

APPENDICES

APPENDIX 1 – Membership of Project Team

Dr Jenny Gingles, Chair Respiratory Forum (Replaced Dr Carolyn Harper from October 2007)	South Eastern Health and Social Care Trust / Public Health Agency
Mrs Anne-Marie Marley	Belfast Health and Social Care Trust
Dr John O’Kelly	GP Western Trust Area
Dr Joe MacMahon	Belfast Health and Social Care Trust
Dr Liam Heaney	Belfast Health and Social Care Trust and Queen’s University, Belfast
Dr Brenda O’Neill	University of Ulster
Dr Keith Rooney (until November 2007)	Northern Health and Social Services Board
Dr Avril Craig	Northern Health and Social Services Board
Professor Mike Shields	Belfast Health and Social Care Trust and Queen’s University, Belfast
Dr Richard Shepherd	Belfast Health and Social Care Trust
Miss Sara Rafferty	Belfast Health and Social Care Trust
Professor Stuart Elborn	Belfast Health and Social Care Trust and Queen’s University, Belfast
Dr Terry Maguire	Community Pharmacist
Dr Geoffrey Allen	GP Belfast Health and Social Care Trust Area and RCGP
Dr Iain Gleadhill	South Eastern Health and Social Care Trust
Mrs Teresa McAllister	Southern Health and Social Services Board
Ms Veronica Gillen	DHSSPS

External Quality Assurance

Professor Mike Pearson, Professor of Clinical Evaluation,
University of Liverpool and Consultant Physician, University
Hospital Aintree

Dr Ian Balfour-Lynn, Senior Lecturer, National Heart and Lung
Institute, Imperial College, London and Consultant in Paediatric
Respiratory Medicine

Dame Helena Shovelton, Chief Executive, British Lung Foundation

Dr Gerard Daly, Consultant Physician, Western Health and Social
Care Trust

Dr George O'Neill, Chairperson, Belfast Local Commissioning
Group

Mr Richard Dixon, Chief Officer, Eastern Health and Social
Services Council

Mrs Joyce McKee, Principal Social Worker, Eastern Health and
Social Services Board

Ms Bronagh Smyth, Belfast Health and Social Care Trust

Northern Ireland Chest, Heart and Stroke Association

Asthma UK

Inputs from the following individuals are also acknowledged:

Alan Watts, Belfast Health and Social Care Trust

Shauna Nolan, Western Health and Social Care Trust

Lorna Nevin, Northern Ireland Cancer Network

Dr Louise Herron, Southern Health and Social Services Board

Heather Reid, Eastern Health and Social Services Board

Dr Joe Kidney, Belfast Health and Social Care Trust

Patricia Brown, Belfast Health and Social Care Trust

Joan O'Hagan, Asthma UK

Dr Trevor Brown, South Eastern Health and Social Care Trust

Dr Diane Corrigan, Consultant Public Health Medicine, Southern
Health and Social Services Board
Andrew Dougal, NICHSA

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

APPENDIX 2

Deaths from Respiratory Disease in Northern Ireland 2002 and 2006

Cause	ICD-10 code	No. of deaths in 2002	% of total respiratory deaths in NI (denominator = ICD-10 J00-99)	No. of deaths in 2006	% of total respiratory deaths in NI (denominator = ICD – 10 J00-99)
Lower respiratory tract infections	<i>J10-18 and J20-J22</i>	972	51.6%	974	49.1%
Chronic Lower Respiratory Disease e.g. COPD	<i>J40-44</i>	553	29.4%	616	31.1%
Asthma	<i>J45-46</i>	36	1.9%	35	1.8%
Other e.g. respiratory failure, connective tissue diseases affecting the lungs	<i>J95-99</i>	139	7.4%	113	5.7%
Other lung disease principally affecting interstitium e.g.	<i>J80-84</i>	83	4.4%	116	5.9%
Lung disease due to external agents asbestosis, coal worker's pneumoconiosis etc	<i>J60-70</i>	69	3.7%	95	4.8%
Other respiratory	<i>Rem J00-J99</i>	31	1.6%	33	1.7%
All respiratory	<i>J00-99</i>	1,883	100%	1,982	100%

Source: General Register Office (NISRA)

APPENDIX 3

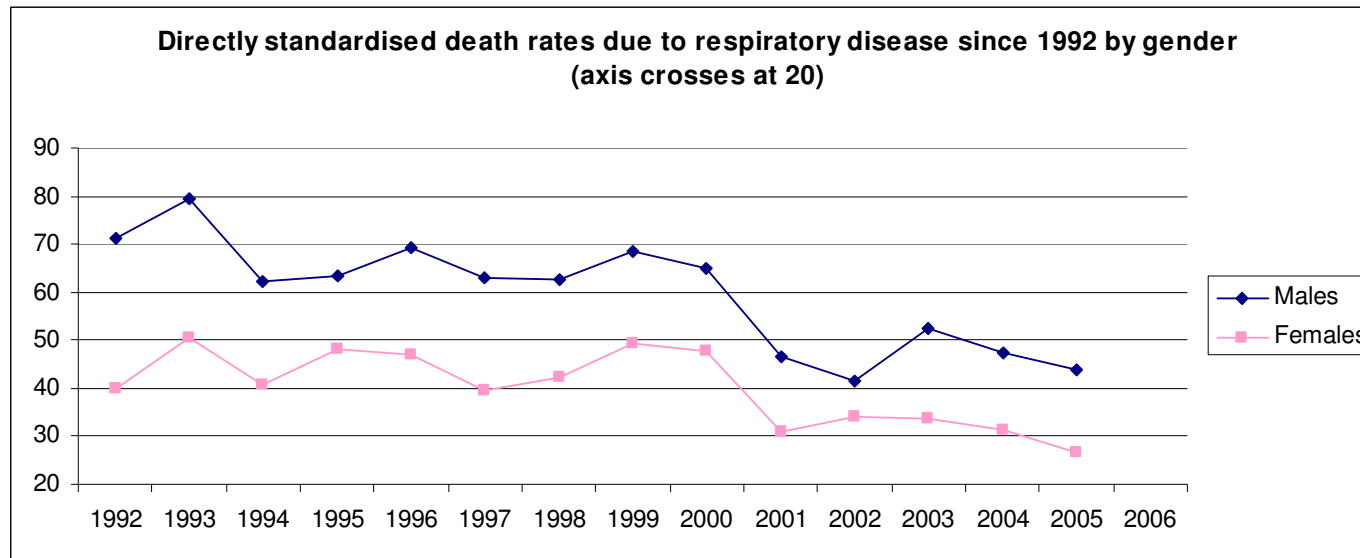
Directly standardised death rates due to Respiratory Disease in Northern Ireland since 1992 by age and sex

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Males	71.1	79.3	62.4	63.6	69.3	62.9	62.7	68.5	64.8	46.5	41.4	52.6	47.4	43.7
Females	40.0	50.6	40.6	48.1	46.9	39.5	42.1	49.3	47.7	31.1	33.9	33.7	31.4	26.7

Source: Derived from the Registrar General Northern Ireland (NISRA) Mortality Statistics and Home Population Estimates

Note: ICD 10 - J00-J99. ICD 9 – 460-0519

Rates are per 100,000 population and are standardised to the revised 2001 home mid year estimate



APPENDIX 4

Age Specific mortality rates due to respiratory disease in Northern Ireland 2002 and 2006 per 100,000 population

Age (years)	2002	2006
0-24	2	2
25-40	2	2
41-54	13	9
55-70	109	83
71-84	632	668
85+	3254	3205
All ages	111	114

Source: NISRA/GRO

Notes: ICD 10 – J00-J99

Rates are crude rates per 100,000 population
2006 data is provisional

APPENDIX 5

**Predicted total numbers of deaths in NI due to respiratory diseases
assuming 2002 death rates remain constant**

Gender	Deaths	<i>Predicted deaths</i>	
	2002	2012	2022
Male	806	1,183	1,627
Female	1077	1,351	1,712
Total	1,883	2,534	3,339

APPENDIX 6

Hospital Admissions and Bed Days due to Respiratory Disease in 2005/06

	ICD10 code	Number of Admissions 2005/06	% of total respiratory admissions	Number of bed days	%of total bed days	Average length of stay (days)
Acute upper respiratory tract infections (URTI)	J00-J06	3,527	11.9	6,107	3.0	1.7
Influenza and Pneumonia	J10-J18	3,679	12.4	47,669	23.2	13.0
Other acute lower respiratory tract (LRT) infections	J20-J22	6,010	20.2	51,494	25.0	8.6
Other diseases of URT	J30-J39	6,796	22.9	9,974	4.8	1.5
Chronic LRT diseases e.g. COPD, asthma	J40-J47	7,467	25.1	61,505	29.9	8.2
Lung disease due to external agents	J60-J70	438	1.5	8,450	4.1	19.3
Other lung disease principally affecting the interstitium	J80-J84	464	1.6	6,175	3.0	13.3
Suppurative and necrotic conditions of LRT	J85-J86	50	0.2	894	0.4	17.9
Other diseases of pleura	J90-J94	771	2.6	7,205	3.5	9.3
Other e.g. connective tissue diseases	J95-J99	522	1.8	6,221	3.0	11.9
All respiratory	J00-J99	29,724	100	205,694	100	6.9

Source: Hospital Information System, DHSSPSNI

APPENDIX 7

Predicted total numbers of admissions due to respiratory diseases assuming 2002 admission rates remain constant

	2002	2015	2025
Male	14,415	16,290	18,400
Female	13,826	14,857	16,261
Total	28,241	31,147	34,661

APPENDIX 8

The Labour Force Survey carried out in 2004 found that 30,000 people (i.e. 3%) of working age have long term chest or breathing problems. Over half (51%) of these stated that this limited the *amount* of paid work they could carry out and almost two thirds (63%) stated that it limited the *type* of paid work they could do. Less than half (46%) were in paid employment compared to two thirds (67%) of all people of working age.⁵¹

Some people with respiratory disease may be eligible to claim Disability Allowance. 5% of all disability awards in NI are made to people with long term chest and breathing problems, at a cost of over £26.2 million pounds annually.⁵² This, in addition to the number of working years lost to the economy through death before retirement age, represents a very significant cost and highlights the importance of preventative strategies to improve both the health of the individual and the economy overall.

⁵¹ Labour Force Survey 2004 (<http://www.statistics.gov.uk>)

⁵² Department for Social Development (<http://www.dsdni.gov.uk>)

APPENDIX 9: Glossary of terms

Acute	Of or relating to a disease or a condition with a rapid onset and a short, severe course
Adenotonsillar	Of or relating to the tonsils and adenoids
Allergic rhinitis	An inflammatory response in the nasal passages to an allergic stimulus
Alpha 1 Antitrypsin	Deficiency of the protease inhibitor alpha-1 antitrypsin, leads primarily to degradation of elastin of the alveolar walls, as well as other structural proteins of a variety of tissues.
Alveoli	Tiny, thin-walled, capillary-rich sacs in the lungs where the exchange of oxygen and carbon dioxide takes place. Also called <i>air sac</i>
Alveolitis	Inflammation of alveoli
Anaphylaxis	Hypersensitivity induced by preliminary exposure to a substance and usually producing a contraction of smooth muscle and a dilation of blood vessels
Apnoea	An episode where normal breathing slows or stops completely.
ARTP	Association for Respiratory Technology and Physiology
Asbestosis	Fibrosis of the lung due to the inhalation of asbestos fibres
Atrophy	A wasting or decrease in size of a body organ, tissue, or part owing to disease, injury, or lack of use
Audit	Systematic review and evaluation of records and other data to determine the quality of the services or products provided in a given situation
Autosomal	A chromosome that is not a sex chromosome
BCG vaccination	Tuberculosis vaccine (Bacillus Calmette-Guerin)

Body Mass Index (BMI)	A measurement of the relative percentages of fat and muscle mass in the human body, in which mass in kilograms is divided by height in meters squared and the result used as an index of obesity
Bronchiectasis	A condition in which an area of the bronchial tubes is permanently and abnormally widened (dilated), with accompanying infection
Bronchoalveolar lavage	Irrigation or washing out of both the bronchia and alveoli of the lungs
Bronchodilators	A medication that acts to dilate (enlarge) the lumen of the airway to allow the unrestricted passage of air
Burkholderia cepacia	An important human pathogen which most often causes pneumonia in individuals (whose immune system is not fully functioning) ,who have underlying lung disease (such as cystic fibrosis or chronic granulatomous disease)
Cardiopulmonary	Pertaining to heart and lungs
Chronic	Lasting for a long period of time or marked by frequent recurrence
Chronic obstructive pulmonary disease (COPD)	A progressive disease process that most commonly results from smoking. Chronic obstructive pulmonary disease is characterised by difficulty breathing, and a chronic cough
Ciliary	A tiny hairlike projection on the surface of some cells and microscopic organisms
Clinical	Pertaining to or founded on actual observation and treatment of patients, as distinguished from theoretical or experimental
Cohort	A group of individuals sharing a common characteristic and observed over time in the group.
Commissioner	In the health service in Northern Ireland an individual or much more likely organisation which “purchases” services from local Health and Social Care Trusts in order to meet the health and social care needs of the population/area for which the commissioning body is responsible

Co-morbidity	Coexisting conditions or diseases with unrelated pathological or disease process
Contraindications	A factor that renders the administration of a drug or the carrying out of a medical procedure inadvisable.
Corticosteroids	Any of the steroid hormones produced by the adrenal cortex or their synthetic equivalents
Craniofacial	Of or involving both the cranium and the face
Craniopharyngioma	Craniopharyngioma is a cancer which arises in the pituitary gland, in tissue originally found in the embryo.
CPD	Continuing Professional Development
CRB-65 tool	This is a method of scoring severity of community acquired pneumonia in people aged more than 65, using scores relating to confusion, respiratory rate and blood pressure.
CREST	Clinical Resource Efficiency Support Team
Cystic Fibrosis	Cystic fibrosis (CF) is an inherited disease that affects the lungs, digestive system, sweat glands, and male fertility. Its name derives from the fibrous scar tissue that develops in the pancreas, one of the principal organs affected by the disease
Cytotoxic drugs	Drugs which act by killing or preventing the division of cells
DES	A Directly Enhanced Service is a specialised service provided by all GPs in N Ireland for Asthma and COPD.
Determinants	An influencing or determining element or factor
Duchenne Muscular Dystrophy (DMD)	A specific form of muscular dystrophy that is inherited as a sex-linked recessive trait and thus confined to young males and to females with Turner's syndrome
Dyskinesia	An impairment in the ability to control movements, characterized by spasmodic or repetitive motions or lack of coordination

Emphysema	A chronic lung disease characterised by progressive, irreversible expansion of the alveoli with eventual destruction of alveolar tissue, causing obstruction to airflow. Patients with emphysema often have laboured breathing, wheezing, chronic fatigue, and increased susceptibility to infection, and may require oxygen therapy. Long term smoking is a common cause of emphysema.
Empyema	The accumulation of pus in a cavity of the body, which when used in reference to respiratory disease, refers to thoracic empyema.
Endobronchial	Pertaining to or emanating from the lining of the bronchi.
Endotracheal	Within or passing through the windpipe
Equitable	Marked by or having equity; just and impartial
Exacerbation	An increase in the severity of a disease or in any of its signs or symptoms
Expert Patient Programme	A peer-led self care support programme for people living with any long term condition, their carer and families.
FEV1	Forced Expiratory Volume in 1 second (lung capacity test)
GINA Guidelines	Global Initiative for Asthma Guidelines
Glucocorticoid	Any of a group of anti-inflammatory steroid-like compounds, such as hydrocortisone, that are produced by the adrenal cortex, are involved in carbohydrate, protein, and fat metabolism, and are used as anti-inflammatory agents.
Granulomatous	Describes tumour-like mass or nodule of granulation (small, fleshy, beadlike protuberances) tissue
Green Book	Immunisations against infectious disease 2006 (Green Book) Joint Committee on Vaccination and Immunisation.
Hib	Haemophilus influenzae type b

High Resolution CT	High Resolution Computerised Tomography is a specialised radiological diagnostic test.
Holistic	Concerned with the whole person rather than analysis or separation of parts of the effects of a condition.
HSC Trusts	Health and Social Care Trusts
Hypercapnoea/Hypercapnia	A condition where there is too much carbon dioxide (CO ₂) in the blood
Hypertrophy	A non-tumorous enlargement of an organ or a tissue as a result of an increase in the size rather than the number of constituent cells
Hypopnoea	Abnormally slow, shallow breathing
Hypoventilation	Abnormally slow and shallow respiration, resulting in an increased level of carbon dioxide in the blood
Hypoxaemia	Insufficient oxygenation of the blood
Hypoxia	Reduction of oxygen supply to tissue below physiological levels despite adequate perfusion of the tissue by blood
Idiopathic	Of or relating to a disease where there is no known cause
IgE mediated	IgE is the antibody that is involved in allergic reactions. A person who has an allergy produces too much IgE. This IgE may lead to the development of allergic symptoms. Hayfever is a well known example of this. IgE mediated means that the allergic reaction was set off by the production of too much IgE
Immunodeficiency	An innate, acquired, or induced inability to develop a normal immune response
Immunosuppressed	Suppression of the immune response, as by drugs or radiation, in order to prevent the rejection of grafts or transplants or to control autoimmune diseases.
Incidence	Extent or frequency of occurrence
Inflammatory Bowel Disease	A general term that encompasses several disease processes, most commonly, ulcerative colitis and Crohn's disease

Intermediate care	A level of medical care in a hospital that is intermediate between intensive and basic care
Interstitial	Small interval, space, or gap in a tissue or structure.
Intra-oral devices	Gumshield-like devices (mandibular repositioning devices) which attempt to keep the airway clear by moving the jaw forward.
IRT test	Immunoreactive trypsin (IRT) is used to selectively screen for cystic fibrosis (CF) in new-born infants.
Kyphoscoliosis	Upward (kyphosis) and lateral (scoliosis) curvature of the spine.
Longitudinal	Concerned with the development of persons or groups over time
Mono-specific	Having an effect only on a particular kind of cell or tissue or reacting with a single antigen
Mortality rate	The death rate; the ratio of the total number of deaths to the total number of the population during a specified time period.
M.TB	Mycobacterium tuberculosis – The Gram-positive bacterium that causes tuberculosis
Musculoskeletal	Relating to or involving the muscles and the skeleton
Nasal polyps	Usually non malignant growth of tissue protruding from the mucous lining of the nose
Nebuliser	A device used to reduce liquid medication to extremely fine cloudlike particles; useful in delivering medication to deeper parts of the respiratory tract.
Neuromuscular	Pertaining to muscles and nerves
NICE	National Institute for Health and Clinical Excellence
NICaN	Northern Ireland Cancer Network

Non-caseating granulomas	Granulomas are small nodules seen in a variety of diseases. An important feature is whether they are caseating or not. Caseation is necrosis at the centre of the granuloma
Obstructive Sleep Apnoea Syndrome	A form of sleep apnoea which occurs as the result of a physical occlusion of the oropharyngeal airway during sleep
Omalizumab	A monoclonal antibody used as a parenteral drug to treat severe asthma
Oximetry	Measurement of the oxygen content of arterial blood.
Palliative care	Care that relieves or soothes the symptoms of a disease or disorder without effecting a cure
Parenchymal lung disease	Disease which impacts on the lungs' essential function
Pathological	Relating to or caused by disease
Peak flow measurement	Measurement of maximum breathing capacity of an individual
PEFR	Peak Expiratory Flow Rate
Pertussis	Whooping cough
PICU	Paediatric Intensive Care Unit
Pleural	Refers to the pleura or membrane that enfolds the lung
Pneumococcal vaccine	This is a vaccination which protects against diseases caused by a bacterium called Streptococcus Pneumoniae, including pneumonia.
Polysomnography (PSG)	Simultaneous and continuous monitoring of normal and abnormal physiological activity during sleep
Prader Willi Syndrome	A congenital syndrome of unknown cause characterized by short stature, mental retardation, excessive eating and obesity, and sexual immaturity
Prevalence	The total number of cases of a disease in a given population at a specific time
Primary care	The initial medical care given by a health care provider to a patient outside hospital, usually a GP

Pseudomonas aeruginosa	A bacterium which is a common isolate from wounds, burns and urinary tract infections and from many other accumulations of pus in all species
Pulmonary	Of, relating to, or affecting the lungs
Pulmonary fibrosis	Scarring in the lungs
Radiological	Pertaining to the branch of the health sciences which deals with radioactive substances and radiant energy and with the diagnosis and treatment of disease by means of both ionizing (e.g. x-rays) and non ionizing (e.g., ultrasound) radiation
Respiratory acidosis	Acidosis is an abnormal increase in the acidity of the body's fluids, caused either by accumulation of acids or by depletion of bicarbonates. In respiratory acidosis it is caused by retention of carbon dioxide, due to inadequate pulmonary ventilation or hypoventilation
Rheumatoid arthritis	Chronic inflammatory disease in which there is destruction of joints
Sarcoidosis	Disease of unknown origin marked by formation of granulomatous (small nodules of inflammatory tissue) lesions that appear especially in the liver, lungs, skin, and lymph nodes
Scoliosis	A congenital lateral curvature of the spine
Secondary care	Treatment by specialists to whom a patient has been referred by primary care providers usually in a hospital setting
Sinusitis	Inflammation of the mucous membrane of a sinus
Short-acting broncho-dilators (SABAs)	Bronchodilators are drugs which dilate bronchi and bronchioles. Bronchodilators are either short-acting or long-acting. Short-acting medications provide quick or "rescue" relief from acute bronchoconstriction. Long-acting bronchodilators help to control and prevent symptoms

Spinal Muscular Atrophy (SMA)	Progressive degeneration of the motor cells of the spinal cord, beginning usually in the small muscles of the hands, but in some cases (scapulohumeral type) in the upper arm and shoulder muscles, and progressing slowly to the leg muscles.
Spirometry	Test using an instrument (a spirometer) for measuring the volume of air entering and leaving the lungs
Sputum	Matter coughed up and usually expelled from the mouth, especially mucus or mucopurulent matter expectorated in diseases of the air passages
Symptomatic	Characteristic or indicative of a disease
Tertiary care	Treatment given in a health care centre that includes highly trained specialists and often advanced technology
Thoracic	Of or pertaining to the chest
Thoracoabdominal	Relating to the thorax and the abdomen
Tuberculosis	A disease caused by an infection with the bacteria <i>Mycobacterium tuberculosis</i>
Venturi mask	A type of disposable mask used to deliver a controlled oxygen concentration to a patient
Video-assisted thoracoscopy	Endoscopic (use of an illuminated, flexible optical tube) examination of the chest cavity
Workers' pneumoconiosis	Deposition of large amounts of dust or other particulate matter in the lungs, causing a tissue reaction, usually in workers in certain occupations and in residents of areas with excessive particulates in the air