

INTRODUCTION

Chapter 1 | What is Health?

1.1 Definition of Health

The World Health Organisation's definition that 'health is a state of complete physical, mental and social well-being and not merely the absence of disease or injury' expresses a positive dimension to health. Health is described as a holistic concept representing a continuum from the absence of disease, disability or death to well-being.

This wider definition of health implies that debates about health and efforts to improve population health need to involve a range of health measures, rather than focusing exclusively on measures of disease or injury. Perceived health, quality of life, freedom from limiting long-term illness and satisfaction about what can be achieved in our daily lives are issues judged to be important for our health and well-being.

1.2 Factors Influencing Health

The determinants of health are diverse and wide-ranging, and include economic, environmental, behavioural, social and biological influences as well as health and personal social services. A model of health which considers the determinants of health as "layers of influence" is shown in Figure 1.1 by Dahlgren and Whitehead (1).

At the centre are individuals, their health affected by age, gender and genes. Behavioural factors such as smoking, diet and physical activity have an important influence and can be altered directly by the individual, but are often affected by social position, economic resources and the material and social environment. The next layer of influence reflects these wider social determinants of health and includes social and community networks – for example, mutual support within a community has the potential to sustain the health of individuals in otherwise unfavourable conditions – and determinants such as the work environment, including stress and personal control, housing and living conditions, education, transport and

access to health services. Finally there are economic, cultural and environmental conditions such as fiscal policy or international trading agreements which operate at societal level and which affect all the other influences.

Of particular importance in the study of factors which influence health is the way in which these factors are distributed across the population (2, 3). Their variation across the population is considerable and plays an important part in the widespread inequalities in health and mortality, which have been shown in many countries.

Reports that there are two-, three-, or even four fold differences in mortality between social groups are evidence of a problem which demands serious and urgent attention (4, 5, 6,7).

Substantial evidence on the nature and scale of inequalities comes from the Independent Inquiry into Inequalities in Health commissioned by the British government in 1999. This report known as the Acheson report argues that intervening against inequality needs "upstream" understanding of how society is organised and "downstream" understanding of the mechanisms of human biology. It makes a strong case that if we wish to improve health and tackle inequalities in health we need to address the ways in which we organise in society (8).

As interest in the factors which influence health and health inequalities has grown, it has stimulated research aimed at understanding the pathways which link the determinants of health. This exploration is important as it increases understanding of ways in which interventions can be more effective in improving health and reducing inequalities. While evidence on causal pathways has grown in recent years there is still much to learn about how macroeconomic and wider social policies shape the quality of social relations and contribute to inequalities in health. For example the processes which generate inequalities at the top and the bottom of the social scale may differ; and may also differ over time.

FIGURE 1.1

Factors that influence health



Chapter 2 | Specific Determinants of Health

Among the wide range of factors which determine health this study focuses on three types of influence: demographic and socio-economic characteristics, social capital indicators and lifestyle behaviours.

2.1 Demographic and Socio-economic Characteristics

The demographic and socio-economic characteristics include age, gender, marital status, jurisdiction, centre size, income, social class, education, employment and housing tenure.

Research on the effects of these characteristics has highlighted the disturbing and pervasive evidence that people in the lowest social and economic groups have the poorest health. Poverty, the extent of relative deprivation and the processes of social exclusion all have a major impact on health (2-8). There is widespread evidence that poor social and economic circumstances affect health throughout life.

2.2 Social Capital Indicators

Researchers are increasingly interested in studying the effects of the social environment on health and many are interested in the challenging task of attempting to identify new characteristics which may matter for individual and population health (2-7,9). A concept that has generated considerable international interest is social capital (10-13).

A number of recent reports and reviews suggest that consideration of the concept of social capital can contribute to understanding efforts to tackle inequalities in health (10,11,12,13). Quantitative surveys from a number of countries have shown relationships between aspects of social capital and health (16,17). These studies have stimulated considerable debate and led to growing interest in the ways in which the social environment affects our health.

What is Social Capital?

While there is general agreement that social capital refers to certain features of social organisation there is a lively debate about its precise meaning. The central idea is that membership of a group confers obligations and benefits. One's family, friends, neighbours and community constitute an important asset that can be called upon in a crisis, enjoyed for its own sake, or leveraged for gain.

As researchers have sought to explore the concept, definitions have multiplied, often reflecting underlying ideological and theoretical differences. Some of the definitions in current use are outlined in Appendix 1. At present there is no single or agreed definition of social capital, or its measurement.

A useful working definition is the OECD's which takes social capital to be "the networks together with shared norms, values and understanding that facilitate co-operation within and between groups" (18).

This study is based on a range of indicators of social capital. These have been drawn from the social capital module used in the General Household Survey (2000/2001). This offered the opportunity for comparative studies. The social capital indicators used in this study represent different, but also overlapping measures of social relationships in the community.

They tap into and measure a number of different aspects of the social environment which are known to have an influence on health. For example, there is a growing literature on social networks and social support which shows that social support is beneficial to physical and mental health and that social isolation leads to ill health. In addition people with the fewest social connections have the highest mortality rates and a lack of participation in organisations, few friends and not currently being married are associated with greater overall mortality risk (16). As well as indicators of different aspects of the social environment, this study also includes a

number of other measures including community efficacy (the idea that community group members believe in the overall ability of the community to act effectively); trust; neighbourliness; civic participation and reciprocity.

Social Capital and Health

Within the wider policy context there has been a remarkable rise in international and national interest in the concept of social capital. A number of reports including a recent study from the OECD (18) suggest social capital is relevant to a wide range of policy areas including education, crime, neighbourhood development and health with potential to produce important benefits. This has led to considerable political and public interest with governments identifying social capital as a positive feature and expressing interest in developing ways it can be built as well as ways in which it can be protected.

As noted in section 2.2 social capital has also been put forward as a determinant of health.

Social capital may influence health by facilitating effective co-ordinated action; by improving the local physical and social environment and services; by improving other socio-economic circumstances of individuals; by providing social support to community members; and also through more general psychosocial factors (19). Conceptual ideas about the mechanisms by which social capital may influence health are growing. A central question is whether social capital adds new insights into what we already know about the impact of social relations on health.

2.3 Lifestyle Behaviours

Lifestyle behaviours are well known influences on our health. What we eat, how active we are, whether we smoke, how often we drink alcohol and how much – all have important effects on health which have been well documented in other studies internationally and in Ireland (20,21).

This study examines the effects on perceived health of selected lifestyle behaviours including smoking, excess alcohol consumption, lack of physical activity and overweight and obesity.

The measures of lifestyle behaviours used in this study have been selected to reflect those which have been used in other surveys of lifestyle behaviour in Ireland.

Chapter 3 | Policy Context

Chapters 1 and 2 pointed to the growing interest in the role of the social environment in population health. This chapter briefly outlines the policy context for this debate in Northern Ireland and the Republic of Ireland.

3.1 Policy Context

Health strategies in Northern Ireland and the Republic of Ireland have set targets to reduce health inequalities, and there are clear statements that achieving these targets will require action by every part of society. Strategies, in both jurisdictions recognise the importance of the wider determinants of health, and acknowledge the increasing evidence from international research which shows that health inequalities result from a complex interplay of factors.

Within the Republic of Ireland, the National Anti-Poverty Strategy sets out a range of actions to address social exclusion, homelessness and unemployment. It acknowledges the strong links between poverty and health and identifies tackling health inequalities as an important component of action to tackle poverty (22).

There is also support for actions aimed at building local community capacity and recognition of the ways in which community development can contribute.

In Northern Ireland, the Programme for Government supports the achievement of better health for all and identifies the need to target social need (23).

Tackling health inequalities is now firmly on the health policy agenda in Ireland, North and South (24, 25).

3.2 Social Capital in Public Policy

Social capital is beginning to develop a high profile public in policy, North and South:

- At a conference on social capital held in Dublin in March 2001, Taoiseach Bertie Ahern stated "Social capital has potential to be a very positive influence in public policy development" (26).

- The Agreed Programme for Government (2002) under the heading Building an Inclusive Society states " We will work to promote social capital in all parts of public life" (27).
- The National Economic and Social Forum is undertaking work to clarify the concept, stimulate debate and identify policy options (28).
- A discussion paper from the British Cabinet's Performance and Innovation Unit (April 2002) stated "Social capital may contribute to a range of beneficial economic and social outcomes" (29).
- Social capital also received some prominence in the report of the Civic Forum (Northern Ireland) (30).

3.3 General Comments

Several researchers are now emphasising that as well as informal horizontal networks and norms such as trust and reciprocity, social capital is a wider measure which includes formal social relations and the important role and impact of political, legal and institutional structures. They argue that social capital cannot really be understood independently of this broader institutional environment. The policy arguments for enhancing or reviving social capital do not occur in an institutional vacuum and definitions of social capital which focus on networks within, between and beyond communities need also to include the institutional context within which these networks are embedded, especially the role of the state (31,32,33,34).

Much of the debate on social capital assumes it is a positive concept but social capital has costs as well as benefits. It can produce negative consequences by being a mechanism of social control rather than support. Strong links between individuals can act to increase or decrease the risk of health outcomes. Peer pressure for example and a strong desire for acceptance may encourage harmful lifestyles.

There are several ways in which the concept of social capital may be useful (35):

- It may be seen as an explanatory variable, its presence or absence may explain outcomes, assist in understanding causal pathways and suggest important options for intervention and policy development.
- It may also sensitise policy makers and practitioners to the importance of the social environment and help promote debate.
- Social capital is not a panacea, and more of it is not necessarily better but the broader message is that how we associate with each other, and on what terms, has important implications for our well-being.

The concept of social capital has been widely criticized as well as supported. In addition to concerns about its wide definition and broad conceptual base it has been criticised for meaning all things to all people and bundling together several well established concepts such as trust and reciprocity. The concerns range from validity of specific components of surveys to fundamental problems with the concept (31-34).

Chapter 4 | The All-Ireland Social Capital and Health Survey

4.1 Survey Fieldwork

The All-Ireland Social Capital and Health Survey was part of a larger omnibus social survey conducted in Northern Ireland and the Republic of Ireland by Research Evaluation Services Ltd (36).

The survey comprised face-to-face interviews of one thousand adults (aged 18 years and over) in each jurisdiction (n = 2,000).

Individuals were randomly selected from the electoral registers and their selection was regionally stratified with sampling proportional to population size. An initial letter was sent to all selected individuals and an appointment was arranged by telephone or at a visit to their home. Four callbacks were attempted before an individual was classified as non-contactable and replaced.

During the initial stages of the fieldwork an outbreak of foot-and-mouth disease on the island caused some disruption¹. Access to farm areas was restricted, and this may explain the slightly lower than anticipated response rate and the absence of respondents from 'villages/rural/open country' in the Republic of Ireland².

In Northern Ireland the overall response rate was 63%. Altogether 1,585 individuals were approached; 231 were either not contactable or unable to participate in the interview (sick/elderly/infirm). Of the 1,354 who were contacted and able to participate in an interview, 354 (26%) declined to be interviewed³.

In the Republic of Ireland the overall response rate was 64%. Altogether 1,571 individuals were approached, 281 were either not contactable or unable to participate in the interview (sick/elderly/infirm). Of the 1,290 who were contacted and able to participate in an interview, 290 declined to be interviewed⁴.

The General Household Survey 2000/2001, from which the social capital related questions were taken, comprised personal interviews of all the members of a random sample of households. At least one interview was obtained in 67% of all eligible households (39).

In Northern Ireland responses were directly entered onto a laptop computer by the interviewer. In the Republic of Ireland they were recorded on a paper version of the questionnaire before data entry.

4.2 Definitions

The survey questionnaire included measures of perceived health reflecting the physical and psychological/emotional dimensions of health. It also included study factors such as demographic and socio-economic characteristics, social capital related questions, and lifestyle behaviours. The social capital related questions were used in the social capital module taken from the General Household Survey 2000/2001 (39).

This section describes the questions asked during the interviews, the measures of perceived health and the study factors.

1 In the Republic of Ireland the five yearly population census, due to be conducted in 2001, was delayed until 2002. In Northern Ireland the ten yearly population census, due to be conducted in 2001, went ahead.

2 In the Northern Ireland Health and Social Wellbeing Survey 2001, no access to farms was possible and all potential respondents on farms were listed as non-contactable and excluded from the survey (37).

3 The Northern Ireland Health And Social Wellbeing Survey 2001 comprised personal interviews with each member of a random sample of households. Sixty eight percent of all eligible households participated in the survey, and in these participating households 80% of eligible respondents gave a full personal interview. The response rate for this survey was approximately 54% (37).

4 The response rate for the Survey of Lifestyle, Attitudes and Nutrition (SLAN II), a postal survey conducted in 2002 in the Republic of Ireland, was 51% (38).

4.2.1 Perceived Health

The questionnaire included a number of measures of perceived health (see Table 4.2.1). For each of these, an 'indicator of good health' is defined.

TABLE 4.2.1

Measures of perceived health

MEASURES OF PERCEIVED HEALTH
General Health
Limiting long term illness
General mental health
Satisfaction with health
Quality of life

General Health

Respondents were asked: In general, how would you say your health is? They could answer 'Excellent', 'Very good', 'Good', 'Fair' or 'Poor'.

This question was taken from the Short Form Health Survey (SF-36) (40). The indicator of good health was taken to be the percentage of respondents who say their general health is either 'Excellent' or 'Very good'.

Limiting Long-term Illness

Respondents were asked: Is your daily activity or work limited by a long-term illness, health problem or disability? They could answer 'Yes', 'No' or 'Don't have any of the above'.

This question was taken from the second Survey of Lifestyle, Attitudes and Nutrition (SLAN II) in the Republic of Ireland (38). Other surveys, such as the Northern Ireland Health and Social Wellbeing Survey, first ask the respondent if they have any long standing illnesses and, if so, whether or not these limit daily activity (37).

The indicator of good health was taken to be the percentage of respondents who say 'No' or 'Don't have any of the above'.

General Mental Health Score

Respondents were asked: How much of the time during the past 4 weeks ...

- Have you been a very nervous person?
- Have you felt so down in the dumps that nothing could cheer you up?
- Have you felt calm and peaceful?
- Have you felt downhearted and low?
- Have you been a happy person?

To each item they could answer 'All of the time' (1), 'Most of the time' (2), 'A good bit of the time' (3), 'Some of the time' (4), 'A little of the time' (5) or 'None of the time' (6). Where necessary, responses were reversed so that higher responses reflect more positive mental health states. Responses to these five items were then averaged to give a general mental health score; higher scores reflecting a more positive mental state. Missing responses were not included in these calculations.

This multi-item scale was also taken from the Short Form Health Survey (SF-36).

The indicator of good health was taken to be the percentage of respondents whose score is 'high', in the sense that it falls within the highest third of all scores on the island.

Satisfaction with Health

Respondents were asked: How satisfied are you with your health? They could answer 'Very dissatisfied', 'Dissatisfied', 'Neither satisfied nor dissatisfied', 'Satisfied' or 'Very satisfied'.

This question was taken from the WHO-QoL instrument (40).

The indicator of good health was taken to be the percentage of respondents who say they are 'Very satisfied' with their health.

Quality of Life

Respondents were asked: How would you rate your quality of life? They could answer 'Very poor', 'Poor', 'Neither poor nor good', 'Good' or 'Very good'.

This question was also taken from the WHO-QoL instrument.

The indicator of good health was taken to be the percentage of respondents who say their quality of life is ‘Very good’.

4.2.2 Demographic Characteristics

The study factors included in the study are listed in Table 4.2.2.

Centre Size

In addition to North-South comparisons, regional comparisons within the Republic of Ireland were also based on responses to the following question.

Respondents were asked: Which of these areas would be applicable to you? They could answer ‘Dublin city’, ‘Other city (Cork, Galway, Limerick or Waterford)’, ‘Large town (10,000 - 40,000 population)’, ‘Small town (1,000 - 10,000 population)’ or ‘Village/rural/open country’.

Length of Residency

In this study ‘local area’ is defined as being ‘within about a 15-20 minute walk or 5-10 minute drive from your home’ while the ‘more immediate neighbourhood’ is defined as ‘your street or block’. Length of residency refers to the local area and not the immediate neighbourhood.

Marital Status

Respondents were asked to describe their marital status and could answer ‘Single (never married)’, ‘Married’, ‘Co-habiting’, ‘Separated’, ‘Divorced’, or ‘Widowed’. These responses were grouped into ‘Single (never married)’, ‘Married/co-habiting’, ‘Separated/divorced’ and ‘Widowed’.

Marital status is not an ordinal scale.

TABLE 4.2.2
Study factors

DEMOGRAPHIC CHARACTERISTICS
Gender
Age
Jurisdiction
Centre size (RoI only)
Length of residency in the local area
Marital status
SOCIO-ECONOMIC CHARACTERISTICS
Education
Social class (for each jurisdiction)
Employment status
Income
Housing tenure
VIEWS ABOUT THE LOCAL AREA
Local problems score
Local services score
Personal safety
SOCIAL CONTACTS
Number of neighbours known
Contact with:
• neighbours
• relatives
• friends
SOCIAL SUPPORT NETWORKS:
• practical support
• financial support
• emotional support
PERCEIVED NEIGHBOURHOOD SOCIAL NORMS
Neighbourhood trust
Perceived Neighbourhood reciprocity
Perceived Neighbourhood efficacy
CIVIC ENGAGEMENT
Involvement in local organisations
LIFESTYLE BEHAVIOURS
Smoking status
Drinking level
Exercise level
Body mass index

4.2.3 Socio-economic Characteristics

Education

Different education systems operate in the North and the South. Respondents were asked to describe their highest educational qualification and to select an answer from a series of possible qualifications that were relevant to their jurisdiction. After consultation with Research Evaluation Services Ltd, the responses were grouped into the following categories: 'No formal qualifications/Primary qualifications', 'Lower secondary', 'Upper Secondary' and 'Third Level qualifications'.

Social Class

Social class in Northern Ireland was classified as: 'Unassigned/unknown', 'SC IV' (Partly skilled, Unskilled), 'SC II(NM + M)' (Skilled, Non-manual and manual), or 'SC I-II' (Professional, Managerial and technical).

Social class in the Republic of Ireland was classified as: 'Otherwise gainfully employed/unknown', 'SC 5-6' (Semi-skilled, Unskilled), 'SC 3-4' (Non-manual, Skilled manual) or 'SC 1-2' (Professional workers, Managerial and technical).

Employment Status

Respondents were first categorised as either 'Retired' or not retired. 'Economically inactive' people are those who are not retired but not seeking paid work (including those unable to do so because of disability or illness, and those who do home duties). The remainder of those who are not retired are categorised as either 'Employed (full-time or part-time)' or 'Unemployed'.

Employment status is not an ordinal variable.

Income

Respondents were asked: What is your income before tax and national insurance contributions? (Include all income from

employment and benefits). They were then shown a show card that contained ten income ranges and asked to select one. These selections were grouped into 'Under £7,000 per annum', '£7,000 - £14,999 per annum', '£15,000 - £25,999 per annum' and '£26,000+ per annum'.

At the time of the survey, punts were legal tender in the Republic of Ireland and pounds (sterling) were legal tender in Northern Ireland. After taking into account costs of living, it was decided to consider the punt and the pound to be roughly equivalent. Supplementary analyses in which income was nested within jurisdiction found no evidence that comparisons across the income categories were different in the two jurisdictions.

The income variable is best interpreted as an ordinal variable.

Housing Tenure

In each jurisdiction, respondents were asked: Is the house you live in ...? and asked to select an answer from a series of options that were relevant to their jurisdiction. Responses are grouped into the following categories: 'Own/buying house', 'Renting in the private sector', 'Renting in the public sector', 'Other' and 'Don't know'.

Housing tenure is not an ordinal variable.

4.2.4 Social Capital Indicators

The Social Capital Module from the General Household Survey 2000/2001 (39) asks people about their:

- Views about their local area and more immediate neighbourhood (local problems, local services and personal safety in the local area).
- Perceptions of neighbourhood social norms such as neighbourhood trust, neighbourhood reciprocity and 'neighbourhood efficacy'.
- Social networks (social contacts and social support networks).
- Civic engagement (involvement in local organisations).

These represent aspects of the (local) social environment that are thought to influence health (see Section 2.2).

As discussed in Chapter 2, social capital is generally regarded as a collective characteristic rather than an individual characteristic. Whitehead and Diderichsen have suggested that some confusion and apparent contradiction in studies of social capital has arisen because social capital 'means different things to different people'. They highlight the need to i) separate individual from population effects; ii) distinguish psychological measures from those related to social conditions; and iii) recognise both horizontal social interactions and vertical interactions (34). The social capital module from the General Household Survey 2000/2001 gathers a mixed collection of measures. It includes people's views about their local social environment rather than direct measures of it. In addition, it includes details about their (individual) social contacts and support networks.

This report explores the relationship between the 'social capital indicators' defined in this section, and individual health. It deals with the relationship between a person's feelings about their local area and their health. This is quite

different from the impact that a community's stock of social capital has on the health of its members, individually or collectively.

Views about the Local Area

Local Problems Score

Respondents were presented with a series of issues:

- The speed or volume of road traffic.
- Parking in residential streets.
- Car crime (eg. damage, theft and joyriding).
- Rubbish or litter lying around.
- Dog mess.
- Graffiti or vandalism.
- Level of noise.
- Teenagers hanging around on the streets.
- Alcohol or drug use.

They were asked: How much of a problem are these in the local area? To each issue, respondents could answer 'Very big problem' (4), 'Fairly big problem' (3), 'Minor problem' (2), 'Not at all a problem' (0), 'It happens but is not a problem' (1) or 'Don't know'. Responses were then averaged to give a local problems score; higher scores reflecting a more negative views about local problems. 'Don't know' responses and missing responses were not included in these calculations. These scores were then ordered and classified into three categories: 'Low', 'Middle' and 'High'.

This report focuses on those who have a high local problems score in the sense that it falls within the highest third of all scores on the island.

Local Services Score

Respondents were asked: Thinking generally about what you expect of local services, how would you rate the following?

- Social and leisure activities for people like yourself.
- Facilities for young children up to age 12 years.

- Facilities for teenagers (aged 13 to 17 years).
- Rubbish collection.
- Local health services (eg. your GP or local hospital).
- Local schools, colleges and adult education.
- Local police service.

To each item, respondents could answer 'Very good' (4), 'Good' (3), 'Average' (2), 'Poor' (1), 'Very poor' (0) or 'Don't know or have had no experience'. Responses were then averaged to give a local services score, lower scores reflecting a more negative view of local services. 'Don't know or have had no experience' responses and missing responses were not used in these calculations. These scores were then ordered and classified into three categories: 'Low', 'Middle' and 'High'.

This report focuses on those who have a low local services score in the sense that it falls within the lowest third of all scores on the island.

Personal Safety in the Local Area

Respondents were asked: How safe do you feel walking alone in (your) local area after dark? They could answer 'Very safe', 'Fairly safe', 'A bit unsafe', 'Very unsafe' or that they 'Never go out alone after dark'.

This report focuses on those who feel very unsafe in their local area, in the sense that they answered either 'Very unsafe' or that they 'Never go out alone after dark'.

Social Contacts

Number of Neighbours Known

Respondents were asked: How many people do you know in your 'immediate neighbourhood'? They could answer 'Most of the people in (their) neighbourhood', 'Many of the people in (their) neighbourhood', 'A few of the people in (their) neighbourhood', or that they 'Do not know people in (their) neighbourhood'.

This report focuses on those who do not know most of their neighbours.

Social Contacts with Neighbours, Relatives and Friends

Respondents were asked: Not counting the people you live with, how often do you do any of the following?

- Speak to relatives on the phone.
- See relatives.
- Speak to friends on the phone.
- See friends.
- Speak to neighbours.

To each item, respondents could answer 'Every day', '5 or 6 days a week', '3 or 4 times a week', 'Once or twice a week', 'Once or twice a month', 'Once every couple of months', 'Once or twice a year', or 'Not at all in the last 12 months'.

This report focuses on those who have infrequent contact, in the sense they have contact less than '5 or 6 days a week'.

Social Support Networks

Sources of Practical, Financial and Emotional Support

Respondents were asked if they could ask anyone for help:

- If they need(ed) a lift to be somewhere urgently.
- If they were ill in bed and need(ed) help at home.
- If they were in financial difficulty and need(ed) to borrow £100.

To each item, respondents could answer 'Yes', 'No', or 'Don't know/it depends'.

Respondents who answered 'Yes' or 'Don't know/It depends' were then asked to list those they could ask.

Respondents were also asked: If you had a serious personal crisis, how many people do you feel you could turn to for comfort and

support? Support from 'voluntary and other organisations' was not used in calculations.

This report focuses on those who have limited social support networks, in the sense they have fewer than three people they can ask for practical or financial help, or turn to for comfort and support in a personal crisis.

Perceived Neighbourhood Social Norms

Neighbourhood Trust

Respondents were asked: How many people do you trust in the 'immediate neighbourhood'? They could answer 'Most of the people in the neighbourhood', 'Many of the people in the neighbourhood', 'A few of the people in the neighbourhood', or that they 'Do not know people in the neighbourhood'.

This report focuses on those who do not trust most of their neighbours, in the sense they did not answer 'Most of the people in the neighbourhood'.

Perceived Neighbourhood Reciprocity

Respondents were asked: Would you say that your neighbourhood is a place where neighbours look out for one another? They could answer 'Yes', 'No' or 'Don't know'.

This report focuses on those who feel their neighbours do not look out for one another, in the sense they did not answer 'Yes'.

Perceived Neighbourhood Efficacy

Respondents were asked: Do you agree or disagree that, by working together, people in the neighbourhood could influence decisions that affect the neighbourhood? They could answer 'Strongly agree', 'Agree', 'No opinion', 'Disagree', 'Strongly disagree' or 'Don't know'.

This report focuses on those who feel they do not live in an efficacious neighbourhood in the sense they did not answer either 'Strongly agree' or 'Agree'.

Civic Engagement

Involvement in Local Organisations

Respondents were first asked: Have you been involved in any local organisations over the last three years? They could answer 'Yes' or 'No'. If they answered 'Yes' then they were asked: Did you have any responsibilities in this (these) organisation(s), such as being a committee member, raising funds, organising events or doing administrative or clerical work? To this question they could answer 'Yes' or 'No'.

This report focuses on those who have not been actively involved in local organisations in the last three years in the sense they answered 'No' to both questions.

4.2.5 Lifestyle Behaviours

Questions about lifestyle behaviours were taken from the second Survey of Lifestyle, Attitudes and Nutrition (36).

Smoking Status

Respondents were asked whether or not they now smoked cigarettes. They could answer 'No', 'Yes, regularly' or 'Yes, occasionally (less than 1 per day)'. Those who answered 'No' were then asked if they had ever smoked cigarettes in the past.

This report focuses on those who currently smoke cigarettes regularly or occasionally.

Excessive Drinking

Respondents were asked when they had their last alcoholic drink. They could answer 'During the last week', 'One week to 1 month ago', 'One month to 3 months ago', 'Three months to 12 months ago', 'More than 12 months ago' or that they 'Never had alcohol beyond sips or tastes'. If they said they had an alcoholic drink in the last twelve months, they were then asked: Thinking about your drinking in the last year, did you usually drink alcohol in a typical week? They could answer 'Yes' or 'No'. If they answered 'Yes' they were then asked: On how many days during

a typical week did you usually drink alcohol on average? And on the days you drank alcohol, how many drinks did you have on average? They were provided with various descriptions of what comprises a (standard) 'drink'. In the Republic excessive drinking was defined to be more than 14 units per week for females and more than 21 units per week for males.

This report classified respondents as 'excessive drinkers' (usual drinkers, drinking more than recommended), 'non-excessive drinkers' (usual drinkers, drinking within recommendations) or 'not a usual drinker'.

No Adequate Exercise

Respondents were asked: How many times on average do you do the following kinds of exercise for more than 20 minutes during your free time?

- Strenuous exercise (heart beats rapidly).
- Moderate exercise (not exhausting).
- Mild exercise (minimal effort).

Respondents were classified as doing 'adequate' mild exercise if they answered four or more times a week, doing 'adequate' moderate exercise if they answered three or more times a week, and doing 'adequate' strenuous exercise if they answered three or more times a week. (reference)

This report focuses on those who do no adequate exercise (of any type).

Body Mass Index

Respondents were asked to state their weight and height. From their answers, a respondent's body mass index (BMI) was calculated, and they were classified as either 'obese' ($\text{BMI} \geq 30$), 'overweight' ($25 \leq \text{BMI} < 30$) or 'not overweight' ($\text{BMI} < 25$).

This report focuses on those who are obese or overweight.

4.3 Statistical Methods

Survey responses were post-hoc weighted so that the gender-age profile of the weighted sample matched the gender-age profile of the population (for each jurisdiction and for the whole island). This ensures that estimates (for each jurisdiction and for the whole island) are not biased because the sample contains too many, or too few, people of a given gender or age.

4.3.1 Statistical Significance and p-values

The percentages calculated from survey responses are, of course, not the true percentages - they are observed in a sample of people rather than the whole population. Because of this, p-values are calculated which help to decide if a difference in observed percentages represents a real difference in the true percentages, or if it may simply be due to chance variation. All p-values give the likelihood that, when there is no real difference in the true percentages, a difference larger than the one observed in the sample would have occurred by chance.

A 'small' p-value suggests the observed difference is statistically significant (unlikely to be due to chance variation) and so represents a real difference in the true percentages. A 'large' p-value suggests that the observed difference is not statistically significant (may be due to chance variation) and that there is no difference in the true percentages.

In this report a p-value greater than or equal to 0.10 is considered to be 'not significant' and is represented in tables as 'ns'. P-values less than 0.10 are recorded in tables. In order to control the likelihood of spuriously significant results, only results with p-values less than 0.01 are considered 'significant' in this report; those in the range 0.01 – 0.05 are considered 'marginally significant'; and those in the range 0.05 - 0.10 are considered 'not significant'.

4.3.2 'Simple' Relationships

Chapters 5, 6 and 7 describe the relationship between demographic and socio-economic characteristics, social capital indicators and lifestyle behaviours on the one hand and good health, on the other. In these chapters, all tests of statistical significance (except gender and age) are adjusted for gender and age. Failure to adjust for gender and age differences would have a profound effect on results.

The p-values in these chapters refer to the significance of relationships after possible differences in gender and age have been taken into account. In this sense they describe what we call 'simple' relationships between good health and study factors because factors are considered one at a time. Only the possible effects of gender and age differences are taken into account.

Chapters 9, 10, 11 and 12 describe the demographics and socio-economic differences in social capital indicators on the island.

Chapter 13 describes the demographic and socio-economic differences in lifestyle behaviours on the island.

In chapters 9, 10, 11, 12 and 13 all tests of significance are adjusted for gender and age.

4.3.3 Complex Relationships and Logistic Regression Models

Chapter 8 presents logistic regression models developed to describe the variation in good health in terms of the demographic and socio-economic characteristics, social capital indicators and lifestyle behaviours listed in Table 4.2.2. These models can be used to assess the effect of individual factors after the effects of all other factors (not just gender and age), have been taken into account. In this sense they describe what we call 'complex' relationships – all study factors are considered together.

Appendix 2 explains logistic regression models and how to interpret the results presented in Chapter 8. This section describes the strategy used to develop the final logistic regression models presented in that chapter.

Conceptual Framework

Often, many different models could be developed with cross-sectional data, depending on which variables are included in the model equation and how they are combined in that equation. This is because the predictor variables that could possibly be included in the model equation are often highly correlated and so could 'stand in' for one another. In other words, it is not clear where the various predictor variables lie along the causal pathways – the actual 'cause and effect' relationship between the variables.

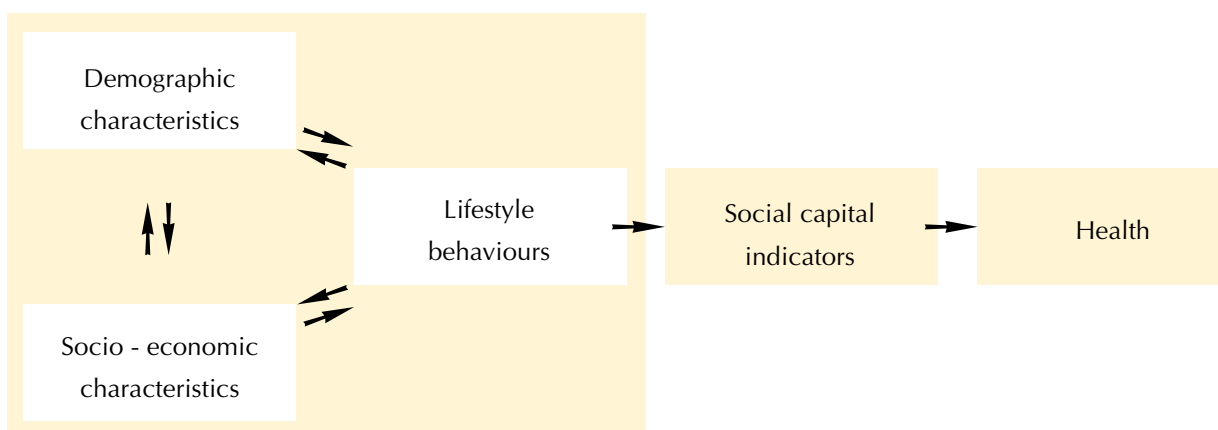
In order to proceed in such situations, assumptions are made (often implicitly) and these are reflected in the strategy used to develop the logistical regression model. Identifying possible effects of social capital indicators on health, in the context of demographic and socio-economic characteristics and lifestyle behaviours, is an example.

Many studies first attribute as much of the variation in good health to more familiar factors like demographic and socio-economic characteristics, and lifestyle behaviours. To do this, these factors are forced into the model equation before any social capital indicators are even considered.

The automatic inclusion of these factors in the model equation is based on the broad assumption that they are the primary drivers of good health whose effects on good health are simply expressed/mediated through social capital indicators. In such model equations, social capital indicators can only explain variation in good health that has not already been explained by demographic and socio-economic characteristics, and lifestyle behaviours.

FIGURE 4.3.1

Conceptual framework with social capital indicators as mediators



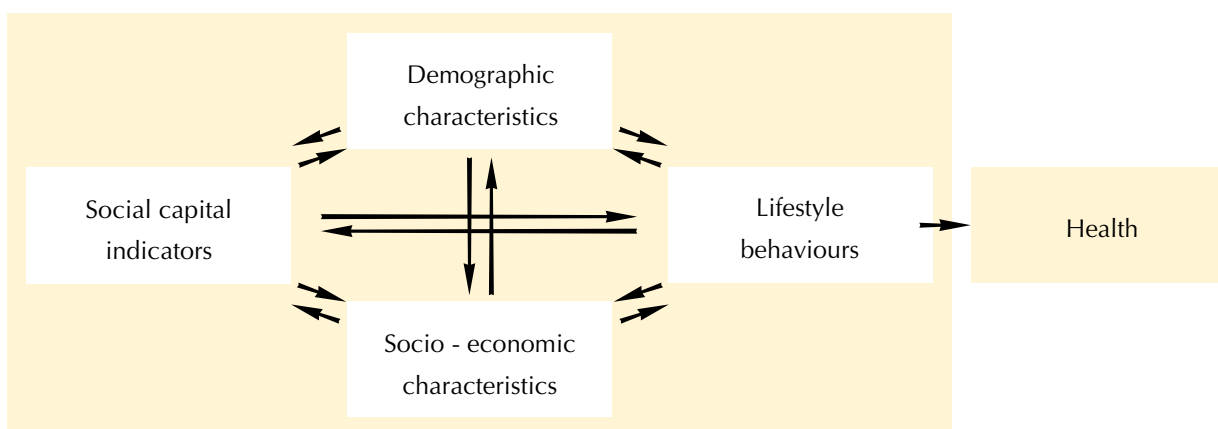
The study by Pevarin et al (41) is an example that takes this approach – it is based on the conceptual framework given in Figure 4.3.1.

Always forcing demographic and socio-economic characteristics, and lifestyle behaviours in the model equation can mask important relationships between social capital indicators and good health. In order to avoid such masking,

this report does not make such stringent assumptions about the causal relationships between the main study factors. Instead this report is based on the more flexible conceptual framework given in Figure 4.3.2. Only gender, age and jurisdiction are forced into the modelling procedure.

FIGURE 4.3.2

Conceptual framework used in this report



Variable Selection Procedures

When there are many variables that could be included in a model equation, variable selection procedures can be used to decide which to include and in what way they are to be included. Variable selection procedures start with a pool of candidate predictor variables.

A forward selection procedure starts with a model that assumes that good health does not vary with any of the candidate predictor variables: the starting model equation contains no variables. To that equation it adds the variable that leads to the largest statistically significant improvement in the fit. It next adds the variable (not already in the current model) that leads to the largest statistically significant improvement in the fit. The procedure goes on adding variables until none of the remaining variables (not already in the current model) would lead to a statistically significant improvement in the fit if they were to be added. The procedure then stops and takes the current model equation as the final one.

Backward selection procedures, on the other hand, start with a model that assumes all the candidate predictor variables affect good health: the starting model equation contains all the variables in it. From that equation, it removes the variable that leads to the smallest statistically non-significant degradation in fit. It next removes the variable (already in the current model) that gives the smallest statistically non-significant degradation in fit. The procedure goes on removing variables until none of the variables (already in the current model) could be removed without a statistically significant degradation in the fit. The procedure then stops and takes the current model equation as the final one.

A stepwise selection procedure combines these two approaches. Each time a new variable is added to the current model equation (the 'forward' step), the possibility of removing one of the variables is considered (the 'backward' step). The procedure only stops when no new variables could be added and none of the variables already in the current model equation could be removed.

The Modelling Strategy used here

With so many study factors in Table 4.2.2 a two stage modelling strategy was used. The strategy incorporates a systematic adjustment for gender, age and jurisdiction differences but does not make any other assumptions about underlying causal mechanisms. It used the conceptual framework in Figure 4.3.2.

In the first stage, logistical regression analyses were used to identify the pool of candidate predictor variables (selected from the study factors listed in Table 4.2.2) for a stepwise variable selection procedure in the second stage. Gender, age and jurisdiction were always included in the pool of candidate predictor variables. Also included were the main effects of any study factor that exhibited a significant relationship with good health that was not explained by differences in gender and age. When the nature of such relationships varied with the respondent's gender, age or jurisdiction, the corresponding two-way interaction was also included.

In the second stage, this pool of candidate predictor variables was fed into a stepwise selection procedure to choose the final model.

4.4 Some Cautionary Notes

Caution is required when interpreting findings for categories of respondents with missing information. Respondents with unknown social class are not necessarily a homogeneous group. Similarly, respondents whose income is unknown are not necessarily a homogeneous group.

In several cases the population subgroups of particular interest are only represented by small numbers in the survey. These included people who are widowed and separated/divorced, people in the 'unassigned' social class in Northern Ireland, people who are in the 'otherwise gainfully employed/unknown' social class in Republic of Ireland, unemployed people, and people in 'other' types of housing/accommodation.

4.5 Profiles of Respondents

The profile of the sample of respondents, after post-hoc weighting, is given in Table 4.5.1.

There are no respondents from 'villages, rural or open country' in the Republic of Ireland. The Republic of Ireland respondents are best considered a sample of adults who live in or near towns with populations of more than 1,000 people. The question of town size was not asked in Northern Ireland.

The responses were weighted to the island's profile (see Section 4.3) and so the weighted sample does not differ from the population in terms of gender, age and jurisdiction.

In both jurisdictions, the samples are fairly representative in terms of marital status.

In both jurisdictions, there is a slight under-representation of people who are employed with a corresponding over-representation of other employment status categories.

After adjusting for the different gender-age profiles of the populations of the two jurisdictions a few significant North-South differences in the sample remain:

- There are slightly more younger people and slightly fewer older people in the Republic of Ireland sample than there are in the Northern Ireland sample.
- Respondents in the Republic of Ireland sample appear to have lived in the local area a lot longer than those in the Northern Ireland sample.
- The education profiles of the samples from the two jurisdictions are quite different. Respondents in the Northern Ireland sample are more likely to report 'no formal qualifications/primary only qualifications' while respondents in the Republic of Ireland sample are more likely to report 'upper secondary qualifications'. This may be due to differences in the way 'formal education' is interpreted in the two jurisdictions.
- Income is slightly higher in the Republic of Ireland sample.
- When compared to the Republic of Ireland sample, there were relatively more respondents renting in the public sector and relatively fewer buying/owning their house in the Northern Ireland sample.

These differences reflect genuine differences in the populations of the two jurisdictions as well as sampling error and other biases.

TABLE 4.5.1

Demographic and socio-economic profiles of respondents, by jurisdiction¹

	All-Ireland	RoI	NI	Statistical significance ²
DEMOGRAPHIC CHARACTERISTICS				
Gender				
Males	49%	49%	48%	ns
Females	51%	51%	52%	
Age				
<25 years	16%	17%	14%	p=0.0527
25-39 years	30%	30%	31%	
40-54 years	25%	26%	25%	
55-69 years	17%	16%	18%	
≥70 years	11%	11%	13%	
Centre size (RoI)				
Village/rural/open country	na	0%	na	na
Small town		36%		
Large town		11%		
Other city		19%		
Dublin city		34%		
Length of residency in local area				
<5 years	14%	11%	21%	p<0.0001
5-19 years	30%	30%	30%	
≥20 years	56%	59%	49%	
Marital status				
Single (never married)	36%	39%	30%	ns
Separated/divorced	6%	4%	12%	
Widowed	9%	8%	12%	
Married/co-habiting	49%	50%	46%	
SOCIO-ECONOMIC CHARACTERISTICS				
Marital status				
No formal qualifications/Primary	27%	17%	49%	p<0.0001
Lower secondary	21%	19%	25%	
Upper secondary	38%	50%	11%	
Third level	14%	14%	15%	
Social Class (RoI)				
Otherwise gainfully employed/unknown	na	9%	na	na
Semi-skilled, Skilled manual		22%		
Non-manual, Skilled manual		35%		
Professional workers, Managerial and technical		34%		

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TABLE 4.5.1

Continued...

	All-Ireland	RoI	NI	Statistical significance ²
SOCIO-ECONOMIC CHARACTERISTICS (CONTINUED)				
Social class (NI)				
Unassigned/unknown	na	na	8%	na
Semi-skilled, Unskilled			32%	
Non-manual, Skilled manual			40%	
Professional workers, Managerial and technical			20%	
Employment status				
Retired	17%	14%	24%	p=0.0839
Economically inactive	30%	34%	21%	
Unemployed	7%	6%	10%	
Employed – full time/part time	46%	47%	45%	
Income				
Unknown	26%	24%	29%	p<0.0001
<£7,000	19%	16%	28%	
£7,000-£14,999	25%	25%	25%	
£15,000-£25,999	23%	26%	14%	
≥£26,000	8%	9%	5%	
Housing tenure				
Other	1%	2%	1%	p<0.0001
Renting – public sector	16%	12%	27%	
Renting – private sector	7%	7%	8%	
Owns/buying	75%	80%	64%	

ns: Not significant.

na: Not applicable.

1. See explanatory notes in this chapter.

2. P-values for North – South differences, adjusted for different gender – age profiles of the two jurisdictions.