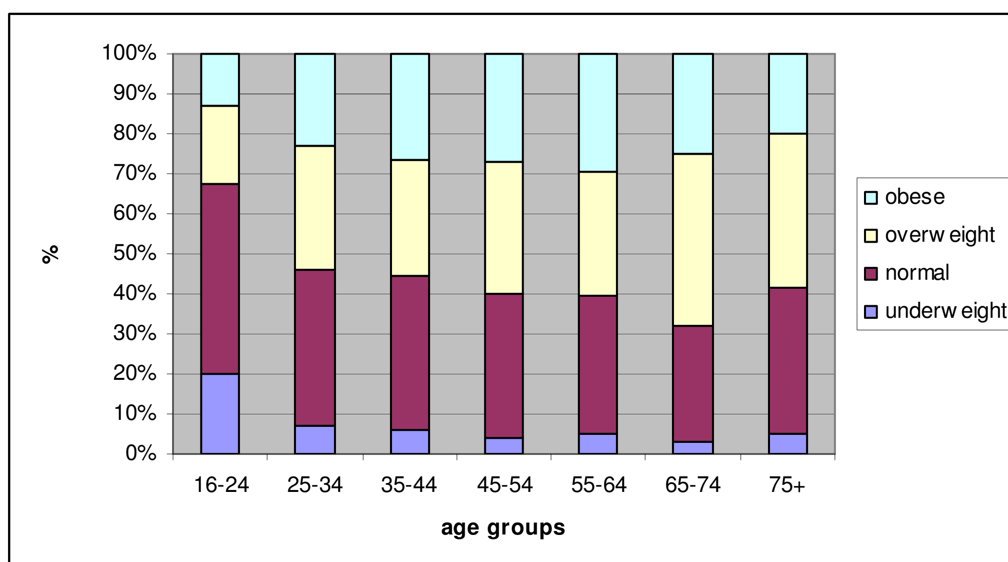
[13] Fit Futures: Focus on Food, Activity and Young People (2007). (http://www.dhsspsni.gov.uk/fit-futures-implementation-plan.pdf)

Figure 4 – BMI for men by age, 2005/06



Source: NI Health and Wellbeing Survey 2005/06

Figure 5 – BMI for women by age, 2005/06



Source: NI Health and Wellbeing Survey 2005/06

Other lifestyle factors such as stress and alcohol also confer risk and require an integrated approach to the prevention of disease and promotion of health.

Diabetes

Diabetes is a condition associated with too much sugar, or glucose, in the bloodstream. Long term this is detrimental to the blood vessels. It can be caused by a lack of the hormone, insulin, which regulates glucose, and this is called Type 1 Diabetes. It can also result from the body producing too little insulin or the insulin not being effective, referred to as Type 2 Diabetes. People who have diabetes have a two to four times greater risk of developing CVD[14].

The incidence of diabetes is increasing world wide. In Northern Ireland, between 1989 and 2003, there were 1,433 cases of Type 1 diabetes recorded on the Northern Ireland Childhood Diabetes Register (directly age standardised incident rate of 24.7 per 100,000 person-years)[15].

Table 2 below shows estimates of the prevalence of Type 1 and Type 2 diabetes in the adult population of Northern Ireland. These estimates were produced by the Irish Diabetes Population Prevalence Working Group led by Ireland and Northern Ireland's Population Health Observatory (INIsPHO) at the Institute of Public Health in Ireland. The group used the PHO-Brent- ScHARR (PBS) Diabetes Population Prevalence Model developed by Yorkshire and Humber Public Health Observatory, Brent NHS Primary Care Trust and the University of Sheffield School of Health and Related Research.

There are also estimates available on the INIsPHO website from the subsequent phase, forecasting population prevalence for 2010 and 2015. In order to provide a range of estimates, they used three different scenarios. More information and data on the scenarios for different levels within NI and Ireland is available at http://www.inispho.org/phis/indicators.

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[14] Haffner SM, Lehto S, Ronnemaa T, *et al.* Mortality from coronary heart disease in subjects with type 2 diabetes and in nondiabetic subjects with and without prior myocardial infarction. *N Engl J Med* 1998;339;229-34. (http://content.nejm.org/cgi/content/abstract/339/4/229)

[15] Cardwell CR, Carson DJ, Patterson CC. Higher incidence of childhood-onset type 1 diabetes mellitus in remote areas: A UK regional small area analysis. *Diabetologia* 2006;49;9;2074. (http://www.ncbi.nlm.nih.gov/pubmed/16868747)

Since 2004, General Practices across Northern Ireland have been collecting morbidity data as part of the Quality and Outcomes Framework (QOF), and this can be used to estimate the prevalence of selected conditions on which information is gathered. The QOF requires the practice to produce a register of patients aged 17 years and over with diabetes mellitus and includes both Type 1 and Type 2 (Table 3). Prevalence is calculated using the number of patients on the register as a proportion of the list of the patients aged 17 years and over.

The two sources (INIsPHO and QOF) indicate that, in 2005, there were around 60,000 adults living with diabetes in Northern Ireland.

Table 2 - Northern Ireland Diabetes Population Prevalence Estimates Type 1 and Type 2 in adults by gender, 2005

		Prevalence	Estimated Numbers in adults
Female	Type 1	0.3	1,992
	Type 2	6.0	38,497
Male	Type 1	0.5	2,784
	Type 2	4.0	23,790
All	Type 1	0.4	4,776
	Type 2	5.1	62,287

Source: Ireland and Northern Ireland's Population Health Observatory (INIsPHO).

Table 3 - Number on General Practice Quality and Outcome Framework Diabetic Registers (age 17 years and over, type I and II)

Year	**Northern Ireland**	
	Prevalence /1000 pt	**No. on Register**
2004/05	37.19	51,541
2005/06	39.46	54,950
2006/07	40.35	56,294

Source: Quality and Outcome Frameworks PCAS/DHSSPSNI

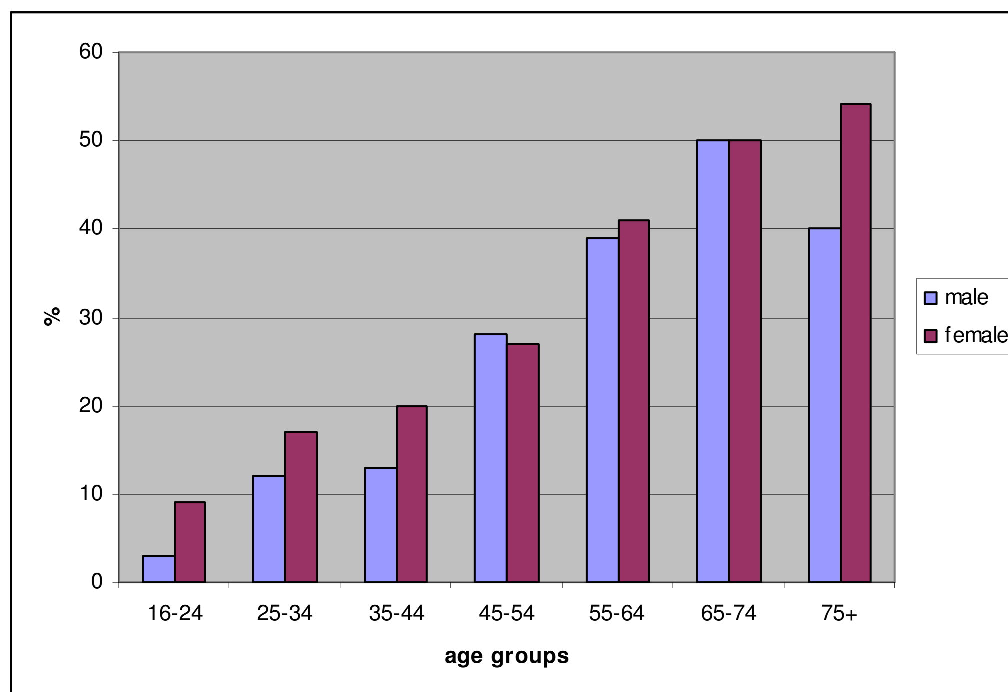
Hypertension

High blood pressure (hypertension) is associated with an increased risk of stroke, coronary heart disease and heart failure. ‘High’ blood pressure is generally accepted as a systolic pressure of greater than 140mmHg and / or a diastolic pressure of over 90mmHg in people aged 18 years or over. The decision to treat high blood pressure is based on an assessment of risk and includes assessing other risk factors such as diabetes.

The incidence of high blood pressure increases with age as demonstrated in the responses from the NIHWBS for 2005/06 (Figure 6) with 50% of men and women aged 65-74 reporting having high blood pressure. The HALS 2002 (Annex 4) shows clear variation in the prevalence of hypertension with age, and there is only minor variation in the corresponding figures available from HWBS.

A number of risk factors are associated with developing high blood pressure including obesity, alcohol and salt intake. Other disease processes such as renal and endocrine disease can also cause hypertension.

Figure 6 – Percentage of respondents who reported high blood pressure by age and sex from NIHWBS 2005/06



Source: NI Health and Wellbeing Survey 2005/06

The PRIME study (Prospective Epidemiological Study of Myocardial Infarction) ran between 1991 and 1993 and assessed men aged 50-60 years from 4 centres – three in France and one in Northern Ireland (Belfast); approximately 42.6% of the sample from Belfast had high blood pressure[16].

As part of QOF, General Practices have been gathering information on the number of patients with established hypertension, or a blood pressure of 150/90 mmHg or greater. Table 4 gives the total numbers on the register and the prevalence per 1000 population. For every 1000 patients registered with a GP in 2006/7, nearly 117 had high blood pressure. However, this information is not gathered by age group so we cannot compare directly with the information from HALS and HWBS.

[16] Graille V, Ferrieres J, Evans A, *et al.* Associations between classical cardiovascular risk factors and coronary artery disease in two countries at contrasting risk for myocardial infarction: the PRIME Study. *Int J Cardiology* 2000 (74); 191-198. (http://www.ncbi.nlm.nih.gov/pubmed/10962121)

Table 4 - Number on General Practice Quality and Outcomes Framework Hypertension Registers by year

Year	Northern Ireland	
	Prevalence /1000 pt	No. on Register
2004/05	102.91	184,824
2005/06	111.27	199,956
2006/07	116.51	211,382

Source: Quality and Outcome Frameworks PCAS/DHSSPSNI

Hyperlipidaemia

There is a clear association between high blood cholesterol and coronary heart disease. Lowering total cholesterol can lead to a reduction in cardiovascular morbidity and mortality.

One of the areas studied was the effect of cholesterol on the risk of heart disease. The European Atherosclerosis Society Guidelines defines hyperlipidaemia (high cholesterol) as present when there is a total cholesterol level greater than 240 mg/dl (6.2 mmol/L) and/or a triglyceride level greater than 200 mg/dl (5.18 mmol/L) and/or the subject is taking a hypolipidaemic drug. Data on 2,342 subjects from Northern Ireland was collected and 1,357 were found to be hyperlipidaemic (prevalence 57.9%)[17].

The World Health Organisation's MONICA Project (monitoring trends and determinants in disease) collected information on the incidence of heart attacks (myocardial infarctions) occurring in 35 different countries during the 1980s and 1990s. This study collected information on levels of cholesterol in the adult population aged 35 to 64 years. In men, 71% had a cholesterol between 5.2 and 7.8, with 6% having a cholesterol greater than 7.8 mmol/L. In women, 63% had a cholesterol level of between 5.2 and 7.8 mml/L, and 8% were over this[18] .

More recently, the HALS 2002 asked people if they had ever been told that they had high cholesterol (Annex 4). Twelve percent of people aged 35 to 54 had been advised that they had high cholesterol. The corresponding figure in those aged 55 to 69 was 21%.

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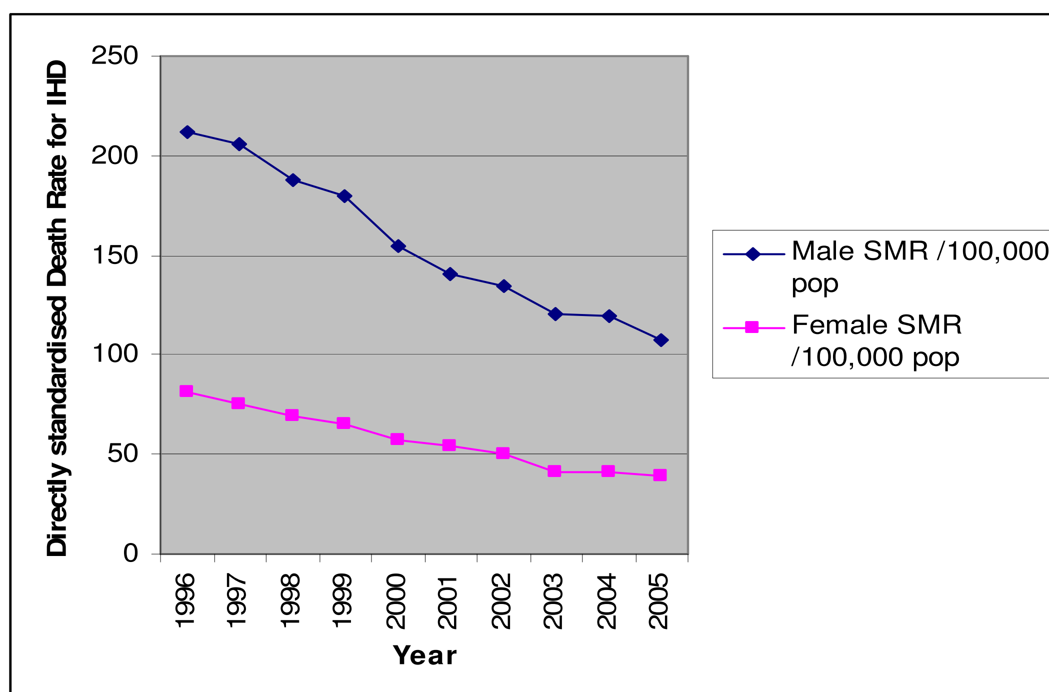
[17] Vidal PM, Arveiler D, Evans A, *et al.* Awareness, treatment and control of hyperlipidaemia in middle-aged men in France and Northern Ireland in 1991-1993: the PRIME study. *Acta Cardiol* 2002; 57(2): 117-123. (http://cat.inist.fr/?aModele=afficheN&cpsidt=13575020)
[18] http://www.heartstats.org/atozpage.asp?id=3142

Coronary Heart Disease

Death Rates from CHD have been falling in recent years in Northern Ireland (see below).

Figure 7 – Directly standardised death rate for Ischaemic Heart Disease in Northern Ireland in those aged 15-74 years, per 100,000 population (Annex 2).



Source: Derived from the Register General Northern Ireland (NISRA) Mortality statistics and Home population estimates.

Stable angina is chest pain caused by too little blood flowing into the heart muscle, which is relieved by rest or medication. The Scottish Continuous Morbidity Study[19] estimates the incidence of angina (first ever diagnosis) by age and sex (Figure 8), which gives some indication of the incidence in the Northern Ireland population.

The MONICA Project showed Belfast rates of coronary events (heart attacks) were the second highest after Glasgow, of the 35 countries participating. The incidence of men aged 35-64 was 695/100,000, with a case fatality of 41% within 28 days. Women

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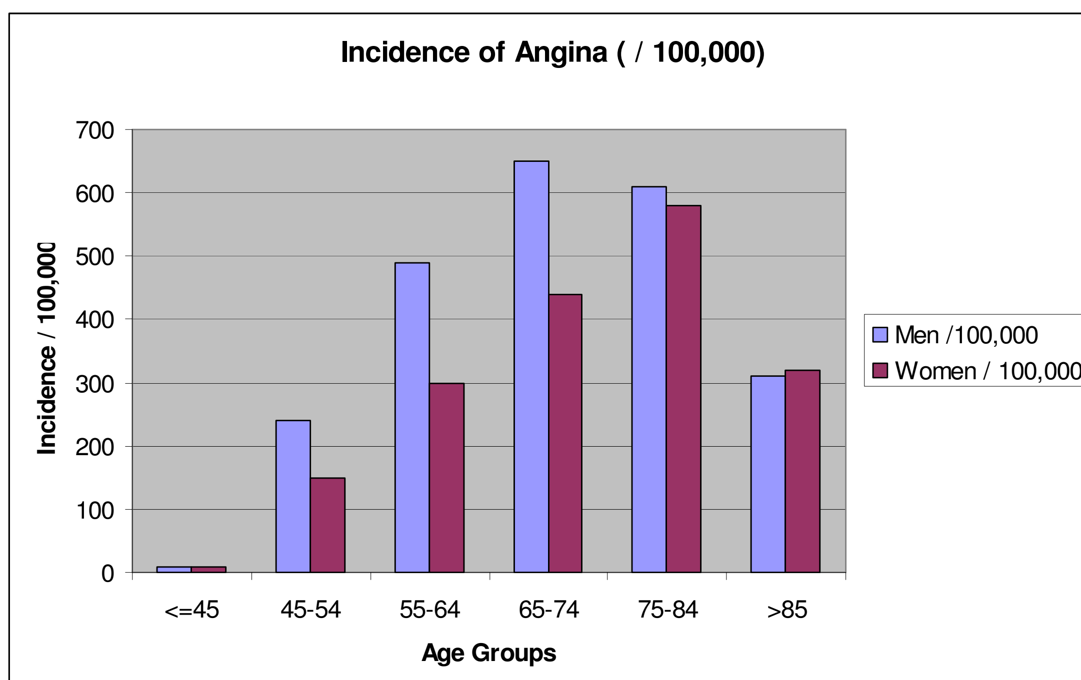
[19] Murphy NF, Simpson CR, MacIntyre K, McAlister FA, Chalmers J, McMurray JJV. Prevalence, incidence, primary care burden and medical treatment of angina in Scotland: age, sex and socioeconomic disparities: a population-based study. Heart 92:1047-1054. (http://heart.bmj.com/cgi/content/abstract/92/8/1047)

had an incidence of 188/100,000, and a fatality rate of 41.5% within 28 days.

Figure 8 – Incidence of Angina (first ever diagnosis) from Scottish Continuous Morbidity Study, 2001/02 by age and sex.



Heart failure occurs whenever the heart is unable to maintain a high enough output to meet the demands of the body. Whilst there are many causes, CHD is one of the most common. A study in Hillingdon, England, estimated the total incidence of heart failure to be 1.3 / 1,000 population[20]. The MONICA project estimated the prevalence of heart failure in the Glasgow cohort as 2.5% in men aged 55 to 64 years and 3.2% in those aged 65 to 74 years. The equivalent figures for women were 2.0% and 3.6%.

QOF requires practices to maintain registers of patients with coronary heart disease (Table 5) and since 2006/7, on those with heart failure and atrial fibrillation (Table 6). Annex 2 provides information on mortality data related to heart failure. Although it is suspected that the incidence of heart failure is increasing, particularly in the elderly population, this isn't reflected in the mortality data because of the way it is coded on ICD.

[20] Cowie MR, Wood DA, Coats AJS, Poole-Wilson PA, Suresh V, Sutton GC. Incidence and aetiology of heart failure. A population-based study. *European Heart Journal* 1999. 20 (6); 421-428 (http://eurheartj.oxfordjournals.org/cgi/content/abstract/20/6/421)

Table 5 - Number on General Practice Quality and Outcomes Framework Coronary Heart Disease Registers by year

Year	Northern Ireland	
	Prevalence /1000 pt	No. on Register
2004/05	41.71	74,921
2005/06	42.29	75,988
2006/07	41.96	76,126

Source: Quality and Outcome Frameworks PCAS/DHSSPSNI

Table 6 - Number on General Practice Quality and Outcomes Framework Heart Failure and Atrial Fibrillation Registers

Disease Area 2006/07	NI	
	Prevalence /1000 pt	No. on Register
Heart Failure 1*	8.18	14,847
Heart Failure (LVD)**	3.92	7,116
AF	12.52	22,722

Source: Quality and Outcome Frameworks PCAS/DHSSPSNI

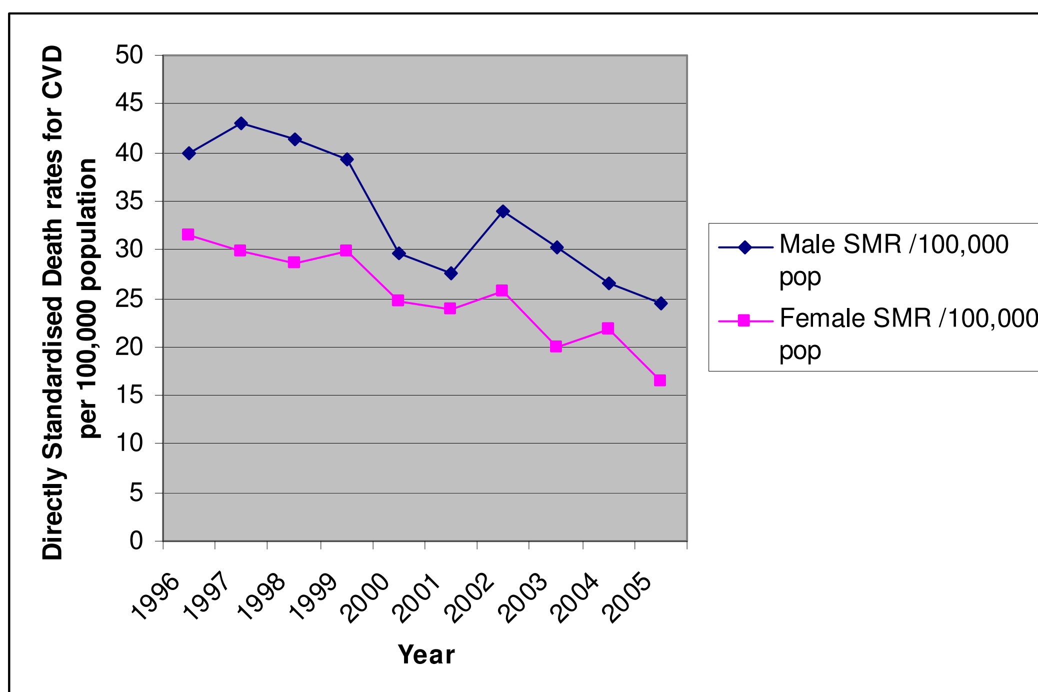
*the practice can produce a register of patients with heart failure

**Heart Failure (due to Left Ventricular Dysfunction) – the percentage of pts with a current diagnosis of heart failure due to LVD are currently treated with an ACE inhibitor Angiotensin Receptor Blocker, who can tolerate therapy and for whom there is no contraindication

Cerebrovascular Disease

A stroke is a localised neurological deficit with a vascular cause, lasting longer than 24 hours. It is usually due to either a blockage of the blood vessels to the brain, or by a bleed into the brain. The risk factors already described for CHD are associated with an increased risk of stroke. A transient ischaemic attack (TIA) causes similar symptoms as a stroke, but lasts less than 24 hours. This is a strong indicator of the risk of a more serious stroke.

Figure 9 - Directly standardised death rate for Stroke in Northern Ireland in those aged 15-74 years, per 100,000 population (Annex 2).



Source: Derived from the Register General Northern Ireland (NISRA) Mortality statistics and Home population estimates.

Figure 9 indicates that deaths from stroke are decreasing in Northern Ireland. There are some concerns that the real numbers of deaths from strokes are not being recognised, but this downward trend is also occurring in other regions. Despite the decreasing number of deaths from stroke, statistics for England

show that the case fatality rate from a stroke has remained constant over the period 1992 – 2002, at around 24%[21].

Annexes 4 and 5 show the response from Northern Ireland surveys to the questions about whether respondents have ever been advised that they have had a stroke. The graphs show a clear association between stroke and increasing age and a higher risk among men. In General Practice, under the QOF, registers are kept of the patients with stroke or TIA (Table 7), which allows a calculation of the prevalence (per 1000 patients) on the registers.

Table 7 - Number on General Practice Quality and Outcomes Framework Stroke Registers by year

Year	Northern Ireland	
	Prevalence /1000 pt	No. on Register
2004/05	14.14	25,402
2005/06	15.66	28,142
2006/07	16.19	29,376

Source: Quality and Outcome Frameworks PCAS/DHSSPSNI

Peripheral Vascular Disease

Atheroma development can also affect the blood vessels in the rest of the body – resulting in peripheral vascular disease (PVD). The risk factors for PVD are those already considered. Addressing the risk factors is essential to prevent the development of PVD, or minimise harm if it has already developed.

Intermittent claudication is a pain in the calf which develops on walking and is relieved by rest. In most cases it is caused by atherosclerosis narrowing the blood vessels which supply blood to the legs. A number of surveys in the 1980s and 1990s assessed PVD, and found similar results. Under the age of 55 years, intermittent claudication is rare, but the prevalence increases

[21] Report by the Comptroller and Auditor General. Reducing Brain Damage: Faster Access to better stroke care. National Audit Office. Department of Health. HC452 Session 2005-2006. (http://www.publications.parliament.uk/pa/cm200506/cmselect/cmpubacc/911/911.pdf)

steeply to around 5% of those over 55 years[22]. There is also an association with socio-economic group. The prevalence was found to be 3.6% in Class I and 5.9% in Classes IV & V[23].

Critical Limb Ischemia is a severe obstruction of the arteries which seriously decreases blood flow to the extremities (hands, feet and legs) causing severe pain (at rest) and even skin ulcers or sores. The incidence has been estimated at 500 – 1000 per million population per year.

The aorta is the major blood vessel bringing blood from the heart to the body. If there is a progressive weakening of the wall of the aorta, it begins to 'balloon'. This is called an aneurysm. It will grow larger and eventually rupture (usually fatal) if it is not diagnosed and treated. The prevalence of symptomless abdominal aortic aneurysm (AAA) is unknown, but ultrasound screening surveys have estimated that about 5% of men aged 65 to 74 years have an aneurysm 3 cm or greater. The prevalence in women is much lower (M:F 3:1). A study in Swansea estimated the annual incidence of rupture of AAA to be 17 per 100,000 population. Of these 60% die outside the hospital, and of those that make it to hospital, over half died during admission.

Renal Disease

The kidneys are responsible for 'filtering' blood to remove waste products and water from the body. In chronic kidney disease (CKD), the kidneys gradually stop functioning efficiently. Using the Glomerular Filtration Rate (GFR) as a measure of how the kidneys are performing, CKD is classified from stage 1 to 5 (Table 8). CKD usually refers to stages 3 to 5.

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[22] Fowkes G. Peripheral vascular disease. In Stevens A, Raftery J, Mont J, Simpson S (eds). *Health Care Needs Assessment: The Epidemiologically Based Needs Assessment Reviews: Third Series 2006.* Radcliffe Publishing Ltd 679-733.

[23] Fowkes FGR, Housley E, Cawood EHH, Macintyre CCA, Ruckley CV, Prescott RJ. Edinburgh Artery Study: Prevalence of asymptomatic and symptomatic peripheral arterial disease in the general population. *Int J Epidemiol* 1991;20:384-92. (http://ije.oxfordjournals.org/cgi/content/abstract/20/2/384)

Table 8 - Classification of Chronic Kidney Disease by US K/DOQI group[24]

Stage	Description
1	Normal: GFR >90mL/min/1.73m^2 with other evidence of chronic kidney damage
2	Mild impairment: GFR 60-89 mL/min/1.73m^2 with other evidence of chronic kidney damage
3	Moderate impairment: GFR 30-59 mL/min/1.73m^2
4	Severe impairment: GFR 15-29 mL/min/1.73m^2
5	Established renal failure GFR < mL/min/1.73m^2 or on dialysis

The crude prevalence rate of laboratory detected CKD (stage 3-5) in Northern Ireland has been estimated at 3.69%[25] in 2001/2. In general practice in 2006/7 for the first time under QOF, the practices have been asked to produce a register of patients aged 18 years and over, with CKD (Stage 3 to 5 CKD). Table 9 shows the total number on the register and the prevalence. This is a new register and the results must be viewed with caution until validated.

Table 9 - Number on General Practice Quality and Outcomes Framework Chronic Kidney Disease Register for 2006/07

Year	**Northern Ireland**	
	Prevalence /1000 pt	**No. on Register**
2006/07	30.24	41,852

Source: Quality and Outcome Frameworks PCAS/DHSSPSNI

[24] National Kidney Foundation. K/DOQI clinical practice guidelines for chronic kidney disease: evaluation, classification and stratification. *Am J Kidney Disease* 2002;39 (Suppl 2): S1-246. (http://www.kidney.org/professionals/kdoqi/guidelines_ckd/toc.htm)
[25] Quinn MP, Rainey A, Cairns KJ, Marshall AH, Savage G, Kee F, Maxwell AP, Reaney E, Fogarty DG. The practical implications of using standardized estimation equations in calculating the prevalence of chronic kidney disease. *Nephrol Dial Transplant 2007.* (http://ndt.oxfordjournals.org/cgi/content/abstract/gfm599v1)

Congenital Heart Disease

Congenital Heart Disease (CoHD) describes the spectrum of malfunctions of the heart and great blood vessels present at birth, ranging in severity from uncomplicated defects to complex abnormalities with potentially serious consequences[26]. It is the most commonly occurring major congenital abnormality, with a prevalence of approximately 0.8 per 1000 live births. Assuming stable birth prevalence rates (number of new cases of CoHD per 1000 births per year) and rising birth rates, the overall incidence of CoHD is set to rise slightly over the coming years. In 2005, it was estimated that 179 children were born with CoHD[27].

Over the past 30 years improvements in medical and surgical treatments have transformed the outcome for affected children. It is estimated that 90% of children born with major cardiac defects now survive into adulthood. The prevalence of CoHD will continue to rise as treatments become more successful and population growth due to inward migration continues. Based on figures from the year 2000, an increase of between 15% and 25% in the number of adults with CoHD has been predicted for year 2010 (using the modelling adopted by the Department of Health in England and the British Cardiac Society Working Party on Grown Up Congenital Heart Disease[28]).

Complex disease makes up approximately one third of all CoHD, and the number of affected adults is estimated to increase by 50%. Patients are normally considered for transfer from Paediatric Cardiology clinics to Adult Congenital Heart disease (ACHD) clinics between the ages of 14 and 17 years. In Northern Ireland the number of patients attending ACHD clinics is currently increasing by approximately 80 -100 patients per year (personal communication) with an increasing trend.

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[26] MacMahon B, McKeown T, Record RG. The incidence and life expectation of children with congenital heart disease. *Heart* 1953;15:121-129. (http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=479477)

[27] Northern Ireland Statistics and Research Authority http://www.dhsspsni.gov.uk/births2005.pdf accessed 13/09/2007

[28] Armstrong B. Adults with Congenital Heart Disease: Multiple needs of a fast growing cardiac patient group within Northern Ireland. Cardiovascular Thoracic Division Business Proposal, Royal Victoria Hospital, Belfast, 2006.

Annex 1

Rates of deaths due to cardiovascular disease by social class (NS-SeC) to persons aged 16-74 across Northern Ireland during 2005

Rates of deaths due to cardiovascular disease by social class (NS-SeC) to persons aged 16-74 across Northern Ireland during 2005

NS-SeC	No. of deaths	Population (16-74) from 2001 Census	Crude rate per 1,000 pop.	SDR per 100,000 population	
				Male	Female
Higher managerial	62	69,973	0.9	8.73	1.81
Lower managerial	111	229,609	0.5	13.35	5.43
Intermediate	103	131,679	0.8	10.95	6.42
Small employers	140	103,648	1.4	22.42	1.48
Lower supervisory	171	104,088	1.6	22.93	6.09
Semi-routine	267	183,131	1.5	32.34	12.85
Routine	301	193,187	1.6	37.31	13.67
Never worked & long term unemployed	37	77,975	0.5	3.08	3.13
Not classified	138	93,789	1.5	3.08	19.76
Total	1,330	1,187,079	1.1	154.19	70.65

Source: Derived from Registrar General Northern Ireland (NISRA) Mortality Statistics and Home Population Estimates
CVD: ICD codes – I10-I15, I20-I25, I50, I60-I69, I70-I79.
NB from 2005, housewives who had previously been categorised by their husbands' social class were coded into not classified

Annex 2

Directly standardised death rate in Northern Ireland since 1996 for selected causes in those aged 15 - 74 years, per 100,000 population.

MALES

Cause	ICD09 Codes	ICD10 Code	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Ischaemic heart disease	410-414	*I20 - I25*	211.7	205.6	188.0	179.7	154.5	140.9	134.1	120.6	119.9	107.9
Heart failure	428	*I50*	6.2	7.1	6.1	8.1	4.9	6.5	7.0	4.8	3.1	3.8
Stroke (CVD)	430-438	*I60 - I69*	39.9	43.0	41.3	39.4	29.6	27.5	34.0	30.2	26.5	24.5
Diabetes	250	*E10 - E14*	2.2	4.6	2.7	4.9	5.4	4.1	9.4	9.1	8.6	6.3
Hypertensive disease	401-405	*I10 - I15*	3.2	2.9	3.3	3.1	2.4	1.9	1.8	2.8	3.4	2.2
Peripheral vascular	440-448	*I70 - I79*	10.9	11.9	11.6	7.7	11.7	10.8	11.1	10.3	8.4	8.9
Renal disease	580-589	*N00-N19*	4.0	3.4	3.7	2.9	3.8	3.4	4.7	2.5	2.8	3.5
All causes	*001-E999*	*A00-Y98*	*689.6*	*675.5*	*655.0*	*644.6*	*599.5*	*575.2*	*578.4*	*543.2*	*539.6*	*526.8*

FEMALES

Cause	ICD09 Codes	ICD10 Code	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Ischaemic heart disease	410-414	*I20 - I25*	81.8	74.9	68.8	65.0	57.3	54.3	49.8	40.7	41.2	38.8
Heart failure	428	*I50*	5.5	5.2	5.1	5.2	5.0	4.5	3.8	3.8	2.6	2.6

Stroke (CVD)	430-438	*I60 - I69*	31.4	29.9	28.7	29.8	24.6	23.9	25.7	19.9	21.8	16.5
Diabetes	250	*E10 - E14*	2.4	2.7	2.3	2.2	1.5	3.8	5.0	4.2	3.9	4.6
Hypertensive disease	401-405	*I10 - I15*	2.2	2.7	1.7	1.1	1.4	1.8	1.2	2.0	1.0	2.2
Peripheral vascular	440-448	*I70 - I79*	5.0	5.1	6.2	3.4	4.0	3.0	3.1	2.7	4.9	2.9
Renal disease	580-589	*N00-N19*	2.7	3.1	2.1	2.9	1.6	2.9	3.5	3.1	2.7	2.1
All causes	*001-E999*	*A00-Y98*	*405.7*	*381.7*	*371.6*	*374.0*	*370.0*	*346.3*	*343.6*	*328.9*	*328.4*	*306.2*

Source: Derived from the Registrar General Northern Ireland (NISRA) Mortality statistics and Home population estimates. All rates are standardised to the revised 2001 Home mid year estimate.

Annex 3

Energy and Nutrient Intake by Country (average April 2003 to March 2006) from Expenditure and Food Survey 2005/06

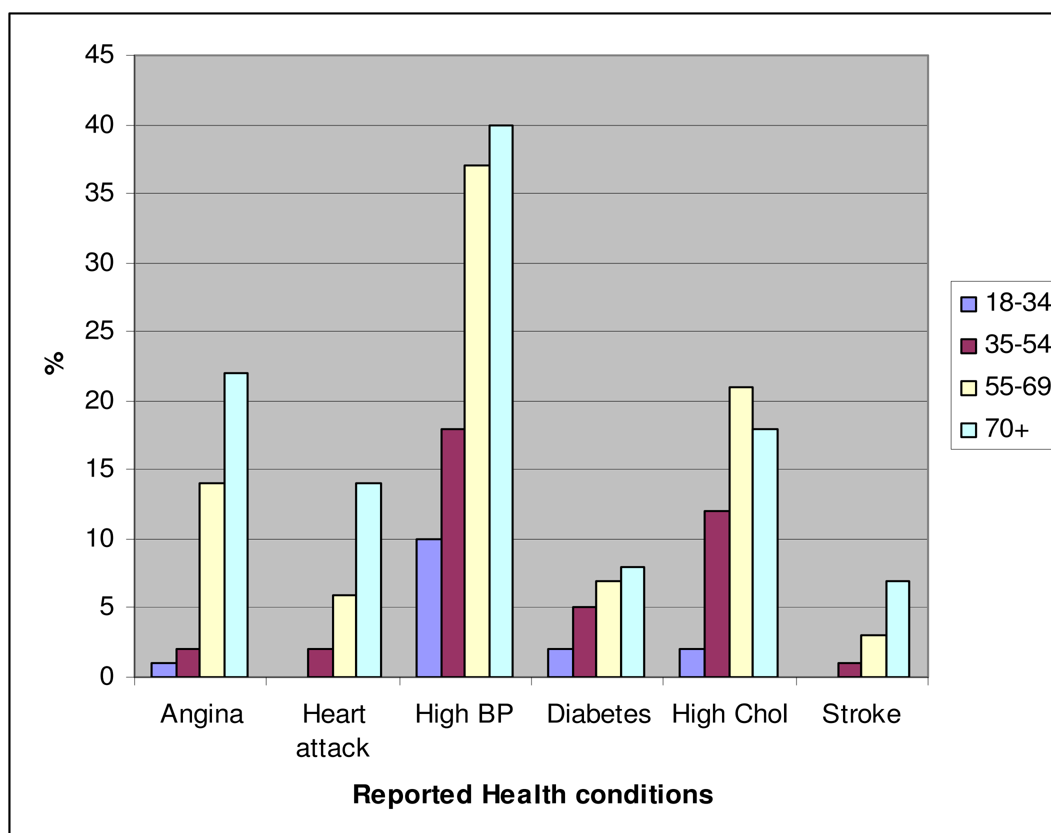
	England	**Wales**	**Scotland**	**NI**
No. of households	16,199	1,050	1706	1,676
Energy (Kcal/day)	2357	2413	2355	2393
Total protein (g)	81.3	83.3	80.2	82.0
Fat (g)	97	99	96	98
% of macronutrients	*38.2%*	*38.2%*	*38.1%*	*37.8%*
Saturated fats (g)	37.1	38.2	37.9	38.3
% of macronutrients	*14.7%*	*14.7%*	*15.0%*	*14.8%*
Carbohydrate (g)	289	295	291	300
Total sugars (g)	135	142	137	132
Non-milk extrinsic sugars (g)	89	96	93	88
Sodium (g)	3.07	3.19	3.22	3.19
Sodium (as a % of weighted reference nutrient intake)	*197%*	*197%*	*203%*	*217%*
* excludes sodium from table salt				

Source: Office for National Statistics. Expenditure and Food Survey 2005/06

Annex 4
Northern Ireland Health and Lifestyle Survey 2002

Designed to yield a representative sample of men and women aged 18years + living in Northern Ireland. The 2002 Register of Electors was used as the sampling frame and 6,500 adults were randomly sampled from it. The questionnaire was a postal survey with telephone follow-ups. There was a 39.5% response rate (2,500 returns).

Reported Health condition by age from Health and Lifestyle Survey (HALS) 2002



Age Groups	Angina	Heart attack	High BP	Diabetes	High Chol	Stroke
18-34	1	0	10	2	2	0
35-54	2	2	18	5	12	1
55-69	14	6	37	7	21	3
70+	22	14	40	8	18	7

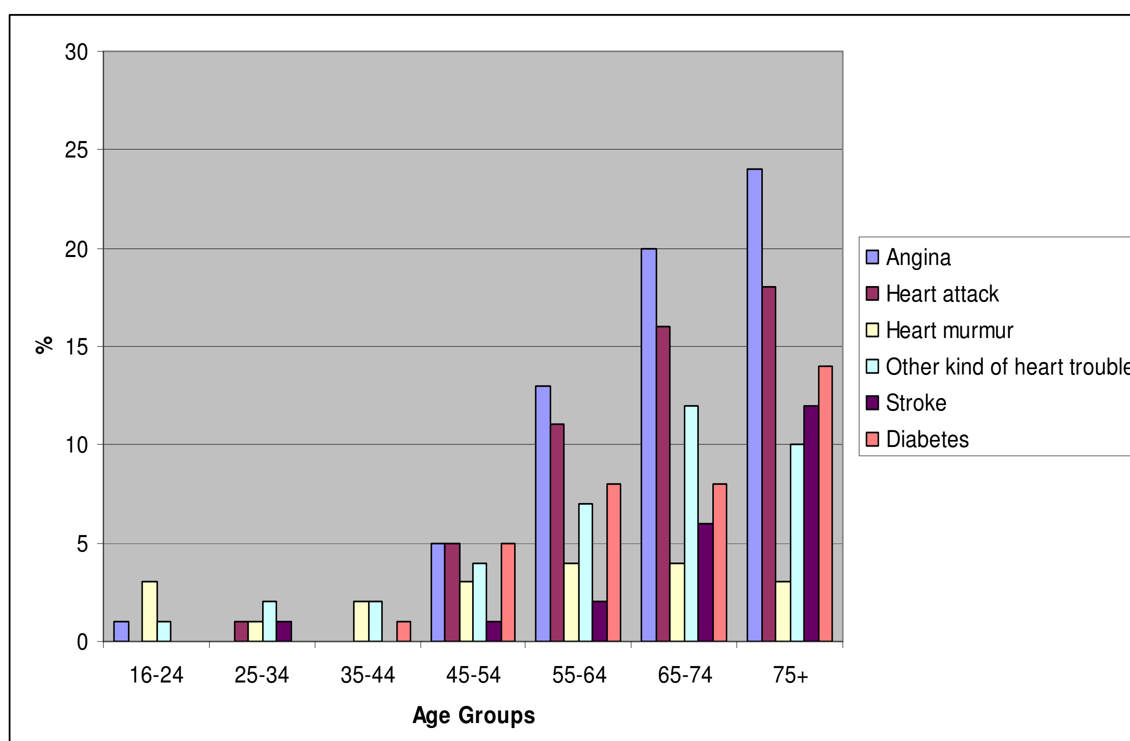
Source: Health Promotion Agency for Northern Ireland

Annex 5

Northern Ireland Health and Wellbeing Survey

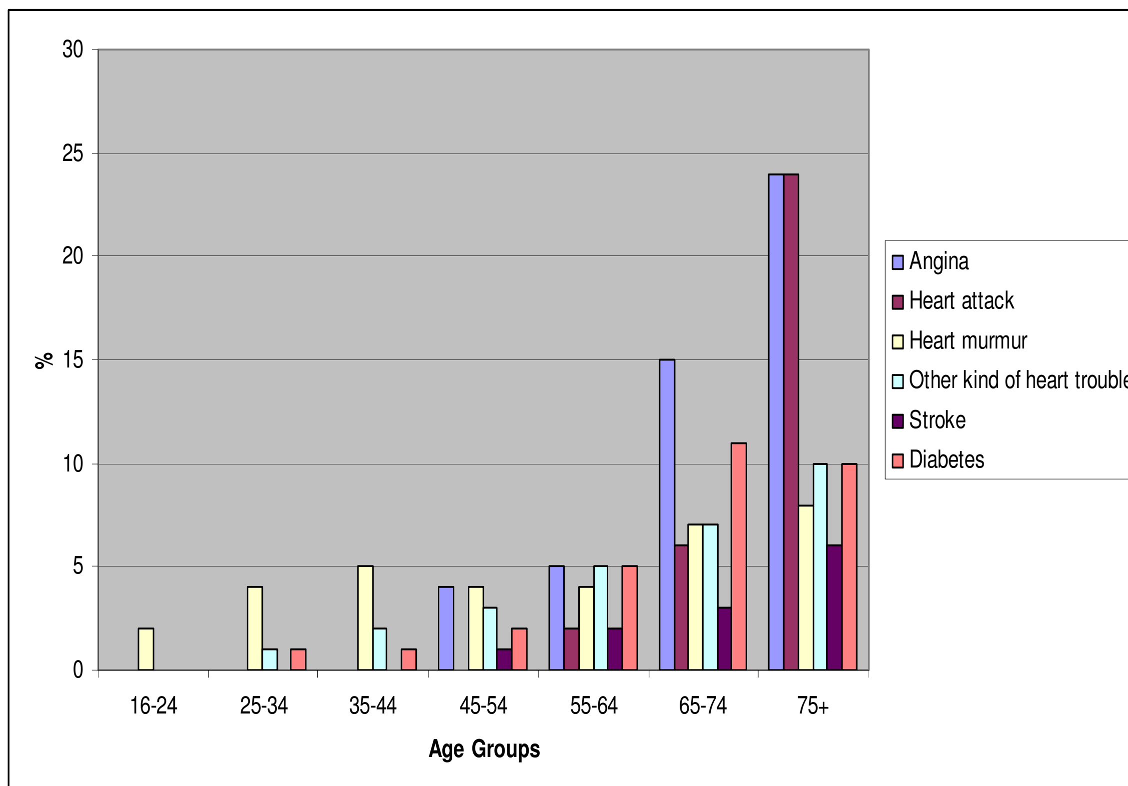
The Health and Social Wellbeing Surveys in 2005/06 and 2001/02 were based on a systematic random sample of 5,000 addresses drawn from the Land and Property Services Agency's property database. The LPSA addresses were sorted by district council and ward, so the sample was effectively stratified geographically. Fieldwork for the 2005/06 survey was spread over a one year period from February 2005 to March 2006. Interviews were sought of all adult members (those aged 16 and over) of eligible addresses to yield a representative sample across Northern Ireland.

Ever been told by a doctor that you have a condition by age for men from the NIHWBS 2005/06



Ever been told by a doctor that you have a condition by age for women from the NIHWBS 2005/06

Source: NI Health and Wellbeing Survey 2005/06



SECTION 4: STANDARDS FOR COMMUNICATION AND PERSONAL AND PUBLIC INVOLVEMENT

Effective communication with service users is essential to all aspects of the adequate planning and provision of health and social care services. Without effective communication, there can be no effective participation by service users in any partnership with Health and Social Care.

Communication will be of increasing importance as HSC strategies and targets are worked through. For example, it is essential to develop patient partnerships to achieve success in disease prevention and in the management of long-term conditions. It will be essential to involve service users in strategic change such as an increase in home and community-based service provision and reduced dependence on hospitals if such initiatives are to proceed at all.

Poor communication tends to be at the heart of most complaints, much negative experience and many negative perceptions and attitudes on the part of service users.

For many, good communication may be seen as to be assumed, or implicit. However, good communication cannot be presumed. It is a function requiring specific skill and training, dedicated resources, priority and focus to the same extent that clinical service provision, service planning and governance require these things.

For these reasons, a specific standard for communication should be part of all service frameworks. Making good communication part of the guiding ethos of the framework is unlikely to ensure that it is addressed with the same focus and priority as any of the individual targets.

It might be suggested that most of those charged with delivering on the frameworks will focus first on what it specifically requires them to do within their area of responsibility. A standard on communication requires action at the same level and in the same way.

A standard on personal and public involvement has also been developed.

Overarching standard 1:
All patients and carers should expect effective communication throughout their care journey

Rationale:
Effective communication has a significant impact on all aspects of care provision from disease prevention, to diagnosis, to self-management of long-term conditions. Poor communication is a significant factor in most complaints against HSC organisations.

Evidence:
Guidance on strengthening Personal and Public Involvement in Health and Social Care (DHSSPS, 2007) http://www.dhsspsni.gov.uk/hsc__sqsd__29-07.pdf

Good Medical Practice (GMC, 2006)
http://www.gmc-uk.org/guidance/good_medical_practice/index.asp

Health and Personal Social Services (Quality, Improvement and Regulation) (Northern Ireland) Order 2003
http://www.dhsspsni.gov.uk/hpss_qi_regulations.pdf

Responsibility for delivery / implementation

Commissioners
Trust Chief Executives
Senior operational and clinical teams within Trusts
Primary and Community Care Clinicians

Quality Dimension

Safe
Good communication with patients/clients/carers enables adequate understanding of, consent to and compliance with treatment and care and contributes to audit and monitoring.

Timely
Good communication helps to deliver and sustain appropriate patient/client/carer access to services and a clear understanding of the role and responsibilities of the service user in achieving health and care outcomes.

Efficient/ Effective

Health and care outcomes themselves are enhanced through improved patient partnership and dialogue, including, but not limited to - diagnosis, self-referral, health promotion, disease prevention and management of long term conditions.

Equitable

As a universal requirement, good communication helps to ensure input by all service users on all aspects of the services they receive assisting in the highlighting of gaps in provision and areas for improvement.

Patient Centred
Patient centredness cannot be delivered or claimed in the absence of good communication with service users. Good communication is a prerequisite of patient centredness.

Performance Indicator	Data source	Anticipated Performance Level	Date to be achieved by
HSC organisational communication strategies should show evidence of direct patient / client feedback as part of regular audit of their effectiveness.	HSC communication strategies.	90%	March 2009
HSC organisational complaints reports should show evidence of action where communication is the primary factor	HSC complaints records		
HSC organisational strategies for clinical and social care governance should show evidence that direct patient feedback is included in relevant audit and monitoring	HSC CSCG strategies		

Overarching standard 2:
All patients, carers and the public should have opportunities to engage actively and meaningfully with Health and Social Care organisations at all levels.

Rationale:
Actively involving patients and the public in the planning and provision of health care in general has been noted to bring many advantages to both those who receive and those who provide care. These include:

- Increased patient satisfaction and reduction in anxiety with positive health effects
- Improved communication between service users and professional staff
- Better outcomes of care with greater accessibility and acceptability of services
- Bridging of the gap between those who avail of services and those who provide care
- Recognition of the expertise of the recipient of care developed through experience

Evidence:
Guidance on strengthening Personal and Public Involvement in Health and Social Care (DHSSPS, 2007) http://www.dhsspsni.gov.uk/hsc__sqsd__29-07.pdf

Health and Personal Social Services (Quality, Improvement and Regulation) (Northern Ireland) Order 2003
http://www.dhsspsni.gov.uk/hpss_qi_regulations.pdf

A Healthier Future 2005-2025 (DHSSPS)
http://www.dhsspsni.gov.uk/show_publications?txtid=7282

Healthy Democracy (NHS National Centre for Involvement, 2006)
http://www.nhscentreforinvolvement.nhs.uk/index.cfm?content=90

Responsibility for delivery / implementation

Commissioners
Trust Chief Executives
Senior operational and clinical teams within Trusts
Primary and Community Care Clinicians

Quality Dimension			
Safe Personal and Public Involvement enhances governance at all levels through the routine inclusion of patient experience and the issues arising from this in the planning, delivery and monitoring of services. **Timely** Personal and Public Involvement ensures that the level and means of engagement with service users and the public are appropriate to the needs of the service and of service users. **Efficient/ Effective** The development of partnerships with service users and the public contributes to Health and care outcomes generally. It is a prerequisite of success where patient and public participation is the decisive factor in achieving the outcome – for example, in health promotion and disease prevention. **Equitable** Well developed and widespread Personal and Public Involvement contributes to equitable services through the active engagement of service users and the public in planning, priority setting and decision-making. **Patient Centred** Personal and public involvement is a necessity for the successful development of patient centred services.			
Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
HSC Organisational Strategies and for Patient and Public Involvement	HSC Organisational Monitoring Reports	90%	March 2009

SECTION 5: STANDARDS FOR HEALTH IMPROVEMENT / PREVENTION

The World Health Organisation (WHO) has identified certain key factors, which they propose may have a significant impact on health. These include the physical, social and economic environment, such as housing, air quality, income etc as well as individuals/families/communities/cultural behaviours and characteristics. Many of these 'determinants of health' are not under the direct control of the individual and, therefore, one person's health may differ from another's depending upon their circumstances.

Addressing these wider determinants of health and social wellbeing will ultimately have a major impact on the health of our population. However, it will require action across all Departments not just Health. Investing for Health, the Public Health Strategy for Northern Ireland 2002, recognised that 'health improvement is largely about acting before people need medical care and that it requires action right across Government and beyond in addressing a broad range of economic, social and environmental policy issues.'

In order to influence policy which will impact on the wider determinants of health and wellbeing, all health care providers should work with other sectors and act as advocates for health. The nature of this work does not fit easily into the framework template and so has not been included as a standard, but it is clearly one of the most important actions within the health service in terms of potential to improve health.

This framework sets standards and performance indicators for the health service, the latter to allow us to monitor progress against the standards. Within the field of health promotion there are many potential areas of work, but in terms of cardiovascular disease we have concentrated on the areas of smoking prevention and cessation, nutrition, physical activity and obesity.

The development of the health improvement standards included in this document was challenging. The standards were developed for the Framework for Cardiovascular Health and Wellbeing, but also had to be generally applicable to subsequent Frameworks, such as Respiratory and Cancer. There have been difficulties both with

applying the framework template and with data availability for monitoring outcomes. Following a lengthy process we hope that meaningful and effective standards and performance indicators have been developed.

Overarching standard 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.

Rationale:
Smoking is one of the recognised risk factors for CVD, hypertension and renal disease. Its effects are related to the amount of tobacco smoked daily and the duration of smoking.

Stopping young people from starting to smoke is crucial to reducing smoking levels, as evidence suggests that 82% of adult smokers started in their early teens (Tobacco Action Plan). The Young People Behaviour and Attitude Surveys in 2000 and 2003, have shown that the rates of boys smoking every day has remained constant (25.2% and 23.9% of sample) whilst girls who smoke every day has increased (24.9% and 30.6% of sample).

Current interventions have not been shown to stop recruitment to smoking by young people. There is some evidence that 'The Smoke Busters' programme delays the age of onset. NICE guidance on smoking and young people is expected in July 2008 and this standard may need revised at that time.

Evidence:
A 5 year Tobacco Action Plan was produced in 2003, detailing a comprehensive programme of action to reduce the harm caused by tobacco use http://www.dhsspsni.gov.uk/publications/2003/tobaccoplan.pdf

The prevention of recruitment of young people to smoking was identified as a key area of action in the Tobacco Action plan

Fit Futures http://www.investingforhealthni.gov.uk/fitfutures.asp

A consultation on NICE 'Preventing the uptake of smoking by children – review of effectiveness' is currently underway
http://www.nice.org.uk/nicemedia/pdf/PreventingSmokingChildrenEvidence%20ReviewFullReport.pdf

Responsibility for delivery / implementation
Boards
Trusts
HPANI
GPs/Primary Care/Pharmacy
Voluntary Agencies

Quality Dimension

Equitable
Tobacco education should be accessible to all young people in a range of media settings.

Patient Centred
Lifeskills development programmes for young people should include input on tobacco as well as drugs, alcohol and solvents.

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of 12, 14 and 16 year old boys and girls who smoke.	Establish baseline data from Young People Behaviour and Attitude Survey (2007) in 12, 14 and 16 year olds Survey repeated 3 yearly* * subject to available resource	Establish Baseline 5% decrease on baseline for boys Maintain at baseline for girls	2008 2011/12 2011/12

Overarching standard 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 signposting to specialist cessation services.

Rationale:
Smoking is one of the recognised risk factors for CVD, hypertension and renal disease. Its effects are related to the amount of tobacco smoked daily and the duration of smoking.

Evidence:
A 5 year Tobacco Action Plan was produced in 2003, detailing a comprehensive programme of action to reduce the harm caused by tobacco use http://www.dhsspsni.gov.uk/publications/2003/tobaccoplan.pdf

NICE produced guidance on brief interventions and referral for smoking cessation in primary care and other settings in March 2006, which represents best practice http://guidance.nice.org.uk/PHI1/guidance/pdf/English

NICE Draft Guidance in November 2007 on 'Smoking Cessation Services, including the use of pharmacotherapies, in primary care, pharmacies, local authorities and workplaces, with particular reference to manual working groups, pregnant women who smoke and hard to reach communities http://www.nice.org.uk/nicemedia/pdf/Smoking_Cessation_Programme-Draft_Guidance-11_5_07.pdf

Responsibility for delivery / implementation

Boards
Trusts
HPANI
GPs/Primary Care/Pharmacy

Quality Dimension
Patient Centred People who are ready to stop smoking should be able to access specialist smoking cessation services in a choice of settings. **Effective, Efficient** Brief Intervention Training for Health and Social Care Staff will ensure clients receive consistent and timely advice on smoking cessation. **Equitable, Effective** Specialist smoking cessation services will be delivered to regional quality standards ensuring equitable service provision.

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Number of people attending specialist smoking cessation services.	Elite Monitoring System	Baseline data – number of people attending	2007/08
		Maintain 2007/08 baseline levels	2008/09
		4% increase in uptake	2009/10
		4% increase in uptake	2010/11
Number of clients quitting at 4 and 52 weeks.	Elite Monitoring System	Baseline data	2007/08
		Maintain 2007/08 baseline levels	2008/09
		2% increase in number of quitters (4% increase in uptake of services)	2009/10
		2% increase in number of quitters (4% increase in uptake of services)	2010/11

Overarching standard 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.

*inactive refers to all people who do not meet the recommended level of physical activity
**walking briskly, walking downstairs, dancing, biking, swimming, gardening, housework eg washing floors
(http://www.paho.org/English/HPP/HPN/whd2002-factsheet2.pdf)

Rationale:
National Institute for Health and Clinical Excellence (NICE) has fully endorsed the importance of physical activity as a means of promoting good health and preventing disease. Lack of physical activity is associated with an increase in the risk of coronary heart disease.

Evidence:
WHO Global Strategy on Diet, Physical Activity and Health
http://www.who.int/dietphysicalactivity/strategy/eb11344/strategy_english_web.pdf

National Institute for Health and Clinical Excellence (NICE) Public Health Intervention Guidance No.2 (2006) Four commonly used methods to increase physical activity: Brief intervention in primary care, exercise referral schemes, pedometers and community-based exercise programmes for walking and cycling
http://www.nice.org.uk/nicemedia/pdf/word/PH002_physical_activity.doc

Fit Futures http://www.investingforhealthni.gov.uk/fitfutures.asp

Responsibility for delivery / implementation

Boards
Trusts
HPANI
GPs/Primary Care/Pharmacy

Quality Dimension

Effective, Efficient
Appropriate physical activity brief intervention training should be provided for Health and Social Care Staff to ensure clients receive consistent and timely advice.

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of people being asked and advised about their physical activity.	Audit ?Development of a DES or adjustment to long term conditions DES as per recommendation 2 of NICE guidance	Establish baseline Performance level to be determined once baseline established	2009/10
Percentage of people advised who achieve the recommended level of physical activity	Audit ?Development of a DES or adjustment to long term conditions DES as per recommendation 2 of NICE guidance	Establish baseline Performance level to be determined once baseline established	2009/10

Overarching standard 6:
People should be provided with healthy eating support and advice, appropriate to their needs, in a range of settings.

Rationale:
Reducing fat and salt in the diet and increasing fruit and vegetable consumption is associated with a reduction in the risk of cardiovascular disease and hypertension.

Evidence:
WHO Global Strategy on Diet, Physical Activity and Health
http://www.who.int/dietphysicalactivity/strategy/eb11344/strategy_english_web.pdf

Fit Futures http://www.investingforhealthni.gov.uk/fitfutures.asp

Scientific Advisory Committee on Nutrition recommendations on healthy eating for the general population http://www.sacn.gov.uk/reports/

Responsibility for delivery / implementation

Boards
Trusts
HPANI
GPs/Primary Care/Pharmacy

Quality Dimension

Effective
All stakeholders should promote a consistent nutrition message by using the Eat Well – getting the balance right plate model.

Effective
Training and education should be available for child carers / group care workers.

Equitable
Support and advice to develop skills for healthy eating in a range of settings should be available.

Patient centred
Schools / hospitals / residential care and nursing homes should be supported in the implementation of nutrition standards.

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of nutrition advisers using the Eat Well / Getting the Balance Right Plate model	Audit to establish baseline	Establish baseline Performance level to be determined once baseline established	2009/10
Percentage of people eating the recommended 5 pieces of fruit or vegetables a day.	Health and Social Wellbeing Survey Repeated 5 yearly	Baseline data 10% increase on 2005/06 baseline	2005/06 2010/11

Overarching standard 7: Health and social care 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.
Rationale: As body weight increases, so does the risk of cardiovascular disease, diabetes and hypertension. **Evidence:** The DHSSPS established a task force on childhood obesity which published 'Fit Futures' – a framework for action in 2006 http://www.investingforhealthni.gov.uk/fitfutures.asp National Institute for Health and Clinical Excellence (NICE) have produced 'Evidence based guidance on the prevention, identification and management of overweight and obesity in adults and children http://www.nice.org.uk/CG43
Responsibility for delivery / implementation
Boards Trusts HPANI GPs/Primary Care/Pharmacy

Quality Dimension
Effective Training should be facilitated for early years providers to assist them in implementing physical activity and nutrition programmes. **Patient Centred** DHSSPS should develop childcare standards which include the need to provide opportunities for daily physical activity and a requirement to meet nutrition standards. Health and Social Care should work with employers to provide opportunities for staff to eat a healthy diet and be physically active. The public should be provided with information and support on how to eat healthily and engage in health enhancing physical activity for the prevention of obesity. **Equitable** Health and Social Care staff will work with partners to ensure that schools have and implement policies which help children and young people to maintain a healthy weight, eat a healthy diet and be physically active.

Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of people who have a BMI of above 25.	Health and Social Wellbeing Survey 2005/06 Survey repeated 5 yearly.	Baseline data 2% decrease on baseline	2005/06 2010/11
Percentage of P1 children who have a BMI of above 25	Child Health System	Establish baseline Performance level to be determined once baseline established	2009/10

Overarching standard 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.

Rationale:

Excessive alcohol consumption is associated with many diseases such as cancers (oesophagus, liver etc), cirrhosis of the liver and pancreatitis. There are also direct effects of alcohol and an increased association with injuries and violence. Excessive alcohol consumption can affect the cardiovascular system, and is associated with high blood pressure, abnormal heart rhythms, cardiomyopathy and haemorrhagic stroke.

Evidence:

SIGN: The Management of harmful drinking and alcohol dependence in Primary Care http://www.sign.ac.uk/pdf/sign74.pdf

New Strategic Direction for Alcohol and Drugs (2006-2011) Consultation Document
http://www.dhsspsni.gov.uk/new_strategic_direction_for_alcohol_and_drugs_(2006-2011).pdf

Responsibility for delivery / implementation

Boards
Trusts
HPANI
GPs/Primary Care/Pharmacy

Quality Dimension

Effective, Efficient
Brief Intervention Training for Health and Social Care Staff will ensure clients receive consistent and timely advice on alcohol consumption.

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of people who receive Brief Intervention in Primary Care to reduce alcohol related risk	Could be included in the development of a cardiovascular DES.	Establish baseline Performance level to be determined once baseline established	2009/10

SECTION 6: STANDARDS FOR SPECIFIC CONDITIONS

6.1 HYPERTENSION

Hypertension (persistently high blood pressure) is one of the most common health problems in the United Kingdom. Although it rarely causes symptoms, the damage it does to arteries and the organs they supply results in significant morbidity and mortality and a considerable cost burden to the NHS, social care and the wider economy. Hypertension is one of the most important modifiable risk factors for coronary heart disease (the leading cause of premature death in the United Kingdom) and stroke (the 3rd leading cause). It is also an important contributor to chronic heart failure, chronic kidney disease and peripheral vascular disease. Therefore, hypertension is a key priority for prevention, detection and control, and effective management of hypertension is recognised as an essential component of national strategies for coronary heart disease, stroke, diabetes and chronic kidney disease. Effective management of hypertension also forms a key part of the general medical services targets.

A concerted and co-ordinated approach is required to develop and implement strategies and action plans, not only to identify and treat patients with hypertension, but also to promote healthy lifestyles and environments to prevent hypertension. Guidelines for the management of hypertension have recently been issued by the National Institute for Health and Clinical Excellence (NICE), British Hypertension Society and the Scottish Intercollegiate Guidelines Network. Prescribers in primary care are expected to achieve standards set out in the NICE guidance and should implement the NICE guidance for suitable patients. Despite isolated examples of good practice, prevention initiatives are thinly spread, detection is patchy and clinical protocols are often poorly followed. The prevention strand of the hypertension strategy should be based on healthy lifestyles and work in partnership with established local policies and programmes related to the wider determinants of health.

The standards set out below aim to enhance the quality of service for patients at risk of developing hypertension and those with established disease in order to reduce unacceptable variations in health and provision of services.

Overarching standard 9:
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.

Rationale:
High blood pressure is a one of the most important modifiable risk factors for a number of conditions including coronary heart disease, stroke, chronic kidney disease

Hypertension is frequently undiagnosed for many years by which time organ damage may have resulted

The rising prevalence of modifiable risk factors (e.g. dietary salt, obesity, physical inactivity and diabetes) for the development of hypertension and an ageing population means the prevalence will increase in the future.

NICE Hypertension Guidelines 2006 recommend that to identify hypertension (persistent raised blood pressure above 140/90mmHg) the patient should return on at least two subsequent clinics where blood pressure is assessed from two readings under the best conditions available.

The Faculty of Public Health and the National Heart Forum have produced Easing the Pressure: Tackling Hypertension which provides guidance to multiagency teams on how to develop local strategies for the prevention, detection and control of hypertension http://www.fph.org.uk

Evidence:
National Institute for Health and Clinical Excellence (NICE) Guidance on the Management of hypertension in adults in primary care (2006)
http://www.nice.org.uk/CG034

Guidelines for the management of hypertension, British Hypertension Society (2004) http://www.bhsoc.org/Latest_BHS_management_Guidelines.stm

Responsibility for delivery / implementation

Health and Social Care Commissioners and Providers
General Practitioners

Quality Dimension			
Timely Early identification and management of hypertension will reduce the incidence of long term organ damage **Effective** Systematic monitoring of the population to detect hypertension will reduce the risks of patients being undetected and therefore untreated **Equitable** Applied across the general population			
Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of patients aged over 45 years who have had a recorded blood pressure on their GP record within the past 5 years	QoF	70% 80% 90%	2008/09 2009/10 2010/11

Overarching standard 10:
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 mmHg.

Rationale:
High blood pressure is a major risk factor for a number of conditions including coronary heart disease, stroke, and chronic kidney disease. In Northern Ireland 19% of men and 27% of women are reported as being diagnosed with high blood pressure. The rising prevalence of modifiable risk factors (e.g. dietary salt, obesity, physical inactivity and diabetes) for the development of hypertension and an ageing population means the prevalence will increase in the future. It is estimated that in the UK approximately 60-70% of all men and 50% of all women are untreated

Evidence:
National Institute for Health and Clinical Excellence (NICE) Guidance on the Management of hypertension in adults in primary care (2006)
http://www.nice.org.uk/CG034

Guidelines for the management of hypertension, British Hypertension Society (2004) http://www.bhsoc.org/Latest_BHS_management_Guidelines.stm

Responsibility for delivery / implementation

Primary and Secondary Care

Quality Dimension
Timely Reduction in blood pressure is associated with a reduced risk of developing a cardiovascular event **Effective** All treatment will be provided in line with evidence based practices **Efficient** Evidence attests to the clinical and cost-effectiveness of lowering blood pressure **Equitable** All eligible patients would receive treatment **Patient Centred** All patients will be involved partners in their treatment

Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of patients with a target blood pressure of <140/90 mmHg	QoF	70% 80% 90%	2008/09 2009/10 2010/11

6.2 HYPERLIPIDAEMIA

Smoking, blood pressure and cholesterol account for 80% of premature coronary disease (Emberson et al. 2003[29]). CVD is rare in the absence of these factors. Blood cholesterol is closely related to risk of CVD and it is possible to reduce this risk through drugs, physical activity and dietary change. Trials have shown that statins are highly cost-effective drugs for the secondary prevention of CVD and cost-effective for primary prevention for those with a 10 year risk above 20% (RCGP 2007[30]).

A particularly vulnerable group to CVD are those with familial hypercholesterolaemia, a genetically linked condition which causes some people to have very high blood cholesterol levels. While the numbers in the population are small, patients with this condition have greatly increased risk, are often undiagnosed and effective management and treatment can help prevent or delay the onset of symptoms. It is preferable to diagnose people with this condition as early as possible, ideally in childhood.

Note: NICE are currently developing guidance on lipids including the identification of risk. This section of the framework will be subject to immediate review as soon as this guidance has been issued.

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[29] Emberson, JR, Whincup, PH, Morris, RW, Walker, M. Re-assessing the contribution of serum total cholesterol, blood pressure and cigarette smoking to the aetiology of coronary heart disease: impact of regression dilution bias. European Heart Journal 2003; 24(21):1903-1911.

[30] RCGP (2007) Cardiovascular risk assessment: the modification of blood lipids for the primary and secondary prevention of cardiovascular disease (Full guideline, consultation draft) National Collaborating Centre for Primary Care: London.

Overarching standard 11: 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.
Rationale: Familial hypercholesterolaemia (FH) is a genetically linked condition (autosomal dominant) with a prevalence of 1/500 in the population, which results in premature vascular disease. The majority of patients are probably undiagnosed and the identification and treatment of patients with FH with lipid lowering therapy reduces coronary artery disease mortality and morbidity. **Evidence:** European Guidelines on Cardiovascular disease prevention in clinical practice: Executive summary. Atherosclerosis: 2007; 194: 1 – 45 http://linkinghub.elsevier.com/retrieve/pii/S002191500700528X
Responsibility for delivery / implementation
LCGs and HSC trusts

Quality Dimension
Safe Lipid lowering therapy is safe with a low incidence of side effects. **Timely** All patients with definite or probable FH should be referred to a specialist lipid clinic in a timely manner. Early screening of first and second degree relatives should take place. **Effective** All treatment will be provided in line with evidence based practices. Lifestyle and lipid lowering treatments should be implemented to achieve in adults: cholesterol<5mmol/L, Low Density Lipoprotein (LDL) cholesterol <3mmol/L (with an ideal LDL cholesterol <2mmol/L) to reduce cardiovascular risk. **Efficient** The screening of relatives is an efficient and cost effective method of detecting affected family members. **Equitable** All patients should have access to specialist lipid clinic services regardless of where they live. **Patient Centred** All FH patients are provided with information on their condition, genetic implications, lifestyle advice and a primary / secondary prevention plan

Performance Indicator	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of the putative N Ireland FH population identified	There is a requirement for a regional benchmark survey to collate numbers of known FH patients. This survey should be linked to the establishment of a regional FH register	Establish regional register Establish baseline Performance level to be determined once baseline established	2009/10 2010/11
Percentage of adult FH patients attaining lipid targets of cholesterol <5mmol/L and LDL<3mmol/L		Establish baseline Performance level to be determined once baseline established	2009/10

6.3 DIABETES

Diabetes is a life-long condition that can impact upon almost every aspect of life – lifestyle, relationships, work, income, health, well-being and life expectancy.

The potential impact of diabetes includes –

- Reduced life expectancy. In Type 1 diabetes, life expectancy may be reduced by as much as 20 years and by as much as 10 years in Type 2 diabetes.
- Five time higher mortality rates from coronary heart disease.
- Three times higher risk of stroke.
- Additional risks in pregnancy, with higher rates of congenital malformations and higher perinatal mortality rates.
- Diabetes is the leading cause of renal failure, accounting for one in four people starting renal replacement therapy.
- The second most common cause of lower limb amputation.
- The leading cause of blindness in people of working age.

Effective management of diabetes increases life expectancy and reduces the risk of complications developing. High quality diabetes care requires not only the co-ordination and co-operation of the range of professionals who make up the multidisciplinary team but also self-management. The empowerment and involvement of the individual with diabetes is crucial.

Diabetes is a major risk factor for cardiovascular disease and it is therefore important to include standards for diabetes care in a service framework for cardiovascular health and wellbeing.

The 3 standards focus on diagnosis, the importance of the annual review to a defined standard delivered by an appropriately trained multidisciplinary team and the need to ensure access to structured education programmes and emotional and psychological support.

Overarching standard 12:
All people with diabetes should have an accurate diagnosis made.

Rationale:
Accurate diagnosis is essential to ensure appropriate treatment.

Type 2 diabetes may be present for several years before diagnosis and nearly half of those identified as having Type 2 diabetes already have complications. The rapid onset of Type 1 diabetes means only a small proportion of people remain undiagnosed.

Raising awareness of the symptoms and signs of diabetes among both health professionals and the public can help to ensure that people with diabetes are identified as early as possible.

Evidence:
WHO guidelines are the standard
http://www.who.int/diabetes/publications/Definition%20and%20diagnosis%20of%20diabetes_new.pdf

Responsibility for delivery / implementation

Primary Care
Trusts
Multidisciplinary Diabetes Teams
Community pharmacies

Quality Dimension

Safe
Diagnosis confirmed by appropriate laboratory tests.

Timely
Symptoms and/or signs recognised early and diagnosis made.

Effective
Accurate diagnosis leading to appropriate treatment

Efficient
Diagnostic tests carried out and not duplicated

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of people with a new diagnosis of diabetes confirmed by fasting blood sugar estimations or standardised Oral Glucose Tolerance Tests.	Sample of new diagnoses from QOF and Diamond checked with Biochemistry laboratory reports.	80% 90% 95%	2008/09 2009/10 2010/11

Overarching standard 13:
All patients with diabetes should have access to structured education programmes and emotional and psychological support. Services incorporating these elements will encourage partnership in decision making, support individuals in managing their diabetes and help them to adopt and maintain a healthy lifestyle.

Rationale:
The management of diabetes is complex, challenging and mainly focused on achieving and maintaining behavioural changes. The majority of diabetes care is self-care and therefore self-management is widely recognised as the bedrock of good diabetes care. Information, education and emotional support and psychological care are key to delivering effective self-management.

Evidence:
There is a wide range of guidance, research and policy documents on which best practice guidelines are based. These include:

National Institute for Health and Clinical Excellence (NICE) guidelines http://www.nice.org

CREST & Diabetes UK Report http://www.crestni.org.uk

SIGN Guidance http://www.sign.ac.uk

NHS Scotland, Diabetes Framework http://www.diabetesinscotland.org/diabetes/maintainPages/DownloadablePub.asp

National Diabetes Support Team http://www.diabetes.nhs.uk

The World Health Organisation http://www.who.int

Diabetes UK http://www.diabetes.org.uk

Responsibility for delivery / implementation

Primary Care Teams
Trusts
Multidisciplinary Diabetes Teams
Psychology Services

Quality Dimension
Safe Education and psychological support provided by appropriately trained staff **Timely** Education and psychological needs assessed at initial diagnosis and reviewed annually **Effective** Education through robust structured education programmes **Efficient** Education and psychological care needs form part of integrated planned services for diabetes **Equitable** Education and psychological support services available to all patients across Northern Ireland **Patient Centred** Emotional and psychological support and education engages meaningful involvement of the person with diabetes thereby facilitating optimal self management.

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of newly diagnosed patients in past year who have been provided with a structured patient education programme.	Sample of new diagnoses from QOF and Diamond checked with education programme attendances. Audit of structured diabetes education activity (RMAG).	40% 50% 60%	2008/09 2009/10 2010/11
Percentage of diabetes teams who have access to specialist psychology support		50% 60% 70%	2009/10 2010/11 2011/12

Overarching standard 14:
All patients with diabetes should have access to, at a minimum, an annual review to a defined standard by an appropriately trained multidisciplinary team.

Rationale:
Diabetes is a common, chronic condition which is increasing in the population. It can have a major impact on the physical, psychological and material wellbeing of individuals and their families, and can lead to complications such as heart disease, stroke, renal failure, peripheral arterial disease and blindness. Evidence shows that effective management of the condition increases life expectancy and reduces the risk of complications.

A range of evidence-based documents and guidelines set out the need for all people with diabetes to receive high-quality care throughout their lifetime. The importance of optimising the control of blood glucose, blood pressure and other risk factors for developing the complications of diabetes is also recognised. The multidisciplinary team approach is also acknowledged as important for delivery of optimal advice and care.

Evidence:
The documents and studies setting out this evidence include the National Institute for Clinical Excellence (NICE) clinical guidelines; Scottish Intercollegiate Guidelines Network (SIGN); National Service Framework for Diabetes (NSF) England; European Society of Cardiology (ESC) and European Association for the Study of Diabetes (EASD); UK Prospective Diabetes Study, Diabetes Control and Complications Trial (DCCT).

Additional information is provided on nutrition and footcare by documents such as The Implementation of Nutritional Advice for People with Diabetes produced by the Nutrition Subcommittee of the Diabetes Care Advisory Committee of Diabetes UK (2003)
http://www.diabetes.org.uk/Documents/Professionals/nutrition_guidelines.pdf

International Working Group on the Diabetic Foot and Practical Guidelines on the Management and Prevention of the Diabetic Foot 2007
http://www.iwgdf.org/index.php?option=com_content&task=view&id=28&Itemid=24

and the National Minimum Skills Framework for Commissioning of Foot Care Services for People with Diabetes, 2006
http://www.footindiabetes.org/Guidelines/NatMinSkillFramewkFootNov06.pdf

The National Screening Committee sets out the requirements for a comprehensive, quality assured diabetic retinopathy screening programme. http://www.nsc.nhs.uk/

Responsibility for delivery / implementation

Primary Care Teams
Trusts
Diabetes Team Community Services
Diabetes Team Hospital Services

Quality Dimension

Safe
Care delivered by appropriately trained multidisciplinary team

Timely
At a minimum annually, but more frequent if required

Effective
Care delivered in line with national evidence based targets

Efficient
Management /IT systems which support delivery of timely care, share information appropriately and help eliminate duplication

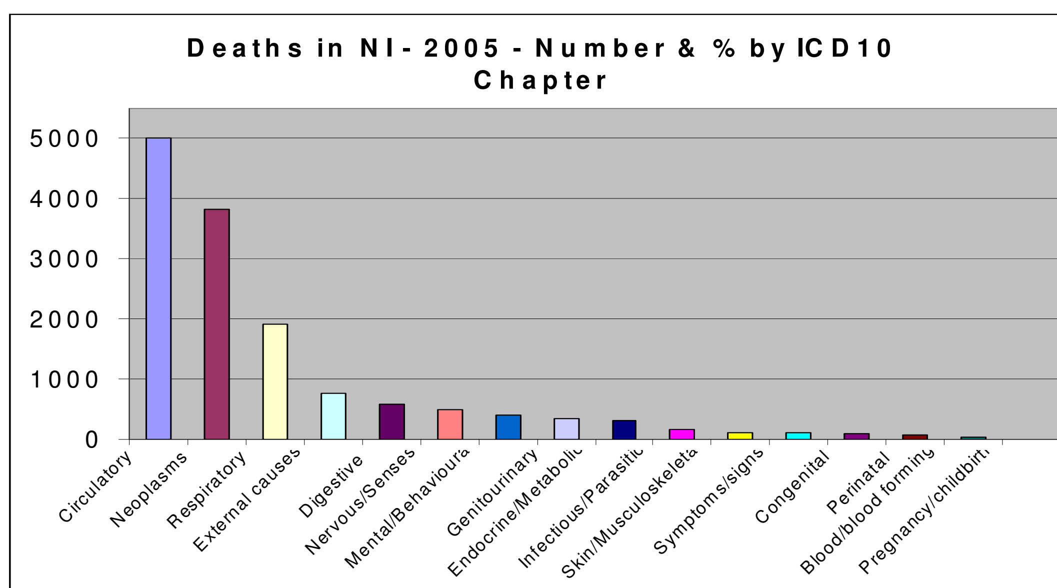
Equitable
Ensure service, including multidisciplinary team, is available across Northern Ireland

Patient Centred
Self management is central to diabetes care, so those with diabetes should be central to discussion and decision making at all times.

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of people who receive annual review to the defined standard	QOF Data Diamond System	40% 60% 80%	2008/09 2009/10 2010/11

6.4 CORONARY HEART DISEASE

Coronary heart disease (CHD) is a preventable disease that remains the biggest killer in Northern Ireland today. Changes in risk factors and advances in medical care have contributed to a decline in the total deaths from heart disease over the past 30 years. But in spite of this it remains the main cause of death among both sexes, accounting for over 35% of deaths.



These standards cover a variety of aspects of cardiology from presentation of acute chest pain to long term rehabilitation and support. They also address the wider topics such as congenital heart disease and arrhythmias and sudden cardiac deaths.

Overarching standard 15:
Pregnant women should have appropriate antenatal screening for Congenital Heart Disease (CoHD), with specialist services available to those in whom a diagnosis of CoHD is made.

Rationale:
Detailed scanning of the fetal heart should be an integral part of the routine anomaly scan performed on all pregnant women in Northern Ireland. Current antenatal detection rates for congenital heart disease in Northern Ireland are only 25%. Antenatal diagnosis of congenital heart disease leading to planned delivery and care in a specialised centre has been shown to reduce morbidity and mortality.

Evidence:
The Paediatric and Congenital Cardiac Services Review (DOH) 2002 highlighted the need for standards of care for antenatal screening for Congenital Heart Disease http://www.heartstats.org/datapage.asp?id=3507

National Institute for Health and Clinical Excellence (NICE) guidelines for antenatal screening http://www.nice.org.uk/CG006

Outcome data for patients diagnosed early with complex congenital heart disease – Heartsuite

Responsibility for delivery / implementation

Commissioners
Trust Chief Executive
Senior operational and clinical teams within the Trust
Primary and community care clinicians

Quality Dimension

Safe
Detection of a defect before birth allows mothers and doctors to plan for a safer birth at the best time and in the best place ensuring early detection and intervention for serious defects.

Timely
Some babies have a type of heart disease that is life threatening in the first few days of life, if not diagnosed. Therefore timely detection and intervention ensures a better outcome.

Efficient
Failure to detect heart disease before birth can lead to costly and dangerous emergency situations and can be life threatening.

Equitable
All pregnant mothers should have appropriate antenatal screening and onward referral for specialist advice, if required.

Patient Centred
Early detection allows time for parents to understand and come to terms with their baby's condition and can be involved in decision making early in pregnancy.

Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of patients with major congenital heart disease diagnosed antenatally.	Heartsuite Database	50% 60% 75%	March 2009 March 2010 March 2011

Overarching standard 16:
Children with congenital and acquired heart disease should have access to prompt diagnosis and appropriate management in line with national standards.

Rationale:
Morbidity and mortality of heart disease in children can be reduced as a result of early detection, diagnosis and treatment with appropriate access to specialist professionals.

Evidence:
A centralised model of care provision is endorsed by the Report of the Paediatric and Congenital Cardiac Services Review Group (December 2003) http://www.advisorybodies.doh.gov.uk/childcardiac/index.htm

Responsibility for delivery / implementation

Commissioners
Trust Chief Executive
Senior operational and clinical teams within the Trust
Primary and community care clinicians

Quality Dimension

Timely
Children with congenital heart disease should receive early and accurate diagnosis and appropriate treatment plans delivered by specialists in a specialist centre.

Effective
The appropriate management of these patients should improve their expected outcomes leading to reduced mortality and improved quality of life.

Equitable
All patients will have access to a specialist service.

Patient Centred
Patients, families and carers should be provided with specialist care and support which promotes self management and independence.

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of children with congenital and acquired heart disease who have access to prompt diagnosis and appropriate management in line with national standards.	Central Cardiac Audit Database (CCAD)	80% 90% 95%	March 2009 March 2010 March 2011

Overarching standard 17:
To improve the quality of life / life expectancy for patients and their families affected by inherited cardiac diseases.

Rationale:
There are many genetic disorders which have major effects on the cardiovascular system. Recent advances in genetics have enabled identification of individuals who have these disorders (including those who are pre-symptomatic). Once identified, these individuals can be offered appropriate screening / monitoring, which may reduce complications associated with the condition, including the risk of sudden death.

The majority of sudden cardiac deaths in people under the age of 40 are caused by inherited cardiomyopathies and channelopathies (arrhythmias).

Evidence:
National Service Framework for Coronary Heart Disease, Chapter Eight: Arrhythmias and Sudden Death (DOH, March 2005)
http://www.dh.gov.uk/en/Healthcare/NationalServiceFrameworks/Coronaryheartdisease/DH_4117048

Responsibility for delivery / implementation

Commissioners
Trust Chief Executive
Senior operational and clinical teams within the Trust
Primary and community care clinicians

Quality Dimension
Timely Enhance the awareness of patients / families with inherited cardiac disease by early diagnosis and, where appropriate and feasible, prophylactic treatment. **Effective** Ensure long term surveillance of agreed cardiac markers to reduce any complications. **Equitable** All patients will have access to a specialist service. **Patient Centred** Patients, families and carers should be provided with specialist care and support, which links to national and, where possible, international services to ensure family members who are “at risk” of genetic conditions are identified.

Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of first degree relatives, affected by a proband's sudden cardiac death (< 40yr), who receive referral to specialist services with genetic testing and follow-up, as appropriate.	Not yet available	Establish baseline Performance level to be determined once baseline established	March 2009
Percentage of families with a genetic condition, who are offered access to genetic testing and subsequent specialist follow-up, as appropriate.		Establish baseline Performance level to be determined once baseline established	March 2009

Overarching standard 18:
All adults with congenital heart disease should have access to a specialist consultant led service specifically designed to meet their needs.

Rationale:
Improved survival rates of those treated for congenital heart disease in childhood results in approximately 130-150 new patients being added to the adult congenital heart disease population every year. This means that by 2010 there will be a further 20% increase in adults with complex congenital heart disease requiring specialist congenital heart disease services.

Evidence:
A Commissioning Guide for Services for Young People and Grown Ups with Congenital Heart Disease (DOH May 2006)
http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4134696.pdf

Responsibility for delivery / implementation

Commissioners
Trust Chief Executive
Senior operational and clinical teams within the Trust
Primary and community care clinicians

Quality Dimension

Timely
Structured transition from paediatric services to adult services should commence 12 months prior to the patient's 16th birthday.

Effective
The appropriate management of these patients should improve their expected outcomes leading to reduced mortality and improved quality of life.

Equitable
All patients will have access to a specialist service.

Patient Centred
Patients, families and carers should be provided with specialist care and support which promotes self management and independence

Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of patients with congenital heart disease who have accessed a specialist consultant led service.	Heartsuite Database Patient and family focus groups	80% 90% 95%	March 2009 March 2010 March 2011

Overarching standard 19:
All patients with a diagnosis of a non Atrial Fibrillation arrhythmia should receive timely assessment, treatment and support based on individual need.

Rationale:
Early detection of arrhythmias and clinically effective treatments reduce the chance of life threatening arrhythmias, and allow patients to be managed appropriately and discharged efficiently leading to a reduction in admission/readmission.

Evidence:
Cardiac resynchronisation therapy for the treatment of heart failure. NICE technology appraisal guidance 120 (May 2007) http://www.nice.org.uk/TA120

National Institute for Health and Clinical Excellence (NICE),Implantable cardioverter defibrillators (ICDs) for the treatment of arrhythmias Technology Appraisal Guidance (Jan 06)
http://www.nice.org.uk/guidance/index.jsp?action=byID&r=true&o=11401

Scottish Intercollegiate Guidelines Network (SIGN), Cardiac Arrhythmias in coronary heart disease http://www.sign.ac.uk/guidelines/fulltext/94/index.html

National Service Framework for Coronary Heart Disease, Chapter Eight: Arrhythmias and Sudden Death (DOH, March 2005)
http://www.dh.gov.uk/en/Healthcare/NationalServiceFrameworks/Coronaryheartdisease/DH_4117048

Responsibility for delivery / implementation

Commissioners
Trust Chief Executive
Senior operational and clinical teams within the Trust
Primary and community care clinicians

Quality Dimension

Effective
All treatment will be provided in line with evidence based practices.

Equitable
All patients will have access to specialist services.

Patient Centred
The diagnosis, treatment and ongoing care of patients will take into account their individual needs and preferences

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of patients with a clinically significant non atrial fibrillation arrhythmia who have a preliminary diagnosis made and definitive treatment plan commenced within a maximum of 6 weeks following initial presentation.	Retrospective audits of performance Patient focus groups	80% 85% 95%	March 2009 March 2010 March 2011

Overarching standard 20:
All patients with a diagnosis of Atrial Fibrillation should receive timely assessment, treatment and support based on individual need.

Rationale:
Atrial fibrillation (AF) is the most common sustained arrhythmia encountered in clinical practice. Its incidence increases with age and the presence of structural heart disease. It is a major cause of stroke, especially in the elderly. Several drugs and treatments effectively restore and maintain sinus rhythm in patients with AF and improve quality of life.

Evidence:
National Institute for Health and Clinical Excellence (NICE), Atrial Fibrillation: the management of atrial fibrillation. Clinical guideline 36
http://www.nice.org.uk/guidance/index.jsp?action=byID&o=10982

Responsibility for delivery / implementation

Commissioners
Trust Chief Executive
Senior operational and clinical teams within the Trust
Primary and community care clinicians

Quality Dimension

Safe
Early diagnosis and appropriate treatment will reduce the risk of stroke / thromboembolism.

Timely
Improved access for those that require the services by offering timely access to evidence based treatment.

Efficient
Improved quality of life due to early diagnosis, treatment and ongoing care.

Equitable
All patients will have access to specialist services.

Patient Centred
The diagnosis, treatment and ongoing care of patients will take into account their individual needs and preferences

Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of high risk patients, as detailed in NICE clinical guideline 36, who have commenced Warfarin therapy, unless contraindicated.	Audit of treatment and care of patients diagnosed with AF.	80% 90% 95%	March 2009 March 2010 March 2011

Overarching standard 21:
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.

Rationale:
The quality of life for patients with suspected heart failure improves if they receive timely access to diagnosis, treatment and ongoing care.

Evidence:
National Institute for Health and Clinical Excellence (NICE) Management of chronic heart failure in adults in primary and secondary care (July 2003) http://www.nice.org.uk/guidance/index.jsp?action=byID&o=10924

CREST Guidelines on the management of chronic heart failure in NI (Feb 2005) http://www.crestni.org.uk/publications-show?txtid=4080

National Service Framework for Coronary Heart Disease, Chapter 6, Heart failure (March 2000)
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4094275

SIGN Management of chronic heart failure. (Feb 2007)
http://www.sign.ac.uk/guidelines/fulltext/95/index.html

Responsibility for delivery / implementation

Commissioners
Trust Chief Executive
Senior operational and clinical teams within the Trust
Primary and community care clinicians

Quality Dimension			
Timely Improve access and reduce waiting times for those who require access to the service. **Effective** Improve the quality of life of the individual due to early diagnosis and treatment. **Efficient** Reduce delays in diagnosis and inappropriate echo referrals and ensure a better use of resources.			
Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of patients who, on presentation to primary care with a considered diagnosis of systolic heart failure, have an ECG and BNP requested, carried out and interpreted.	Audit of patients referred for ECHO services with a presentation diagnosis of suspected systolic heart failure.	80% 85% 90%	March 2009 March 2010 March 2011

Overarching standard 22:
All patients with diagnosis of heart failure should be prescribed evidence based medication as appropriate, under the guidance of the multidisciplinary specialist team.

Rationale:
Evidence based medications and access to a multi disciplinary team have been shown to decrease mortality, reduce the number of bed days and improve the quality of life, improve patient satisfaction, increase reassurance and facilitate access of this population of patients to appropriate interventions.

Evidence:
National Institute for Health and Clinical Excellence (NICE) Management of chronic heart failure in adults in primary and secondary care (July 2003)
http://www.nice.org.uk/guidance/index.jsp?action=byID&o=10924

CREST Guidelines on the management of chronic heart failure in NI (Feb 2005) http://www.crestni.org.uk/publications-show?txtid=4080

National Service Framework for Coronary Heart Disease, Chapter 6, Heart failure (March 2000)
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4094275

SIGN Management of chronic heart failure. (Feb 2007)
http://www.sign.ac.uk/guidelines/fulltext/95/index.html

Responsibility for delivery / implementation

Commissioners
Trust Chief Executive
Senior operational and clinical teams within the Trust
Primary and community care clinicians

Quality Dimension

Effective
Improved quality of life due to early diagnosis, treatment and continuity of care and appropriate secondary prevention medications.

Equitable
All patients should have access to the specialist service.

Patient Centred
Patients, families and carers should be provided with specialist care and support which promotes self management and independence.

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage clinically appropriate patients on optimal evidence based medication for systolic heart failure. (Excluding those currently undergoing uptitration)	Heart failure minimum datasets CCAD	70% 80% 90%	March 2009 March 2010 March 2011

Overarching standard 23:
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)

Rationale:
Acute myocardial infarction (AMI) is caused by blockage of a coronary artery by a thrombus or clot. This is usually the result of rupture of an atherosclerotic plaque within the artery. The heart muscle supplied by that artery is damaged or dies because of lack of oxygen (ischaemia). Patients with AMI may develop heart failure or potentially fatal cardiac arrhythmias as a result of damage to the heart muscle. These and other complications may occur early, within the first few hours of the event, or may develop over the subsequent months or years. Thrombolytic drugs break down the thrombus so that the blood flow to the heart muscle can be restored to prevent further damage and assist healing. The sooner the blood flow can be restored, the better the chances of avoiding the death of the heart muscle.

Evidence:
National Service Framework for Coronary Heart Disease, Chapter three: Heart attacks and other acute coronary syndromes (DOH, March 2005)
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4094275

ESC 2003 Management of Acute Myocardial Infarction in patients presenting with ST-segment elevation European Heart Journal 24 28-66
http://eurheartj.oxfordjournals.org/cgi/content/full/24/1/28

National Institute for Health and Clinical Excellence (NICE) 2002 Guidance on the use of drugs for early thrombolysis in the treatment of acute myocardial infarction (Guidance TA52)
http://www.nice.org.uk/nicemedia/pdf/52_Thrombolysis_full_guidance.pdf

Responsibility for delivery / implementation

Commissioners
NIAS
Trust Chief Executive
Senior operational and clinical teams within the Trust
Primary and community care clinicians

Quality Dimension			
Timely Early intervention reduces the risk of death and disability, but the effectiveness of treatment is greater the sooner treatment is begun **Efficient** All treatment will be provided in line with evidence based practices. **Equitable** All patients will have access to appropriate clinical intervention. **Patient Centred** The diagnosis and treatment of patients will take into account their individual needs and logistical issues.			
Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of eligible patients with AMI (STEMI or new LBBB) that receive thrombolysis within 60 minutes of calling for professional help	MINAP	60% 65% 70%	March 2009 March 2010 March 2011

Overarching standard 24:
All patients identified as requiring cardiac rehabilitation, in line with the British Association for Cardiac Rehabilitation guidelines, should be offered this service.

Rationale:
Cardiac Rehabilitation (CR) is an evidence-based intervention that reduces mortality and morbidity by at least 26% from cardiac disease.

Evidence:
British Association for Cardiac Rehabilitation – Standards and Core Components for Cardiac Rehabilitation (BACR2007)
http://www.bcs.com/documents/affiliates/bacr/BACR%20Standards%202007.pdf

CREST Guidelines for cardiac rehabilitation in NI (May 2006)
http://www.crestni.org.uk/publications-show?txtid=4003

National Service Framework for Coronary Heart Disease, Chapter 7, Cardiac Rehabilitation (March 2000)
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4094275

Responsibility for delivery / implementation

Commissioners
Trust Chief Executive
Senior operational and clinical teams within the Trust
Primary and community care clinicians

Quality Dimension

Equitable
All patients should have access to components of a cardiac rehabilitation service.

Patient Centred
Cardiac rehabilitation should be menu based and focus on the individual needs of the patients

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of patients eligible for cardiac rehabilitation who receive the components of the service based on an assessment of their need.	National Audit for Cardiac Rehabilitation (NACR)	60% 70% 85%	March 2009 March 2010 March 2011

Overarching standard 25:
All patients who develop new onset chest pain, suggestive of angina should be reviewed at a rapid access chest pain clinic (RACPC) within 2 weeks of referral by the GP/appropriate clinician.

Rationale:
A Rapid Access Chest Pain Clinic (RACPC) is a service provided to the General Practitioners for rapid cardiological assessment of patients that are suspected of having developed new onset angina and for patients with known ischaemic heart disease with worsening symptoms. The clinic is not designed for the assessment of patients with acute cardiac chest pain, for those that require routine assessment/management of stable angina or for review of follow-up patients.

RACPCs supported by clear referral criteria and protocols for investigation lead to more complete, more accurate and more rapid diagnosis and assessment of people with suspected angina.

Evidence:
Chapter 4, Coronary Heart Disease National Service Framework, England and Wales. Mar 2000 - http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4094275

Responsibility for delivery / implementation

Commissioners
Trust Chief Executive
Senior operational and clinical teams within the Trust
Primary and community care clinicians

Quality Dimension

Safe
Reduction of patients who experience an acute cardiac event whilst waiting for an elective outpatient appointment

Efficient
Patients should be assessed by an appropriate clinical team

Equitable
All patients should have access to a RACPC service

Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of patients who are seen at RACPC within the target time period from referral (excluding refusal of first offer).	NI RACPC minimum dataset	90% within 2 weeks 95% within 2 weeks 95% within 1 week	March 2009 March 2010 March 2011

Overarching standard 26:
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.

Rationale:
Angiography is advised to prevent early complications and / or to improve long term outcomes for patients. In high risk groups the clear benefit is reported from early angiography and as an appropriate intervention (PCI / Surgery)

Evidence:
Guidelines for the management of patients with acute myocardial infarction presenting with ST segment elevation (European Society of Cardiology 2003)
http://eurheartj.oxfordjournals.org/cgi/content/full/24/1/28

Responsibility for delivery / implementation

Commissioners
Trust Chief Executive
Senior operational and clinical teams within the Trust
Primary and community care clinicians

Quality Dimension

Safe
Reduction of complications and increase in long term patient outcomes

Timely
High risk patient groups should have access to angiography and +/- PCI in <72 hours and cardiac surgery within 7 days

Effective
Services will be evidence based care in line with local and national standards

Efficient
Ensures that appropriate patients are selected for investigation / intervention

Equitable
All high risk patients will have access to angiography and +/- PCI/surgery

Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of patients with acute coronary syndrome who undergo angiography (+/- PCI) within 72 hours of diagnosis	In hospital transfer referral database	75% 85% 95%	March 2009 March 2010 March 2011
Percentage of patients requiring urgent surgical revascularisation who receive this intervention within 7 days of being clinically suitable.		50% 60% 80%	March 2009 March 2010 March 2011

Overarching standard 27: All patients with suspected Pulmonary Arterial Hypertension should be managed in a timely fashion by a specialist multidisciplinary team.
Rationale: There is a high level of mortality and morbidity associated with this group of patients. The disease aetiology is diverse and requires specialised investigation to confirm diagnosis and guide decisions in management. Treatments are expensive and require long-term monitoring by a multidisciplinary team **Evidence:** Service Specifications for National Pulmonary Hypertension Service Jan 03 ESC and ACCP guidelines http://www.hcsu.org.uk/index.php?option=com_docman&task=doc_download&gid=555
Responsibility for delivery / implementation
Commissioners Trust Chief Executive Senior operational and clinical teams within the Trust Primary and community care clinicians

Quality Dimension

Timely
Patients will receive early and appropriate treatment following diagnosis

Effective
All treatment will be provided in line with evidence based practices. Using evidence based methods, patients will be referred for investigation to establish or exclude a diagnosis of pulmonary hypertension

Efficient
All patients will receive accurate diagnosis by a team with specialist expertise in diagnosis and management of PHT

Equitable
All patients should have access to specialist services

Patient Centred
A follow-up process should run for the lifetime of the patient promoting independence and self management

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of patients seen within a maximum of 6 weeks from initial referral to completion of investigations and initiation of appropriate treatment.	Regional pharmacy records for specialised PHT drugs	85% 90% 95%	March 2009 March 2010 March 2011

6.5 CEREBROVASCULAR DISEASE

A stroke is a localised neurological deficit with a vascular cause, lasting longer than 24 hours. It is usually due to either a blockage of the blood vessels to the brain, or by a bleed into the brain. The risk factors already described for Coronary Heart Disease (CHD) are associated with an increased risk of stroke. A transient ischaemic attack (TIA) causes similar symptoms as a stroke, but lasts less than 24 hours. This is a strong indicator of the risk of a more serious stroke.

Overarching standard 28:
All patients with suspected Transient Ischaemic Attack should have rapid specialist assessment[1] 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 34)

Rationale:
A transient ischaemic attack (TIA) indicates unstable brain ischaemia with a high early stroke risk and is a medical emergency.

Evidence:
CREST guidelines for the investigation and management of transient ischaemic attack 2006 http://www.crestni.org.uk/publications-show?txtid=3907

National Clinical Guidelines for Stroke 2004
http://www.rcplondon.ac.uk/pubs/books/stroke/index.htm

N.I. Stroke Strategy: Improving stroke services in Northern Ireland
http://www.dhsspsni.gov.uk/showconsultations?txtid=26878

National Institute for Health and Clinical Excellence (NICE) guideline (draft): Stroke: The diagnosis and acute management of stroke and transient ischaemic attacks
http://www.nice.org.uk/guidance/index.jsp?action=byID&r=true&o=11646

American Stroke Association 'Guidelines for prevention of stroke in patients with ischaemic stroke or transient ischaemic attack' (2006)
http://stroke.ahajournals.org/cgi/content/full/37/2/577?ck=nck

Responsibility for delivery / implementation

Commissioners
Trusts

Quality Dimension
Safe Assessment of patients with suspected TIA is carried out by those with appropriate specialist skills and experience **Timely** All suspected TIA patients are risk stratified using the ABCD2 score. People with a suspected TIA at high risk of stroke (e.g. an ABCD2 score of 4 or greater) in whom vascular territory or pathology is uncertain undergo urgent brain imaging (preferably MR with DWI*) within 24 hours of onset of symptoms. **Effective** Effective preventive treatment is instituted immediately. Those who are candidates for carotid intervention undergo carotid ultrasound as soon as possible after the event and no later than 1 week post event. Carotid endarterectomy, where indicated, is performed within 2 weeks of the event. **Efficient** Rapid access TIA clinics are available to coordinate specialist assessment, investigation and management as rapidly as possible. **Equitable** Patients should have access to the same level of services for the assessment, investigation and management of TIA regardless of domicile. **Patient Centred** All confirmed TIA patients are provided with appropriate information on their condition, lifestyle advice[3] and a secondary prevention plan.

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of confirmed TIA patients at high risk of early stroke (ABCD2 score 4 or above) who undergo specialist assessment **AND** urgent brain imaging (preferably MRI DWI*) within 24 hours of index event	As per draft Stroke Strategy	Establish baseline Performance level to be determined once baseline established	2009/10
Percentage of TIA patients requiring carotid endarerectomy who undergo surgery within 2 weeks of index event		Establish baseline Performance level to be determined once baseline established	2009/10
Percentage of confirmed TIA patients seeking medical attention who receive appropriate antiplatelet and statin therapy within 24 hours of the index event		Establish baseline Performance level to be determined once baseline established	2009/10

NOTES / DEFINITIONS

[1] Specialist Assessment: This is assessment carried out by 1 or more member(s) of the stroke specialist team, which includes a physician with appropriate skills and training. In view of the need for rapid carotid and neuro-imaging in many such patients this assessment is likely to take place in an acute hospital setting e.g. stroke unit or neuro-vascular clinic

[2] Non-urgent referral is only appropriate where the presentation is very late. Non-referral is only appropriate where treatment would not be in the patient's best interests

[3] Lifestyle advice should include the following as applicable to each patient: Smoking cessation advice, alcohol intake, diet, exercises, and driving.

*Magnetic Resonance with Diffusion Weighted Imaging should be used unless there are contra-indications in which case CT (computed topography) should be used.

Appendix 1: ABCD2 Score

A (*age*)	Age $\geq$ 60 yrs	Score: 1
B (*BP*)	BP $\geq$ 140/90	Score: 1
C (*clinical features*)		
	Unilateral weakness	Score: 2
	Speech impairment without weakness	Score: 1
D (*Duration, diabetes*)		
	Duration $\geq$ 60 mins	Score: 2
	Duration 10-59 mins	Score: 1
	Diabetes	Score: 1
		Total score Maximum score is 7

Overarching standard 29:
All patients with suspected acute stroke should have rapid access to specialist assessment[1], appropriate brain imaging and emergency treatment, including thrombolysis.

Rationale:
Stroke is a medical emergency 'Time is Brain'. Urgent investigation and management in the initial hours after onset, including thrombolysis, can minimise brain damage, reduce death rate and long term disability and is cost effective.

There is now good evidence for the benefits of thrombolysis (clot-busting treatment) in eligible patients with acute ischaemic stroke. The earlier such treatment is given after the onset of symptoms, the more effective it is. It is estimated that approximately 10% of acute stroke patients could be eligible for treatment within 3 hours of symptom onset.

Evidence:
National Clinical Guidelines for Stroke 2004
http://www.rcplondon.ac.uk/pubs/books/stroke/index.htm

National Institute for Health and Clinical Excellence (NICE) Guidance "Ischaemic stroke (acute) – Alteplase" http://guidance.nice.org.uk/ta122

National Audit Office Report "Reducing brain damage, faster access to better stroke care" 2005
http://www.nao.org.uk/stroke/

Responsibility for delivery / implementation

HSC Trusts

Quality Dimension
Safe Thrombolysis should only be delivered within the parameters of the NICE 2007 guidance 'Ischaemic stroke (acute) – Alteplase' in designated hospitals[2] with identified acute stroke beds following assessment by a specialist acute stroke team. **Timely** The timely and rapid progression of the patient through the appropriate care pathway is essential to better outcomes. **Effective** Thrombolysis for acute ischaemic stroke given at the right time improves patient outcomes. **Efficient** Acute stroke services should be organised to allow patients rapid access to appropriate imaging, specialist assessment and management. **Patient Centred** Notwithstanding the need for urgency in delivering thrombolysis, patients and carers need appropriate and timely information in making informed decisions at this difficult time. These needs must be represented in treatment protocols, and evidence of such consultation documented.

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of eligible acute stroke patients who, following an appropriate assessment, receive thrombolysis within 3 hours of onset of symptoms of stroke.	As per draft Stroke Strategy	10% 30% 50%	2008/09 2009/10 2010/11
Percentage of acute stroke patients who have brain imaging within 24 hours of the stroke event.		75% 85% 95%	2008/09 2009/10 2010/11

NOTES / DEFINITIONS

[1] Specialist assessment is assessment carried out by a specialist stroke service, which includes a physician with appropriate stroke specialist training. Such a team also includes other professionals with appropriate training such as: a specialist nurse, allied health professionals (e.g. physiotherapist, occupational therapist, speech therapist), and radiologist.

[2]A designated hospital is one, which has an agreed protocol and procedures in place for ensuring that patients who may benefit from thrombolysis have rapid access to appropriate specialist assessment and investigation (including brain imaging) and management to enable this treatment to be safely delivered.

Overarching standard 30: All patients who have had a stroke should have their rehabilitation delivered by a Specialist Stroke Rehabilitation Team[1] in a Stroke Unit[2], 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
Rationale: Stroke Units improve mortality and outcome in a cost-effective way in patients admitted to hospital with an acute stroke[3]. For selected patients, following their in-patient stay, an early supported discharge service, with rehabilitation in the community delivered by a Specialist Stroke Rehabilitation Team, can lead to a reduction in long-term dependency and in admission to institutional care, as well as a shorter hospital stay[4]. **Evidence:**
Responsibility for delivery / implementation
Commissioners Trusts

Quality Dimension
Safe All patients with stroke should have rehabilitation provided by appropriately trained staff working in an appropriate environment. **Timely** All patients should be admitted to a stroke unit at the earliest opportunity and remain there for as long as their rehabilitation needs dictate. Rehabilitation should commence as soon as the patient's condition allows. **Effective** Rehabilitation by a Specialist Stroke Team in a Stroke Unit, followed up in appropriate cases by specialist stroke rehabilitation in the community saves lives, prevents long term disability and avoids unnecessary institutionalisation. **Efficient** Specialist stroke rehabilitation significantly reduces hospital stay. **Equitable** All stroke patients should have access to specialist stroke rehabilitation for as long as required. **Patient Centred** Specialist stroke rehabilitation focuses on assessing the individual needs of patients and addressing them in the most effective way.

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of stroke patients admitted to a recognised stroke unit, which is capable of providing the professional therapy hours defined in the NI Stroke Strategy, and with specialist assessment completed within the timescales specified in this Strategy document.	HSC Trust PAS data National Sentinel Audit of Stroke returns HSC Trust Audit data	85% 95% 98%	2008/09 2009/10 2010/11
Percentage of stroke patients admitted to a stroke unit within 24 hours of hospital admission AND who spend > 50% of their stay in the stroke unit.		50%	2010/11
Percentage of stroke patients, discharged from hospital, who receive continued rehabilitation by a specialist community stroke m.		15%	2010/11

NOTES / DEFINITIONS

[1]A Specialist Stroke Rehabilitation Team is a team with recognised and specific expertise in stroke rehabilitation. Its membership will include as a minimum a physician with appropriate training, trained nursing, physiotherapy, occupational therapy, speech and language therapy staff; and will have access to appropriate social work and clinical psychology expertise

[2]The Acute Stroke Standard of the DHSSPS strategy 'Improving Stroke Services In N. Ireland' specifies that all patients with suspected stroke should be immediately admitted to a Stroke Unit.

[3]Organised inpatient (Stroke Unit) Care for Stroke: Cochrane Database of Systematic Reviews 2006 Issue 4

[4]Services for reducing duration of hospital care for acute stroke patients: Cochrane Database of Systematic Reviews 2007 Issue 3.

Overarching standard 31:
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(s) of the 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.

Rationale:
The disabling impact of stroke continues for the lifetime of the stroke survivor. They and their family/carer need continuing support and care including social care, psychological support, counselling, re-enablement and maintenance of mobility. These may not be required by every stroke survivor at all stages, but should be readily accessible.
Patients require review and appropriate treatment and management of risk factors for vascular disease life long after stroke.
Patients should continue to have access to specialist stroke care and rehabilitation after leaving hospital.
Patients and their carers should have their individual psychosocial and support needs reviewed on a regular basis.
Any patient with reduced mobility at 6 months or later after stroke should be assessed for a further period of targeted rehabilitation.
Currently support services and follow up for stroke patients in the community are variable and often inadequate and poorly organised.

Evidence:
RCP National Clinical Guidelines for Stroke 2004
http://www.rcplondon.ac.uk/pubs/books/stroke/index.htm

N.I. Stroke Strategy: Improving stroke services in Northern Ireland
http://www.dhsspsni.gov.uk/showconsultations?txtid=26878

Stroke Survivors – Our stories, in our words. Stroke survivor and carer recommendations for improvement of services: A report from the EHSSB stroke patient & carer reference group. June, 2007
http://www.ehssc.org/pdfs/strokesurvivorsourstoriesinourwords.pdf

Responsibility for delivery / implementation

Commissioners
HSC Trusts,
Independent and Voluntary Sector providers
Primary Care

Quality Dimension
Safe All stroke survivors should have ongoing assessment of their needs and those of their carer, with particular emphasis on secondary prevention, information, education and support. **Timely** Formal assessment at critical times following stroke will ensure that needs will be identified and can be addressed in a timely way. **Effective** Effective intervention will prevent unnecessary recurrence of stroke (and other cardiovascular disease) and reduce the burden of disability resulting from incomplete rehabilitation / re-enablement or from functional deterioration. **Efficient** Reducing the burden of disability significantly reduces future demands of health and social care services. **Patient Centred** Services and interventions will be more closely focussed on the identified needs of stroke survivors and their carers.

Performance Indicator	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of survivors of stroke or TIA who have an appropriate up to date primary care and, where appropriate, specialist review	Province wide stroke register should be developed As current access is extremely limited, achieving these targets will require new posts to be created and appropriately trained staff recruited. These posts should be linked to appropriate stroke teams	75% 85% 95%	2008/09 2009/10 2010/11
Percentage of stroke survivors with access to assessment by a neuropsychologist or a clinical psychologist with experience in stroke and physical disability		25% 40%	2009/10 2010/11

NOTES / DEFINITIONS

[1]Specialist stroke review is a review carried out by a member or members of a recognised specialist stroke team.

6.6 PERIPHERAL VASCULAR DISEASE

Peripheral vascular disease refers to diseases of the blood vessels outside the heart and brain. Four main conditions are considered within this chapter: peripheral arterial disease, abdominal aortic aneurysm, dissection of the thoracic aorta and carotid artery stenosis.

Peripheral arterial disease (PAD) occurs when fatty deposits (atheroma) build up in the inner walls of these arteries and affect blood circulation, most commonly in the arteries to the legs and feet. It can present without symptoms, but often presents as pain on walking (intermittent claudication), pain at rest, or limb threatening reductions in blood supply (acute or chronic limb ischaemia). The latter can lead to amputation. The major preventable risk factors for cardiovascular disease are implicated in peripheral arterial disease. PAD is an independent risk factor for heart disease and stroke. Early detection and treatment, with a focus on secondary prevention including treatment of high blood pressure and high cholesterol reduces the risk of cardiovascular death and limb amputation and improves quality of life.

Carotid artery stenosis (narrowing of the carotid artery) is a risk factor for stroke and prompt treatment has been shown to be beneficial.

An aneurysm is a localised widening (dilation) of an artery. The blood vessel can burst (rupture) because the vessel wall is weakened. Some 5% to 10% of men aged between 65 and 79 years have an abdominal aneurysm in the area of the aorta, the main artery from the heart as it passes through the abdomen. Abdominal aortic aneurysms (AAA) are often asymptomatic but a rupture is a surgical emergency and often leads to death. Through education, screening and surgery vascular surgeons can identify and treat aneurysm prior to rupture.

Prompt recognition of dissection of the thoracic aorta and early treatment can reduce mortality.

Modern vascular surgery is primarily delivered by a highly specialised multidisciplinary team coordinated by a vascular surgeon. This team provides for the holistic treatment of the vascular patient with close interaction with allied specialties

including cardiology, stroke medicine, and interventional radiology. Many patients with vascular disease can be managed in the community.

Lymphoedema is a swelling of body tissue due to failure in the lymphatic system which can affect people of all ages. It is chronic and incurable and requires life long management. Lymphoedema can be congenital or it may develop as a result of cancer or its treatment or due to trauma or chronic infection. It can occur in a limb or limbs or in the head and neck, trunk or genital area. It may not become apparent for sometime after trauma (e.g. cancer surgery) and patients remain at risk of developing clinical lymphoedema at a later stage.

It is thought that somewhere in the region of at least 2.5 to 3 thousand people in Northern Ireland suffer from this condition.

The DHSSPSNI, in 2004, published a review of lymphoedema services which outlined steps to be taken to develop quality lymphoedema services for Northern Ireland. The review recommended the development of clinical guidelines for lymphoedema along with proposals for establishing a Lymphoedema Clinical Network. Guidelines for the Diagnosis, Assessment and Management of Lymphoedema were developed under the auspices of CREST and launched along with the Lymphoedema Network for Northern Ireland on February 1st 2008.

The network will be responsible for driving the implementation of the guidelines as well as supporting the development of clinical services, facilitating complex case management, improving education, raising awareness and developing the research base in the field of lymphoedema.

This section sets out the measures required to enhance the quality of service for patients with established peripheral vascular disease and to reduce their risks of further cardiovascular disease.

Overarching standard 32:
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.

Rationale:
The available literature confirms the association between renal failure, peripheral vascular disease, foot ulcers, gangrene and amputation, and indicates this association is three to five times greater in diabetes. The risk of amputation (up to 13.8%) is ten times the risk for non-ESRF patients, even if diabetes is taken into account.

There are multiple possible mechanisms underlying this association including accelerated peripheral arterial disease, anaemia and metabolic features of renal failure. There is also evidence that the process of dialysis is itself associated with worsening tissue hypoxia and the incidence of limb gangrene and amputation is particularly associated with the commencement of renal replacement therapy. The results of lower limb revascularisation are poor and once they occur, foot complications in established renal failure are associated with a high mortality.

Evidence:
Podiatry Service for Renal Patients. Northern Ireland Regional Audit 2004

Inter-Society consensus for the management of peripheral arterial disease (TASC11) 2007 http://www.scai.org/PDF/TASC%20guidelines.pdf

Renal Services Review Northern Ireland, 2002, Department of Health, Social Services and Public Safety http://www.dhsspsni.gov.uk/renal_content.pdf

The Renal Team A Multi-Professional Renal Workforce Plan For Adults and Children with Renal Disease. Recommendations of the National Renal Workforce Planning Group 2002. British Renal Society http://www.britishrenal.org/workfpg/WFP_Renal_Book.pdf

The National Service Framework for Renal Services, 2004 http://www.dh.gov.uk/en/Policyandguidance/Healthandsocialcaretopics/Renal/DH_4102636

The National Minimum Skills Framework for Commissioning of Foot Care Services for People with Diabetes, 2006 http://www.footindiabetes.org/Guidelines/NatMinSkillFramewkFootNov06.pdf

Hinchliffe RJ, Jeffcoate WJ, Game FL, (2006). Diabetes, established renal failure and the risk to the lower limb. Practical Diabetes International. Vol. 23 No. 1: 28-32 http://www3.interscience.wiley.com/cgi-bin/abstract/112475896/ABSTRACT

Responsibility for delivery / implementation

Commissioners
Trusts
Primary Care

Quality Dimension

Timely
Early detection and management reduces morbidity and mortality

Effective
All treatments will be provided in line with evidence based practice

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of appropriate patients who have had a risk assessment within the last 12 months	eMed database Medical notes Podiatry notes Diamond database LCID PARIS NI Vascular database PAS	50% 75% 95%	March 2009 March 2010 March 2011

Overarching standard 33:
All patients with abdominal aortic aneurysm (AAA) should have their medical therapy optimised. 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.

Rationale:
Early detection by screening is preferred. MASS Lancet 2002

There is evidence of a significant reduction in mortality in men aged 65 to 79 years who undergo screening. There is insufficient evidence to demonstrate benefit in women. (Cochrane Database of Systematic Reviews 2007)

The National Screening Committee has decided that screening by ultrasound examination of the abdomen could be offered to men aged 65 provided that men invited were given clear information about the risks of elective surgery and that steps were taken to create networks of vascular surgical services to allow further specialisation, bigger throughput and therefore lower risk, because of the evidence relating to volume and quality.

Patients with known AAA should have all risk factors identified and treated appropriately. Medical treatment includes statins and antiplatelet therapy.

Smaller aneurysms and aneurysms in people considered unfit for surgery may be managed with medical treatment alone (NICE March 2006). Patients with aneurysms smaller than 5.5cm should be kept under surveillance by ultrasound scan at regular intervals until they reach 5.5cm (UK Small Aneurysm study)

Those with AAA ≥ 5.5cm should be investigated by CT scan to determine suitability for endovascular stent-grafting and undergo pre-operative risk-stratification according to the AHA/ACC guidelines (2002).

Evidence:
Multicentre Aneurysm Screening Group, 2002. The Multicentre Aneurysm Screening Study (MASS) into the effect of abdominal aortic aneurysm screening on mortality in men: a randomised controlled trial. The Lancet 360(9345):1531-9
http://www.ncbi.nlm.nih.gov/pubmed/12443589?dopt=Abstract

Cosford PA, Leng GC, 2007. Screening for abdominal aortic aneurysm. Cochrane Database of Systematic Reviews 2007, Issue 2
http://www.mrw.interscience.wiley.com/cochrane/clsysrev/articles/CD002945/frame.html

National Screening Committee, 2007. National Screening Committee Policy Position on Abdominal Aortic Aneurysm Screening. March 2007
http://www.library.nhs.uk/screening/viewresource.aspx?resid=60457

National Institute for Health and Clinical Excellence (NICE), 2006. Stent-graft placement in abdominal aortic aneurysm
http://www.nice.org.uk/guidance/index.jsp?action=download&o=30643

UK Small Aneurysm Trial Participants,. 1998. Mortality results for randomised controlled trial of early elective surgery or ultrasonographic surveillance for small abdominal aortic aneurysms. The Lancet 352:1649-55
http://www.ncbi.nlm.nih.gov/pubmed/9853436?dopt=Abstract

American College of Cardiology/American Heart Association Taskforce, 2002. Guideline Update on perioperative cardiovascular evaluation for noncardiac surgery
http://www.americanheart.org/downloadable/heart/1013454973885perio_update.pdf

Responsibility for delivery / implementation

Commissioners-introduction of a screening programme
Trusts-radiology/vascular surgery

Quality Dimension
Safe Reduced mortality with elective repair **Timely** Early detection is beneficial **Efficient** Screening and elective repair reduces mortality **Effective** Screening is cost effective **Patient Centred** Information should be given to patients about the risks of surgery to allow them to make an informed choice

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Post-operative mortality rate following elective AAA repair (stratified by POSSUM)	PAS National Vascular Database	Elective EVAR mortality should be less than 2%. Elective open repair should be within the Vascular Database guidelines. Commence implementation of AAA screening	2008/09 2009/10 2010/11

Overarching standard 34:
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 28)

Rationale:
Carotid artery stenosis carries a significant risk of stroke. It can present as a transient ischaemic attack (TIA) or stroke. Symptoms are monocular blindness (amaurosis fugax), speech deficit, unilateral motor and/or sensory symptoms affecting face and limbs. A TIA usually recovers within 30 minutes. All patients with a TIA should be seen at a TIA clinic within 1 week and those with a stroke admitted to hospital.

Investigations should include lipid profile, plasma glucose, ECG, brain scan (CT or MRI), and carotid artery imaging. The gold standard investigation to diagnose carotid stenosis in intra arterial angiography but carotid duplex is non-invasive, safe, widely available, cost effective and sufficiently accurate if performed by a specialist radiologist or ultrasonographer and should be used as first line and is often the only diagnostic investigation.

Symptomatic patients with carotid stenosis 70-99% should have a carotid endarterectomy (CEA) within 2 weeks of symptoms, or more urgently if 2 or more TIAs within a week (CREST guidelines). The latest evidence suggests that intervention should be within 48 hours (Vascular Society). Five CEAs need to be performed to prevent one stroke (North American Symptomatic Carotid Endarterectomy Trial). There is also evidence to support treatment of 50-69% stenosis but this benefit is less pronounced.

CEA is also beneficial in asymptomatic patients less than 75 years old with asymptomatic disease (19 CEAS prevent one stroke, Asymptomatic Carotid Stenosis Trial).

Carotid stenting continues to evolve, however its precise role remains to be defined and therefore it should be restricted to specialist vascular centres with appropriate experience.

All patients should have risk factor management including lipid lowering, blood pressure control, smoking cessation advice and antiplatelet medication.

Evidence:

Clinical Resource Efficiency Support Team (CREST), 2006. Guidelines for investigation and management of transient ischaemic attack
http://www.crestni.org.uk/tia-guidelines.pdf

Department of Health, 2007. National Stroke Strategy
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_081062

North American Symptomatic Carotid Endarterectomy Trial Collaborators, 1991. Beneficial effect of carotid endarterectomy in symptomatic patients with high-grade carotid stenosis. New England Journal of Medicine 325 (7):445-53
http://www.ncbi.nlm.nih.gov/pubmed/1852179?dopt=Citation

MRC Asymptomatic Carotid Stenosis Trial Collaborative Group, 2004. Prevention of disabling and fatal strokes by successful carotid endarterectomy in patients without recent neurological symptoms: randomised controlled trial. The Lancet 363(9420):1491-502
http://www.ncbi.nlm.nih.gov/pubmed/15135594

National Institute for Health and Clinical Excellence (NICE), 2006. Carotid artery stent placement for carotid stenosis
http://www.nice.org.uk/nicemedia/pdf/ip/IPG191guidance.pdf

Responsibility for delivery / implementation

Trusts: TIA clinics, radiology, vascular surgery departments

Quality Dimension

Safe
Prompt treatment minimises risk of stroke

Timely
Timely progression from onset to referral, investigation and treatment

Effective
Good evidence base for treatment

Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of patients with symptomatic carotid stenosis 70-99% who have undergone carotid intervention within 2 weeks of the index event	National Vascular Database UK Carotid Endarterectomy Audit	25% 50% 75%	2008/09 2009/10 2010/11

Overarching standard 35:
Patients with leg pain on exertion, suggestive of peripheral arterial disease should have an ankle-brachial pressure index (ABPI) test performed in primary care.

Rationale:
Peripheral arterial disease (PAD), and its' commonest symptom leg pain on walking (intermittent claudication), is the commonest presentation of cardiovascular disease. People with PAD have four-fold increased risk of death from heart disease and stroke. Left untreated PAD reduces mobility and quality of life, and can lead to gangrene and limb amputation.

The majority of patients with PAD can be managed in the community. Most of these patients don't need surgical intervention and the important focus is on secondary prevention with an anti-platelet agent, lipid-lowering agent and blood pressure control.

Early detection of PAD enables lifestyle modification and treatment to reduce risk of cardiovascular death. Treatment also reduces risk of limb amputation and improves symptoms, mobility, and quality of life.

Evidence:
TransAtlantic Inter-Society Consensus (TASC II), 2007. Document on Management of Peripheral Arterial Disease http://www.tasc-2-pad.org/upload/SSRubriqueProduit/Fichier2/597.pdf

Scottish Intercollegiate Guidelines Network (SIGN) 2006. Diagnosis and management of peripheral arterial disease
http://www.sign.ac.uk/pdf/sign89.pdf

American Heart Association (ACC/AHA), 2005. Guidelines for the Management of Patients with Peripheral Arterial Disease (Lower Extremity, Renal, Mesenteric, and Abdominal Aortic)
http://www.americanheart.org/presenter.jhtml?identifier=3036691

Responsibility for delivery / implementation

Primary care and community podiatrists
Trusts-vascular surgery

Quality Dimension			
Effective Secondary prevention is effective **Efficient** Simple, inexpensive test-benefits of secondary prevention **Equitable** All primary care organisations should provide ABPI testing			
Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of patients in target groups with symptoms suggestive of peripheral arterial disease referred to vascular surgery with a documented ABPI measurement.	Audit	Establish baseline 5% increase on baseline 10% increase on previous year	2008/09 2009/10 2010/11

Overarching standard 36:
All patients presenting with features of thoracic aortic dissection should be assessed and referred immediately to an appropriate management centre[1].

Rationale:
This condition is often misdiagnosed.
International data suggests that acute aortic dissection could be as common as abdominal aortic rupture. With no treatment, mortality can approach 50% within 48 hours of initial presentation. This can be significantly reduced with appropriate early management.
Symptoms are present in up to 85% of patients and include some or all of the following:

- Hypertension, searing back pain or interscapular pain;
- Symptoms and signs of acute aortic valve dysfunction;
- Symptoms and signs of aortic branch occlusion e.g. visceral ischemia or limb ischaemia;
- Symptoms and signs of aortic expansion e.g. left recurrent l laryngeal nerve palsy or dysphagia;
- Collapse from aortic rupture.

Chest X-rays may show nothing or evidence of a widened mediastinum. Classic symptoms with a pleural effusion on chest X-ray may be indicative of impending rupture.

The gold standard investigation is CT angiography +/- echocardiographic assessment of valve and myocardial function.

Early control of blood pressure, typically with an intravenous beta blocker, will reduce mortality in most patients and requires observation and assessment in a coronary care or high dependency environment. Urgent cardiac surgery is required for dissections involving the aortic valve or ascending aorta. Endovascular stents have been highly successful in treating dissections and related conditions of the descending thoracic aorta that don’t stabilise quickly with conservative management.
The role of intervention in chronic (> 2 weeks old) aortic dissections depends on a variety of factors revealed by a full cardiovascular and pulmonary assessment.

Evidence:
National Institute for Health and Clinical Excellence (NICE), 2005. Endovascular stent-graft placement in thoracic aortic aneurysms and dissections http://www.nice.org.uk/nicemedia/pdf/ip/IPG127guidance.pdf

Responsibility for delivery / implementation			
GPs Trusts-A&E departments, radiology, vascular surgery			
Quality Dimension			
Timely Early detection and management reduces mortality **Effective** Evidence for early control of blood pressure and appropriate early management			
Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of patients with thoracic aortic dissection who are referred for treatment to the regional centre within 24 hours of the symptoms developing	PAS diagnosis Audit of post mortems (percentage of cases of thoracic aortic dissection in whom the diagnosis was made before death)	15% increase in referred cases from baseline 25% increase 35% increase	2008/09 2009/10 2010/11

NOTE:

[1] Appropriate management centre – for proximal aorta dissections this should be a cardiology/cardiothoracic surgery centre and for distal, arch and descending aorta this should be the regional vascular centre.

Overarching standard 37:
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.

Rationale:
There is currently significant inequity in access to regional services for the estimated 2500-3000 people who suffer from lymphoedema in Northern Ireland.

Implementation of the CREST Guidelines for the prevention, diagnosis, assessment and management of lymphoedema will ensure that patients' risk of developing lymphoedema is reduced, improve detection, aid timely diagnosis and guarantee access to appropriate treatment within a dedicated quality lymphoedema service, thus reducing infection (and related admissions, functional impairment and the psychosocial burden of lymphoedema).

Evidence:
CREST, 2008, Guidelines for the diagnosis, assessment and treatment of lymphoedema http://www.crestni.org.uk/index.htm

CREST, 2005, Cellulitis guidelines
http://www.crestni.org.uk/publications-show?txtid=4038

DHSSPS, 2004, Report of the Lymphoedema Services Review Group
http://www.dhsspsni.gov.uk/lymphoedema.pdf

National Institute for Health and Clinical Excellence (NICE), 2004, Improving Supportive and Palliative Care for Patients with Cancer
http://www.nice.org.uk/guidance/index.jsp?action=byID&r=true&o=10893

National Institute for Health and Clinical Excellence (NICE), 1996 and 2002, Improving outcomes in Breast Cancer
http://www.nice.org.uk/nicemedia/pdf/Improving_outcomes_breastcancer_manual.pdf

Responsibility for delivery / implementation

Lymphoedema Network for Northern Ireland
Trusts
GPs

Quality Dimension
Safe, Timely and Patient Centred Patients who are identified as being at risk of developing lymphoedema should be given appropriate information regarding prevention to decrease their risk, and ensure early diagnosis and direct access to a lymphoedema service. **Efficient and Effective** An early diagnosis and timely treatment for all patients should be the priority aim of the service. This has been proven to decrease the overall burden of lymphoedema, both to the patient and the service, and to increase quality of life. Management of the more chronic condition requires more intensive treatment and less overall patient and clinician satisfaction, impacting heavily on clinical resources. Patients deemed as being at risk of developing lymphoedema as a result of surgical treatment, e.g. regional lymph node dissection, should have baseline measurements recorded prior to and post intervention to aid detection. **Equitable** Lymphoedema services across the Province should be easily accessible to all patients to ensure early treatment, and prevent deterioration and chronicity. Local access is essential as lymphoedema management is intensive requiring daily treatments for extended periods.

Performance Indicator	Data Source	Anticipated Performance Level	Date to be achieved by
Percentage of patients deemed at risk of, or with a diagnosis of, lymphoedema who are provided with information (verbal and written) on risk reduction and treatment	Service audit – 2008 Patient note review	Establish baseline 15% increase on baseline	2009/10 2010/11
Percentage of patients having surgery which involves the removal of regional lymph nodes who have limb measurement prior to surgery	Service audit – 2008 Patient note review	Establish baseline 15% increase on baseline	2009/10 2010/11

6.7 RENAL DISEASE

The kidneys are responsible for 'filtering' blood to remove waste products and water from the body. In chronic kidney disease (CKD), formerly called Chronic Renal Failure, the kidneys gradually stop functioning efficiently. The most advanced form of this, end-stage kidney failure, imposes a large burden on healthcare in Northern Ireland costing over 2% of the budget for less than 0.1% of the population. Using the Glomerular Filtration Rate (GFR) as a measure of how the kidneys are performing, kidney disease is classified from stage 1 to 5 (Table 10)[31]. About 5% of the adult population has CKD stages 3-5 and are being registered within the General Practice Quality and Outcomes Framework.

Table 10 - Classification and treatment aims of Chronic Kidney Disease [31]

Stage	eGFR ml/min	Description	Treatment stage
1	90+	Normal kidney function, but urine findings or structural abnormalities indicate kidney disease	Observation, control of blood pressure (<130/80), Lifestyle changes.
2	60-89	Mildly reduced kidney function, and other findings as for stage 1 CKD	Observation, control of blood pressure and risk factors
3	30-59	Moderately reduced kidney function	Observation, control of blood pressure and risk factors
4	15-29	Severely reduced kidney function	Planning for end-stage kidney failure
5	< 15	Very severe or end-stage kidney failure (established renal failure)	Choice of treatment (dialysis, transplantation, palliative care)

The majority of persons with CKD do not progress to needing dialysis and most have no specific renal symptoms. CKD is commoner in older persons with hypertension, diabetes, ischaemic heart disease, or other vascular disease. Although there are many causes of CKD there is a common pathway of renal function

[31] National Kidney Foundation. K/DOQI clinical practice guidelines for chronic kidney disease: evaluation, classification and stratification. *Am J Kidney Disease* 2002;39 (Suppl 2): S1-246. (http://www.kidney.org/professionals/kdoqi/guidelines_ckd/toc.htm)

decline that predicts patients with the highest risks of dialysis and/or excess cardiovascular risk.

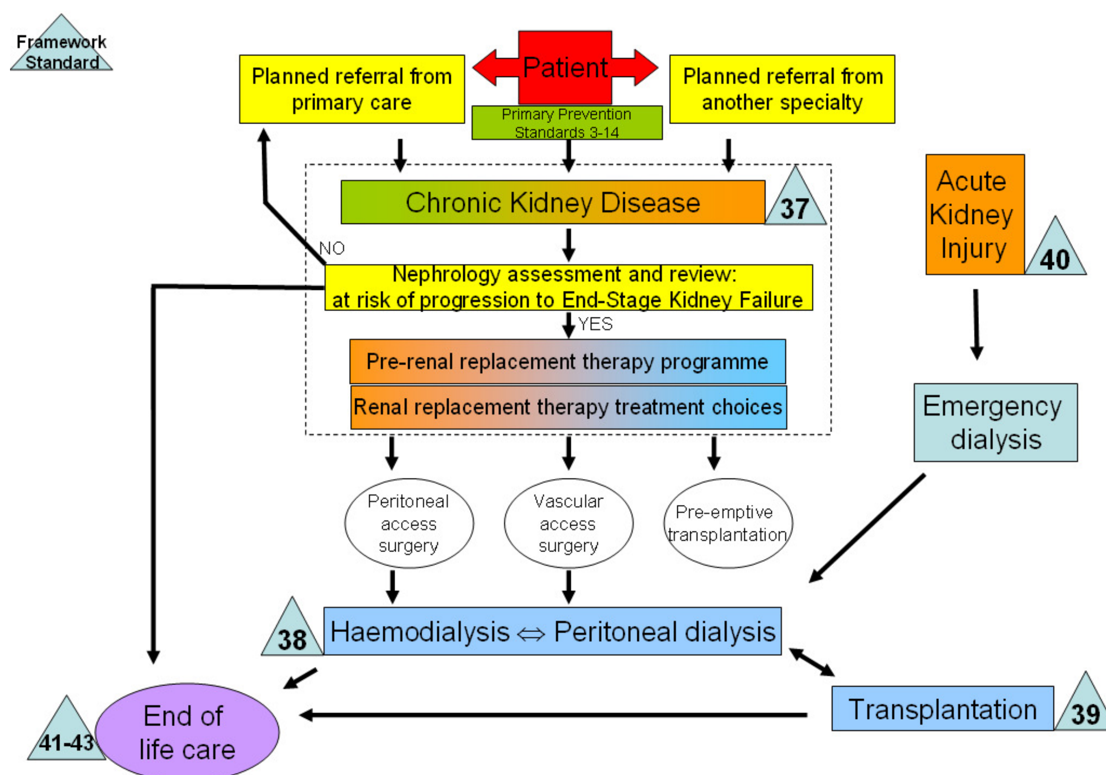
In 2004 and 2005 the Department of Health (England and Wales) published 2 parts of a National Service Framework for Renal Services. Part one dealt with Dialysis and Transplantation and part 2 focused on progressive CKD, acute kidney injury (AKI) and end-of life care. In 2006 CKD was added to the Clinical Domain of the General Practice contract with 4 indicators as part of the annual Quality and Outcomes Framework. Locally there have been reviews of renal service in 1995 and 2002[32].

Annual growth in the renal replacement therapy population in Northern Ireland has been occurring at 6-10%. In the UK averaged growth is 7.3% reflecting treating older patients and the provision of expanded dialysis capacity.

The pathway for patient management with kidney disease is described below along with the position of the 4 renal standards and relations with the other prevention and CVS standards.

[32] Renal Services Review 2002.Department of Health and Personal Social Services, Northern Ireland. (http://www.dhsspsni.gov.uk/renal_chpt1_6.pdf)

Figure 10 : Patient journey with kidney disease requiring renal services



The delivery of this complex service will need additional support as already outlined in the DHSS Review of Renal Services 2002[32]. Phased expansion of the specialist renal multidisciplinary workforce coupled to increased dialysis capacity and access to transplantation are critical to enhanced service delivery. High quality information systems are essential components of the Renal Service to enable comparative national audit (UK Renal Registry and UK Transplant authorities), and to monitor local performance of the standards outlined here. A formal managed clinical network would make best use of the current and future resources and help deliver the highest quality renal services to the Northern Ireland population.

Overarching standard 38:
All patients with a diagnosis of chronic kidney disease (CKD) should receive timely, appropriate and effective investigation, treatment and follow-up to reduce both the risk of progression and complications.

Rationale:
Since chronic kidney disease (CKD) is a term that amalgamates a number of primary disease processes the management therefore starts often before there is decline in renal function as measured by glomerular filtration rate (GFR). Furthermore in many patients the risk of cardiovascular disease outweighs that of end-stage renal failure. There is either evidence or strong consensus to support the surveillance and aggressive management of risk factors in persons being treated for any of the following conditions that lead to CKD: **hypertension**, **diabetes**, **vascular disease**, **heart failure and both urological and multi-system diseases**. The addition of a set of guidelines and audit measures specifically related to the care of patients with CKD reflects a worldwide recognition of the importance of early detection of CKD to facilitate interventions that will slow the rate of renal function decline to reduce the need for renal replacement therapy as well as to reduce the high risk of cardiovascular disease. This is further supported by the inclusion of specific sections on CKD in Part 2 of the National Service Framework for Renal Services and the latest Quality and Outcomes Framework of the General Medical Services contract for General Practitioners. These clinical practice guidelines are intended to provide clear advice on key aspects of the management of patients with CKD. The associated audit measures are a means whereby Renal Units can assess their performance against a nationally agreed set of outcome indices.
Using the 5 stage CKD classification these patients should have implementation of treatment guidelines and management plans based on disease severity. Importantly a fall in GFR (beyond anticipated age-related decline) and/or the development of proteinuria are strong indicators of higher risk for progressive CKD to dialysis stages and of higher cardiovascular risk.

Evidence:
UK Guidelines for the management of Chronic Kidney Disease
http://www.renal.org/CKDguide/ckd.html

Hallan S, Dahl K, Oien CM et al. Screening strategies for chronic kidney disease in the general population: follow-up of cross sectional health survey. British Medical Journal 2006;333:1047
http://www.bmj.com/cgi/content/full/333/7577/1047

Clinical Practice Guidelines for the Care of Patients with Chronic Kidney Disease UK Renal Association Clinical Practice Guidelines. 4th Edition 2007
http://www.renal.org/guidelines/print/CKDfinalMar07.pdf

Responsibility for delivery / implementation

All Health and Social Care Trusts
Renal Multi-disciplinary team
General Practice

Quality Dimension

Timely
CKD is generally a slowly progressive disease over a time period of years to decades. This allows for early intervention to prevent Cardiovascular and Renal events.

Effective
There is an excellent evidence base for the interventions that impact and reduce progression and cardiovascular events.

Efficient
These interventions are relatively inexpensive and efficient with less patients requiring treatment to avoid progression than many other accepted interventions.

Equitable
The interventions are equally useful in all races and in most patients studied to date up to age 80. Evidence in patients older than this is somewhat lacking.

Patient Centred
Interventions are well tolerated and welcome to patients as the risks of progressive CKD are serious and contribute to significant disability.

Performance Indicator	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of CKD patients with a record of blood pressure in the previous 15 months and whose blood pressure is 140/85 mmHg or less.	QoF	BP Recorded 80% 85% 90% BP at Target 60% 65% 70%	2008/09 2009/10 2010/11 2008/09 2009/10 2010/11
Percentage of hypertensive CKD patients treated with an angiotensin converting enzyme inhibitor (ACE-I) or, if a patient is truly intolerant to an ACE inhibitor, angiotensin receptor blocker (ARB) (unless a contraindication or side effects are recorded)	QoF	60% 65% 70%	2008/09 2009/10 2010/11

Percentage of patients with CKD who have a quantitative record of a proteinuria test in the previous 15 months.	To be confirmed	Establish baseline 5% increase on baseline 5% increase on previous year	2008/09 2009/10 2010/11
Percentage of patients with CKD stage 4 and 5 assessed or discussed with nephrology services.	To be confirmed	Establish baseline 5% increase on baseline 5% increase on previous year	2008/09 2009/10 2010/11

Overarching standard 39:
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.

Rationale:
Established renal failure (ERF) is an irreversible, long-term condition for which regular dialysis or transplantation is required if the individual is to survive. The most common causes of ERF are diabetes and cardiovascular disease. The risk of renal failure increases with age and during 2005 within NI the median age of patients starting renal replacement therapy (RRT) was 68.3 years. As new ERF patients join existing RRT programmes, it is projected that overall growth of dialysis expansion will need to be on average 5%-7% per year (UK renal registry report 2006).
Most patients with ERF will receive different types of RRT during their lifetime. The various forms of dialysis therapies are complementary and the best way of managing RRT is through an integrated approach to dialysis and transplantation. Service planning and delivery should promote seamless integrated care which is safe, effective and efficient with improved clinical outcomes to enhance the patient experience and improve clinical outcomes.

Evidence:
The National Service Framework for Renal Services. Part One: Dialysis and Transplantation (2004)
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4070359

The Renal Association Clinical Practice Guidelines 3a/3b (2007)
http://www.renal.org/guidelines

Good practice guidelines for renal dialysis/transplantation units: prevention and control of blood-borne virus infection (2002)
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4005752

National Institute for Health and Clinical Excellence (NICE), 2002, Renal failure – home versus hospital haemodialysis
http://www.nice.org.uk/guidance/index.jsp?action=byID&o=11472

National Institute for Health and Clinical Excellence (NICE), 2006, Anaemia management in chronic kidney disease
http://www.nice.org.uk/guidance/index.jsp?action=byID&o=10992

Kidney Disease. Improving global outcomes (KDIGO) http://www.kdigo.org

The Renal Association UK Renal Registry, The Ninth Annual Report, December 2006 http://www.renalreg.com/reports/renal-registry-reports/2006/

Renal Association Standards & Audit Subcommittee
http://www.renal.org/Standards/standards.html

European Best Practice Guidelines for haemodialysis Part 1. Nephrol Dial Transplant 2002; 17: Supplement 7 S1-S111
http://ndt.oupjournals.org/content/vol17/suppl_7/index.shtml

Responsibility for delivery / implementation

Hospital Trusts and their renal units
Multidisciplinary renal teams

Quality Dimension
Timely All patients will have timely and appropriate surgery for permanent vascular access or peritoneal dialysis access. **Effective** Renal replacement therapy regimes should comply with national guidelines and standards. **Efficient** All patients on renal replacement therapies should have access to a highly skilled multiprofessional team to deliver an appropriate range of skills in response to their individual needs. **Equitable** All patients who are deemed medically fit should be eligible for renal replacement therapy. **Patient Centred** All patients will have timely education, preparation and be offered renal replacement. They will be supported in their informed decision making about modality choice and in managing their condition to achieve the best possible quality of life.

Performance Indicator	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of new haemodialysis patients offered a regular outpatient haemodialysis slot without delayed discharge.	To be confirmed	establish baseline 5% increase on baseline 5% increase on previous year	2008/09 2009/10 2010/11
Percentage of prevalent dialysis patients meeting UK guidelines for permanent vascular access assessment and placement	To be confirmed	establish baseline 5% increase on baseline 5% increase on previous year	2008/09 2009/10 2010/11

Overarching standard 40:
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.

Rationale:
A successful kidney transplant is the most clinically and cost-effective treatment for many patients with established renal failure; furthermore it is associated with significantly improved survival versus continued dialysis in suitable patients (1-3). However, it is recognised that there are difficulties of supplying kidneys to meet demand and alternative programmes need to be optimised such as heartbeating donors, non-hearting beating donors and living donation. Several months is typically required to provide adequate counseling to patients, consideration of living donor options as well as assessment of recipient cardiovascular and other risks. Moreover the possibility of pre-emptive transplantation (before the initiation of dialysis) should be considered. Patients may be placed on the waiting list for a renal transplant up to 6 months before the expected start of dialysis. Part 1 of the Renal NSF therefore emphasizes the need for evaluation and preparation for possible transplantation to begin prior to initiation of dialysis in order to minimize the time that dialysis is required prior to transplantation and to facilitate pre-emptive transplantation.

Evidence:
Standards for solid organ transplantation in the United Kingdom, British Transplant Society (2003)
http://www.bts.org.uk/Forms/standards%20document%20edition%202%20-%20final.pdf

Multi-professional criteria for monitoring implementation of the National Service Framework for Renal Services, British Renal Society
http://www.britishrenal.org/Other/Criteria%20for%20success.pdf

National Service Framework for Renal Services. Part One: Dialysis and Transplantation
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4070359

Responsibility for delivery / implementation

All Health and Social Care Trusts
Renal team
Multidisciplinary Transplant team

Quality Dimension
Timely Early introduction of transplantation by the renal team to promote living donation, with culturally appropriate information, discussion and counselling of the risks and benefits of transplantation **Effective** NICE guidance should be followed for immunosuppressive therapy and the treatment of acute rejection episodes **Efficient** All donated kidneys should be adequately matched to the recipients blood group, tissue type and be in the best possible condition, with a short ischaemic time **Equitable** All patients who are deemed medically fit should be eligible for transplantation. **Patient Centred** All non-English-speaking patients being counselled about risks and benefits of transplantation should have availability of translator services. Visually impaired patients should have information available in large print and audio tape.

Performance Indicator	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of dialysis and CKD stage 5 patients aged less than 70 who have evidence of transplant discussion and education.	Clinical Information system Renal Unit Audit	60% 70% 80%	2008/09 2009/10 2010/11
Number of living donation kidney transplants that renal transplant team should achieve annually	UK Transplant (http://www.uktransplant.org.uk)	13 deceased and 6 living donors pmp 8 living donors/pmp 10 living donors/pmp	2008/09 2009/10 2010/11
Percentage of kidney transplantation operations where the cold ischaemia time is shorter than 24 hours	UK Transplant (http://www.uktransplant.org.uk)	50% 55% 60%	2008/09 2009/10 2010/11
Percentage of patients with a documented plan for post-transplant immunosuppression	Renal Unit Audit	80% 85% 90%	2008/09 2009/10 2010/11

Overarching standard 41:
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.

Rationale:
Acute kidney injury (AKI) (formerly acute renal failure) is sudden decline in kidney function, often occurring over hours or days. It can occur in people with previously normal kidney function or in those who have background CKD, which may or may not have been previously identified. If it is severe, emergency extra-corporeal therapies such as haemodialysis are required to keep the person alive.

AKI most frequently occurs with injuries and diseases having a secondary effect on damaging the kidneys. Where AKI does occur it is frequently compounded by prescribed medicines. Severe infection and low blood pressure (such as due to blood loss) are among the commonest causes and this often happens post-operatively. Rare but important forms of AKI are important causes of long-term kidney damage (CKD) so it is important to identify this quickly as early treatment may slow or even reverse the kidney failure. AKI is potentially fatal but in many cases reversible if appropriately treated. Finally pre-existing CKD has been identified as a major factor contributing to the development of AKI though often in the setting of other risk factors known to reduce the reserve of renal function such as age, diabetes and reduced cardiac function.

There are problems with the definition of AKI and lack of good epidemiological data outside of intensive care and renal units.

Evidence:
The National Service Framework for Renal Services. Part two. Quality requirement three: Acute renal failure
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4101902

The Renal Association Clinical Practice Guidelines 3a/3b (2007)
http://www.renal.org/guidelines

Bellomo R, Ronco C, Kellum JA, Mehta RL, Palevsky P, the ADQI workgroup: Acute renal failure - definition, outcome measures, animal models, fluid therapy and information technology needs: the Second International Consensus Conference of the Acute Dialysis Quality Initiative (ADQI) Group. Crit Care 2004, 8:R204-R212 http://bmc.ub.uni-potsdam.de/cc2872/cc2872.pdf

Kidney Disease. Improving global outcomes (KDIGO) http://www.kdigo.org

Abosaif NY, Tolba YA, Heap M, Russell J, El Nahas AM: The outcome of acute renal failure in the intensive care unit according to RIFLE: model application, sensitivity, and predictability. Am J Kidney Dis 2005, 46:1038-1048 http://www.ncbi.nlm.nih.gov/pubmed/16310569

Schiffl H, Lang SM, Fischer R: Daily hemodialysis and the outcome of acute renal failure. N Engl J Med 2002, 346:305-310 http://content.nejm.org/cgi/content/full/346/5/305

Abuelo JG, Normotensive Ischemic Acute Renal Failure N Engl J Med 2007 357:797-805 2007 http://content.nejm.org/cgi/content/extract/357/8/797

Responsibility for delivery / implementation
All Health and Social Care Trusts

Quality Dimension			
Timely Prompt identification of people at risk of or suffering from acute renal failure. **Effective** Appropriate pre-operative testing and interventions, in accordance with the NICE guideline on pre-operative testing. **Efficient** Early preventative action to avoid need for dialysis or admission to critical care units. **Equitable** All patients with acute kidney injury irrespective of age and comorbidities should be assessed by a senior doctor with prior experience in managing patients with acute kidney injury. **Patient Centred** When patients have complex comorbidities decisions about commencing dialysis should be made following discussion with patients, where possible, and relatives.			
Performance Indicator:	**Data source**	**Anticipated Performance Level**	**Date to be achieved by**
Development of evidence based consensus guidance on the prevention and management of AKI	Hospital Information systems Renal clinical information systems Intensive Care Clinical Information systems	Development of guidance	December 2009

SECTION 7: STANDARDS FOR SUPPORTIVE AND PALLIATIVE CARE

Improving care during the last phase of life means ensuring that people get the appropriate care, at the right time, in the right place, in a way that they can rely on. This often requires a shift in focus from prevention, treatment and cure to alleviating symptoms, making thoughtful decisions, supporting families and providing ongoing care in the appropriate setting. These standards will apply to a number of service frameworks under development and for this reason they are described as generic standards. Their inclusion within a number of service frameworks is of great significance to ensure the equitable delivery of supportive, palliative and end of life care for all people.

Supportive and palliative care is the care given to patients and their families whose disease is not responsive to curative treatment. This care can be provided by practitioners not exclusively concerned with specialist palliative care ie primary care teams; hospital teams and healthcare professionals in a variety of settings (National Institute for Health Research, 2007).

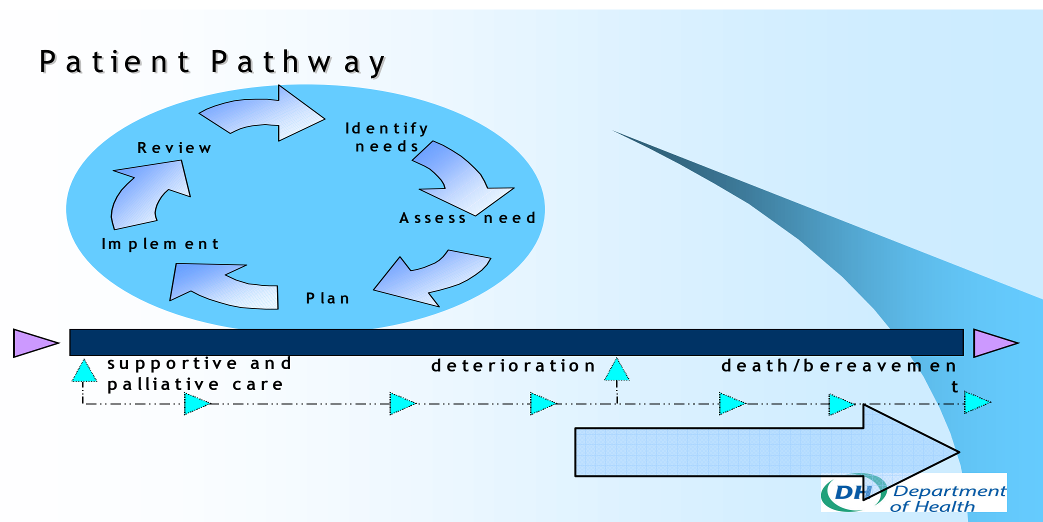
Supportive care is an ‘umbrella’ term for all services, both generalist and specialist, that may be required to support people with life-threatening illness. It is not a response to a particular disease or its stage, but is based on an assumption that people have needs for supportive care from the time that the possibility of a life-threatening condition is raised. (National Council for Palliative Care, 2002).

Palliative care is the active holistic care of patients with advanced, progressive illness. Management of pain and other symptoms and provision of psychological, social and spiritual support is paramount. The goal of palliative care is achievement of the best quality of life for patients and their families. Many aspects of palliative care are also applicable earlier in the course of the illness in conjunction with other treatments. (WHO, 2002)

End of life care helps all those with advanced, progressive, incurable conditions to live as well as possible until they die. It enables the supportive and palliative care needs of both the patient and the family to be identified and met throughout the last phase of life and into bereavement. It includes physical care,

management of pain and other symptoms and provision of psychological, social, spiritual and practical support. (National Council for Palliative Care, Focus on commissioning, Feb 2007)

Figure 1: Continuum of Care (DOH, 2005)



Recognising the breadth of health and social care providers, patients and carers included within these definitions provides both challenge and opportunity in the development of standards which can be measured to demonstrate improvement in the experience of the living and the dying.

Consultation during the development of these generic standards has endorsed the importance of key concepts. Hinged on the importance of early identification of palliative care patients across all disease care pathways, this is accompanied by the need for holistic assessment, coordination of care and further recognition of diagnosing dying and ensuring the delivery of high quality end of life care. Underpinning outcome of quality for patients with palliative care need is a competent knowledge basis and the ability to ensure effective and empathic face to face communication.

It is intrinsically difficult to predict or identify which patients may be in their last year of life. If we could better identify these patients we would be more able to provide better end of life care for them. The Gold Standards Framework National Central Team propose three triggers to identify for supportive and palliative care :-

1. The surprise question, " Would you be surprised if this patient were to die in the next 6-12 months?" – an intuitive question integrating co- morbidity, social and other factors
2. Choice/ Need – the patient with advanced disease makes a choice for comfort care only, not 'curative' treatment, or is in special need of supportive/ palliative care
3. Clinical indicators – Specific indicators of advanced disease for each of the three main end of life patient groups – cancer, organ failure, elderly frail/ dementia. These are an attempt to estimate when patients have advanced disease or are in the last year or so of life. These act as a rough guide to those in primary care and secondary services that a patient may be in need of supportive and palliative care. Hospitals may like to suggest in discharge letters that such patients are included in the GPs Supportive and Palliative Care Register, if considered appropriate

Heart Disease – CHF(Coronary Heart Disease collaborative,2004)
• At least two of the indicators below:- • CHF NYHA stage III or IV – shortness of breath at rest or on minimal exertion • Patient thought to be in the last year of life by the care team – the "surprise question" • Repeated hospital admissions with symptoms of heart failure • Difficult physical or psychological symptoms despite optimal tolerated therapy

Stroke
• Persistent vegetative or minimal conscious state/dense paralysis/incontinence • Medical complications • Lack of improvement within 3 months of onset • Cognitive impairment/Post- stroke dementia

Renal Disease
• Patient with stage 5 kidney disease who are not seeking or are discontinuing dialysis or renal transplant (from choice or because they are too frail or too many co-morbid conditions) • Patient with stage 4 or 5 chronic kidney disease whose condition is deteriorating and for whom the surprise question is applicable. • Clinical indicators: • CKD stage 5 (eGFR <15 ml/min) • Symptomatic renal failure (anorexia, nausea, pruritus, reduced functional status, intractable fluid overload)

Partnerships in Caring (2000) recognised the need for a key worker to be identified to ensure the appropriate sign posting, provision of information and organisation of individualised care in response to need. A lack of description of the elements of this role has lead to an ad hoc and causal approach to the significance and responsibility attached to it. The inclusion of this role is significant across all disease frameworks and potential future service models, to ensure the continuity of care and maximise the quality of patient experience.

It is anticipated that the fulfilment of these standards will shape a service model for supportive, palliative and end of life care across all conditions.

Overarching standard 42:
Health and social care professionals, in consultation with the patient, should identify, assess and communicate the unique supportive, palliative and end of life care needs of that person, their caregiver/s and family.

Rationale:
Early identification of the supportive, palliative and end of life care needs of patients, their care-givers and family, through a holistic assessment, maximises quality of life for all in terms of physical, emotional, social, financial, and spiritual health and wellbeing.

Patients and carers highly value face-to-face communication with skilled health and social care professionals who are able to 'engage with patients on an emotional level, to listen, to assess how much information a patient wants to know, and to convey information with clarity and empathy'

Evidence:-
National Institute for Health and Clinical Excellence (NICE), 2004, Improving Supportive and Palliative Care for Adults with Cancer
http://www.nice.org.uk/guidance/index.jsp?action=byID&o=10893

Supportive and Palliative Care for Advanced Heart Failure, Coronary Heart Disease Collaborative, NHS Modernisation Agency (2004)
http://www.library.nhs.uk/cardiovascular/ViewResource.aspx?resID=78319

National Institute for Health and Clinical Excellence (NICE), 2003, Chronic Heart Failure; Management of Chronic Heart Failure in Adults in Primary and Secondary Care
http://www.nice.org.uk/guidance/index.jsp?action=byID&o=10924

National Institute for Health and Clinical Excellence (NICE), 2004, Chronic Obstructive Pulmonary Disease; Management of Chronic Obstructive Pulmonary Disease in Adults in Primary and Secondary Care
http://www.nice.org.uk/guidance/index.jsp?action=byID&o=10938

Regional Cancer Framework: A Cancer Control Programme for Northern Ireland DHSSPSNI (2006)
http://www.dhsspsni.gov.uk/eeu_cancer_control_programme_eqia.pdf

Responsibility for delivery / implementation

Family Practitioner unit
Primary care team, inclusive of social care.
Trust CEO, Senior management across all care settings

Quality Dimension			
Patient Centred, Equity, Effectiveness Patients and clients should be empowered to identify areas of supportive and palliative care need throughout the progression of their illness. Deterioration of a patient's condition should be identified according to the 3 triggers of the Gold Standard Framework prognostic indicator guide for adults with advanced disease and in collaboration between the patient, carers, the patient's GP, secondary care consultant and their specialist nurse. **Equity, timeliness, safety** All patients identified as requiring supportive and palliative care should have their needs recorded. This should be available to the patient and all health and social care professionals involved in the holistic assessment of needs **Effectiveness** All health and social care professionals should be able to identify the appropriate level of palliative care required for the individual patient			
Performance Indicator	**Data source for PI**	**Anticipated Performance Level**	**Date to be achieved by**
Percentage of patients, with a cardiovascular diagnosis, identified as requiring palliative care and on the Supportive and Palliative care register.	QOF dataset Audit of supportive/palliative care register within primary care data Framework documents	30% 50% 90%	2009 2010 2011
Percentage of patients with a cardiovascular diagnosis on the Supportive and Palliative Care Register who have had an	Audit of supportive/palliative care register within primary care data. Audit of care plans	50% 70% 90%	2009 2010 2011

holistic assessment appropriate to needs and a care plan developed	Audit of carer assessments within care plan		
Percentage of staff (professional and non professional) with appropriate generalist and / or specialist palliative care training to prescribed level of competency (as per NICaN S&PC Education)	Training Records of all health and social care professionals, and non registered staff CPD record	Establish baseline Performance level to be determined once baseline established	2009/10

Overarching standard 43:
All patients, carers and families should have access to responsive, integrated services which are co-ordinated by an identified team member according to an agreed plan of care, based on their needs.

Rationale:
The coordinated delivery of an agreed plan of care, in collaboration with the patient, will ensure the appropriate engagement of members of the multi professional team, at generalist and /or specialist level, across all care settings and inclusive of caregivers and families.

Evidence:
National Institute for Health and Clinical Excellence (NICE), 2004, Improving Supportive and Palliative Care for Adults with Cancer
http://www.nice.org.uk/guidance/index.jsp?action=byID&o=10893

Definitions of levels of palliative care, National Council for Palliative Care
http://www.ncpc.org.uk

Supportive and Palliative care for advanced heart failure, Coronary Heart Disease Collaborative, NHS Modernisation Agency (2004)
http://www.library.nhs.uk/cardiovascular/ViewResource.aspx?resID=78319

National Institute for Health and Clinical Excellence (NICE), 2003, Chronic Heart Failure; Management of Chronic Heart Failure in adults in primary and secondary care
http://www.nice.org.uk/guidance/index.jsp?action=byID&o=10924

National Institute for Health and Clinical Excellence (NICE), 2004, Chronic Obstructive Pulmonary Disease; Management of Chronic Obstructive Pulmonary Disease in adults in primary and secondary care
http://www.nice.org.uk/guidance/index.jsp?action=byID&o=10938

Responsibility for delivery / implementation

All health and social care providers including non statutory, and across all care setting
Primary Care
Primary Care team, Secondary care multidisciplinary team, specialist palliative care providers

Quality Dimension
Equity, patient centred care, effectiveness, efficiency, safety All patients and carers should have an agreed plan of care that ensures timely and effective communication of information, reflecting their individual care needs including intended outcomes of care. Patients and carers have access to a range of services including 24-hour nursing (with rapid response), AHP, night sitting, day sitting, social care, care packages, pharmacy, hospice-at-home, intermediate care/respite/daycare, dedicated in-patient beds, specialist advice, specialist medicines and bereavement services.

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of patients with an identified/named key worker for services responsible for ensuring the 24 hour plan of care is integrated	Audit of multiprofessional notes Audit of supportive / palliative care register within primary care data/out of hours services	Establish baseline Performance level to be determined once baseline established	2010/11
Percentage of patients on the palliative care register with unresolved symptoms and complex psychosocial needs who have been referred to specialist palliative care services for advice or management in accordance with the Regional Criteria for Specialist Palliative Care	Audit of referrals to statutory and voluntary specialist palliative care providers as per NCPC and NICaN recommendations	Establish baseline Performance level to be determined once baseline established	2010/11

Overarching standard 44:
All people with advanced progressive conditions, their caregivers and families, should 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.

Rationale
"End of life care" has the potential to enhance care for the dying person and their family, culminating in a well coordinated, responsive and identified approach to their unique needs at this time.

When professionals overcome their desire to protect patients from potentially distressing information and discuss end of life issues honestly, with sensitivity to patient and carer, the outcome maximises the health and well being of the patient, carers and family.

Advanced care planning should include DNAR and Preferred Place of Care in the event of deterioration.

Evidence:
National Institute for Health and Clinical Excellence (NICE), 2004, Improving Supportive and Palliative Care for Adults with Cancer
http://www.nice.org.uk/guidance/index.jsp?action=byID&o=10893

Regional Cancer Framework: A Cancer Control Programme for Northern Ireland DHSSPSNI (2006)
http://www.dhsspsni.gov.uk/eeu_cancer_control_programme_eqia.pdf

Supportive and Palliative care for advanced heart failure, Coronary Heart Disease collaborative, NHS Modernisation Agency (2004) -
http://www.library.nhs.uk/cardiovascular/ViewResource.aspx?resID=78319

National Institute for Health and Clinical Excellence (NICE), 2003, Chronic Heart Failure; Management of Chronic Heart Failure in adults in primary and secondary care
http://www.nice.org.uk/guidance/index.jsp?action=byID&o=10924

National Institute for Health and Clinical Excellence (NICE), 2004, Chronic Obstructive Pulmonary Disease; Management of Chronic Obstructive Pulmonary Disease in adults in primary and secondary care
http://www.nice.org.uk/guidance/index.jsp?action=byID&o=10938

Responsibility for delivery / implementation
All health and social care providers including non statutory, and across all care settings All health and social care teams within hospital, community, hospice and care homes CEO Trusts
Quality Dimension
Equity, effectiveness, patient centred Patients should be enabled to die in their preferred place of care, where possible Patients who meet the criteria should be placed on the Care of the Dying Pathway

Performance Indicator:	Data source	Anticipated Performance Level	Date to be achieved by
Percentage of patients who are enabled to die in their appropriate preferred place of care	Audit of primary care data, multiprofessional hospital records, hospice patient records and care home records.	Establish baseline Performance level to be determined once baseline established	2010/11
Percentage of patients, with end stage disease, who have met the criteria of the Care of the Dying Pathway, and have been placed on it in hospital, community, hospices and care homes.	Audit of GP records, multiprofessional hospital records, hospice patient records and care home records. HSC Trust training CPD records	Establish baseline Performance level to be determined once baseline established	2010/11
Percentage of appropriate professionals trained in advanced communication skills (Breaking Bad News)		Establish baseline Performance level to be determined once baseline established	2010/11

Appendix 1 – Membership of Project Team

Project Lead	Dr David Stewart	Regulation Quality and Improvement Authority
Project Manager	Ms Veronica Gillen	DHSSPS
Project Sponsor	Dr Maura Briscoe	DHSSPS
Section Lead – Epidemiology	Dr Louise Herron	Southern Health and Social Services Board
Section Lead – Health Promotion	Mrs Gerry Bleakney	Eastern Health and Social Services Board
Section Lead – Coronary Heart Disease	Mrs Joy Youart	DHSSPS
Coronary Heart Disease subgroup leads	Dr Tom Trouton Dr Geoff Richardson Dr John Purvis Dr Frank Casey Mrs Bernie Downey Mrs Gillian Wells	Northern Health and Social Care Trust Belfast Health and Social Care Trust Western Health and Social Care Trust Belfast Health and Social Care Trust Belfast Health and Social Care Trust DHSSPS
Section Lead – CVD	Dr Michael Power	South Eastern Health and Social Care Trust
Section Lead – PVD	Dr Paul Blair Dr Jackie McCall	South Eastern Health and Social Care Trust Western Health and Social Services Board
Section Lead – Diabetes	Dr Bernadette Cullen	Eastern Health and Social Services Board
Section Lead – Hyperlipidaemia	Dr Leslie Boydell	South Eastern Health and Social Care Trust
Section Lead – Hypertension	Professor Gary McVeigh	Queen’s University of Belfast

Section Lead – Renal Disease	Dr Damian Fogarty Mrs Avril Redmond	Belfast Health and Social Care Trust Belfast Health and Social Care Trust
Section Lead – Supportive and Palliative Care	Mrs Lorna Nevin	Northern Ireland Cancer Network
Quality Assurance Lead – Patient Involvement	Mr Richard Dixon	Eastern Health Social Services Council
Quality Assurance Lead – Primary Care QOF	Dr Sloan Harper	Northern Health and Social Services Board
Quality Assurance Lead – Pharmacy	Dr Mark Timoney	DHSSPS
Project Admin Support	Mr John Maguire	DHSSPS

External Quality Assurance

Professor Roger Boyle, National Director for Heart Disease and Stroke, Department of Health
Executive Committee of the British Hypertension Society
Mr Andrew Dougal, NICHSA
Dr Mike Knapton, Director Prevention and Care, British Heart Foundation

A number of other people and interest groups have also contributed to the development of this framework through attendance at workshops and stakeholder events.

The inputs of the following individuals are also acknowledged

Dr Mark Jackson, Associate Director - Clinical Quality, Cardiothoracic Centre Liverpool NHS Trust
Dr Annemarie Telford, Director of Public Health, Southern Health and Social Services Board

Appendix 2: Glossary of Terms

Angina	Heaviness or tightness in the centre of the chest, which may spread to the arms, neck, jaw, back or stomach. Angina is caused when the arteries become so narrow due to atheroma that not enough oxygen-rich blood can reach the heart muscle when the body is making high demands on it such as during exercise. The pain can also occur when a person is resting.
Angiogram	An x-ray picture of the blood vessels which shows whether the arteries are narrowed and, if so, how narrow they have become. A fine, flexible, hollow, plastic tube called a catheter is passed into an artery either in the groin or arm and is gently guided through the blood vessels. X-ray films are taken by putting a dye down the catheter and then taking a series of pictures. This means that a ‘road map’ of the blood vessels can be drawn showing where blood vessels are narrowed and how narrow they have become. This procedure can also be used to examine the coronary arteries (coronary angiogram) or other arteries in the body.
Angiography	A test to show whether arteries are narrowed and how narrow they have become. See ‘angiogram’ for more information.
Angioplasty with stent	A catheter (a fine, hollow tube) with a small inflatable balloon at its tip is passed into an artery in either the groin or arm. The operator then uses x ray screening to direct the catheter to a coronary artery until its tip reaches the narrowed or blocked section. The balloon is then gently inflated so that it squashes the fatty tissue against the artery wall. As a result, this widens the artery. The catheter contains a stent which is a short tube of stainless steel mesh. As the balloon is inflated, the stent expands so that it holds open the narrowed blood vessel. The balloon is then let down and removed, leaving the stent in place and allowing the blood to flow freely through the artery.

Antenatal Screening	A detailed ultrasound scan, performed on all pregnant women at around 20 weeks, to check for normal fetal growth.
Aneurysm	If there is a progressive weakening of the wall of the aorta, it begins to 'balloon'. This is called an aneurysm. It will grow bigger and eventually rupture (usually fatal) if it is not diagnosed and treated.
Aorta	The large artery leading out of the left side of the heart which supplies the body with blood.
Aortic valve	The valve which regulates the flow of blood from the left ventricle into the aorta.
Arrhythmia	An abnormal heart rhythm.
Artery	A blood vessel carrying blood from the heart to the rest of the body.
Atheroma	This is fatty material that can build up within the walls of the arteries. When atheroma affects the coronary arteries, it can cause angina, heart attack or sudden death. When it affects the arteries to the brain it may cause a stroke. When it affects the leg arteries, it causes peripheral arterial disease. Atheroma can build up for many years before if causes problems.
Atherosclerosis	The build up of fatty materials within the walls of the arteries.
Atria	The two upper chambers of the heart. They act as collecting chambers to fill the ventricles (the two lower chambers of the heart).
Atrial fibrillation	A type of arrhythmia (abnormal heart rhythm) in which the atria (the upper two chambers of the heart) beat very rapidly. Atrial fibrillation can cause quite unpleasant palpitations and sometimes breathlessness. In some cases, the fast irregular rhythm may cause a clot to form in the heart.
Beta blocker	Beta blockers are drugs that block the actions of the hormone adrenaline which makes the heart beat faster and more vigorously. They are used to

	help prevent attacks of angina, to lower blood pressure, to help control abnormal heart rhythms and to reduce the risk of a further heart attack in people who have already had one.
Cardiac rehabilitation	The process which helps people with heart disease to regain and, if possible, improve their health. Ideally cardiac rehabilitation should start when, or even before, the person is admitted to hospital, and continue when they are in hospital and after they have been discharged. Cardiac rehabilitation involves explaining what has happened to the heart, doing exercise or physical activity, and support and education to encourage long term lifestyle changes. See also ‘rehabilitation programme’. This may be run as a team based approach, including a range of health professionals such as nurses, physiotherapists, pharmacists and dietician.
Cardiomyopathy	A disease of the heart muscle.
Carotid artery stenosis	Carotid artery stenosis is a narrowing of the carotid arteries. These are the main arteries in the neck that supply blood to the brain. Carotid artery stenosis is a major risk factor for ischaemic stroke.
Diabetes	A disease caused when the body does not produce enough insulin, or when the cells of the body can no longer use the insulin
Drug eluding stent	A drug eluding stent is a stent which has been coated with medication to help prevent the artery closing off again.
ECG	See ‘electrocardiogram’.

Electrocardiogram	Also known as an 'ECG'. This is a test to record the rhythm and electrical activity of the heart. Small sticky patches (electrodes) are attached to a person's arms, legs, and chest and are connected to a recording machine. The recording machine picks up the electrical signals produced by each heartbeat. An ECG can detect abnormalities of heart rate and rhythm. It can also tell if a person has experienced a heart attack, either recently or some time ago. It can also detect if the heart has become enlarged or is working under strain.
Hypertension	High blood pressure.
Myocardial infarction	A heart attack
Peripheral arterial disease	This occurs when fatty acids (atheroma) build up in the inner walls of arteries and affect blood circulation. This is most common in the arteries to the legs and feet.
POSSUM	POSSUM stands for Physiological and Operative Score Severity for the enumeration of mortality and morbidity. It is a scoring system used in vascular surgery which adjusts the risk of a surgical procedure based on a patient's physiological condition and therefore allows a more accurate comparison of performance.
Proband	Proband is the first affected family member who seeks medical attention for a genetic disorder
Pulmonary	To do with the lungs
Pulmonary artery	The artery that carries blood from the heart to the lungs.

Rehabilitation programme	A programme for people who have had a heart attack or heart surgery covering exercise, relaxation as well as information on lifestyle and treatment. The structure of the programme can vary but people usually start the programme about four weeks after a heart attack or heart surgery. It may involve attending once or twice a week for between 6 and 12 weeks, although some programmes run longer.
Revascularisation	Any procedure that restores blood flow to a part of the body.
Stent	A short tube of expandable mesh which is inserted at the part of the artery which is to be widened by coronary angioplasty (see angioplasty with stenting). The stent helps to support the artery wall (see also drug eluding stent)
Stroke	A stroke is a localised neurological deficit with a vascular cause, lasting longer than 24 hours. It is usually due to either a blockage of the blood vessels to the brain, or by a bleed into the brain.
Thrombolysis	Drug treatment to help dissolve a clot which is blocking an artery.
Thrombus	A blood clot.
Transcient Ischaemic Attack (TIA)	A transcient ischaemic attack (TIA) causes similar symptoms as a stroke but lasts less than 24 hours. This is a strong indicator of the risk of a more serious stroke.

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