

2 UNDERSTANDING AND ASSESSING GROUP DIFFERENCES IN HEALTH AND SOCIAL CARE

- 2.1 The past 30 years of international social and epidemiological research on inequalities relating to health and social wellbeing has provided rich empirical evidence describing the nature and extent of such inequalities in different countries. Basic tools and standardised methods for assessing and measuring such inequalities have also been developed. It has been acknowledged (European Science Foundation 2000, 2003) that, building on the achievements of such investigations, the task of international science is to move from describing towards explaining such variations in health and wellbeing.

VARIATIONS, INEQUALITIES AND INEQUITIES

- 2.2 Part of the difference in health status between individuals is biological in origin. However, disparities in population health and social wellbeing between social groups (and also between nations) are largely societal in origin. They are influenced by the way society is organised along social, economic and political lines and reflect the powerful stratifying forces that differentiate life opportunities and social need within (and between) countries (Anand *et al.*, 2001; ESF 2000, 2003)
- 2.3 The New TSN policy does not make explicit the meaning of the term ‘social need’. However, most Departments have had a general interpretation and have identified the social need to be tackled as ‘*social disadvantage among people, groups and areas in Northern Ireland*’ (Deloitte and Touche, 2003). In the case of the Department of Health, Social Services and Public Safety (DHSSPS), this is not surprising since it is widely recognised that social disadvantage is a vital element in health inequalities.
- 2.4 For example, the reports of the Research Working Group on Inequalities in Health led by Douglas Black (Black *et al.*, 1980), and the Independent Inquiry into Inequalities in Health led by Sir Donald Acheson (Department of Health, 1998) - published almost two decades apart – emphasise the importance of socio-economic deprivation. To illustrate, almost all of the problems identified in the Acheson inquiry, and almost all of the solutions proposed in the report, are not to do with ‘health’ problems or the delivery

of health services, but with the wider problems associated with poverty. The recommendations of the inquiry underscore this point: only three of a total of 39 are directed at the NHS.

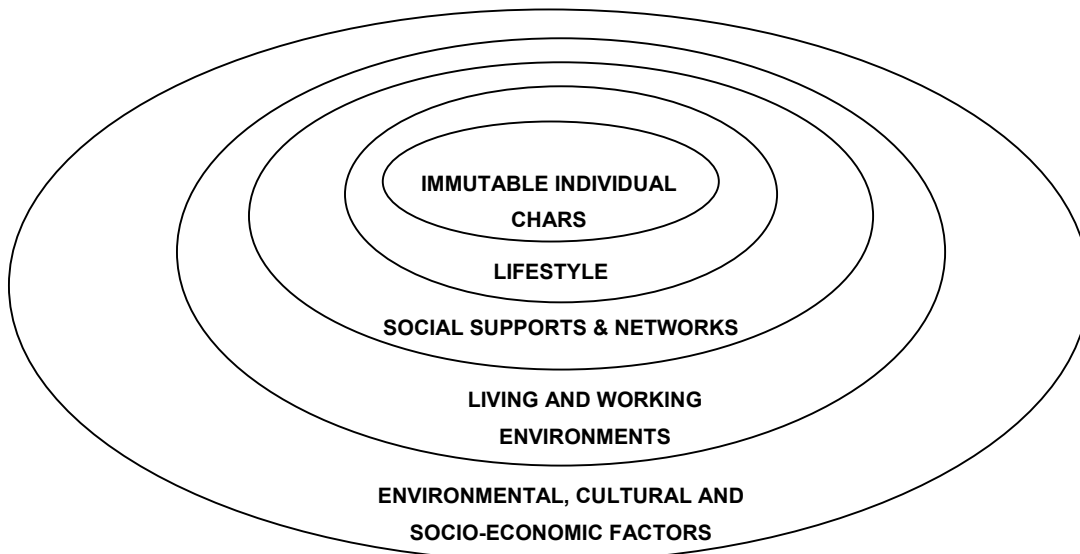
- 2.5 Having said this, it is notable that the predecessor policy to New TSN for DHSSPS, known as *Targeting Health and Social Need*, embraced three complementary dimensions:
- Inequalities in health and social care status;
 - Inequalities in the need for health and social care; and
 - Inequalities in access to health and social care.
- 2.6 In practice New TSN also covers all three aspects; it has embraced vulnerable groups as well as socially disadvantaged people and areas.
- 2.7 Thus, given the complementary contexts of New TSN, with its emphasis on social need, and the statutory Section 75 duties, which are concerned with equality of opportunity, the rest of this report is concerned with both health and social care variations that embrace inequalities, inequities and equality of opportunity.
- 2.8 The distinctions between variations, inequalities and inequities are important (see Evans *et al.*, 2001). In brief, whilst ‘variations’ refer generally to differences between groups regardless of preventability or origin (biological or social), ‘inequality’ more specifically means differences in health and social care experience, and differences in health and social wellbeing outcomes between different population groups according to such factors as geographical area, socio-economic status (or occupational group), age, gender, marital status, disability, religious affiliation, ethnic group, or sexual orientation – indeed any of the nine statutory equality categories, or their proxies.
- 2.9 ‘Inequalities’ describe the differences in health and social wellbeing between groups independent of any assessment of either their potential preventability or their acceptability. In contrast, ‘inequities’ refer to a subset of inequalities that are deemed to be unfair and possibly avoidable, and describe differences in opportunity for different population groups that result in unequal life chances, including access to health and social services (or

to other factors like nutritious food, adequate housing etc). Such inequities can lead to health and social wellbeing inequalities.

- 2.10 The important differences between ‘variations’, ‘inequalities’ and ‘inequities’ at a conceptual and theoretical level are fully acknowledged. However, for the sake of brevity and ease of reading, the report generally uses the terms ‘differences’ or ‘inequalities’.

DETERMINANTS OF HEALTH AND INEQUALITIES

- 2.11 Two decades ago the Black Report (Black *et al.*, 1980, 1982) introduced a framework-involving structuralist versus cultural/behavioural explanations of inequalities. This framework, often referred to as ‘layers of influence’, makes explicit the multiple influences on an individual’s health and splits them into two categories: baseline factors which include such things as age, gender and ethnicity; and changeable factors such as those relating to lifestyle, socio-economic status and physical/social development.
- 2.12 Dahlgren and Whitehead (1991) consolidated this concept by visualising a series of concentric circles radiating outwards from the individual (Figure 2.1). The individual, endowed with the intrinsic characteristics (age, gender, ethnicity and genetics) is placed at the core. Surrounding the individual are layers of influences on health that could theoretically be modified, radiating out from lifestyle and behavioural factors (e.g. smoking and drinking). At a wider level, the individual is situated in a wider social world comprising social networks and social support that can affect an individual’s health. Another layer of influence outside this relates to living and working environments and, finally, general socio-economic, cultural and environmental factors are placed on the outside.

Figure 2.1 Types of health inequalities

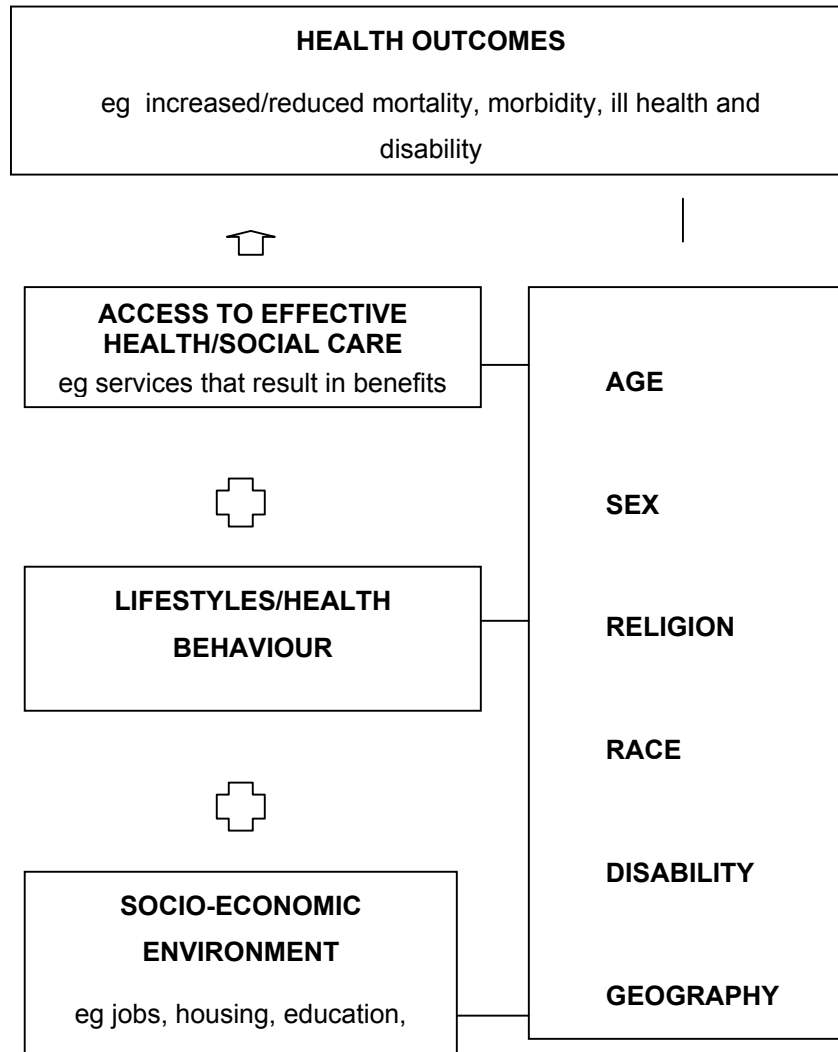
Source: Dahlgren and Whitehead, 1991

2.13 Such a multi-layered model of health and influencing factors provides a useful framework to identify different types of inequality (Figure 2.2), particularly relating to social factors and social processes. The three main points of health inequality are related to:

- socio-economic/environmental circumstances (jobs, housing, education, transport etc);
- lifestyle (such as diet, smoking, social networks) and health behaviour; and
- access to effective health or social care.

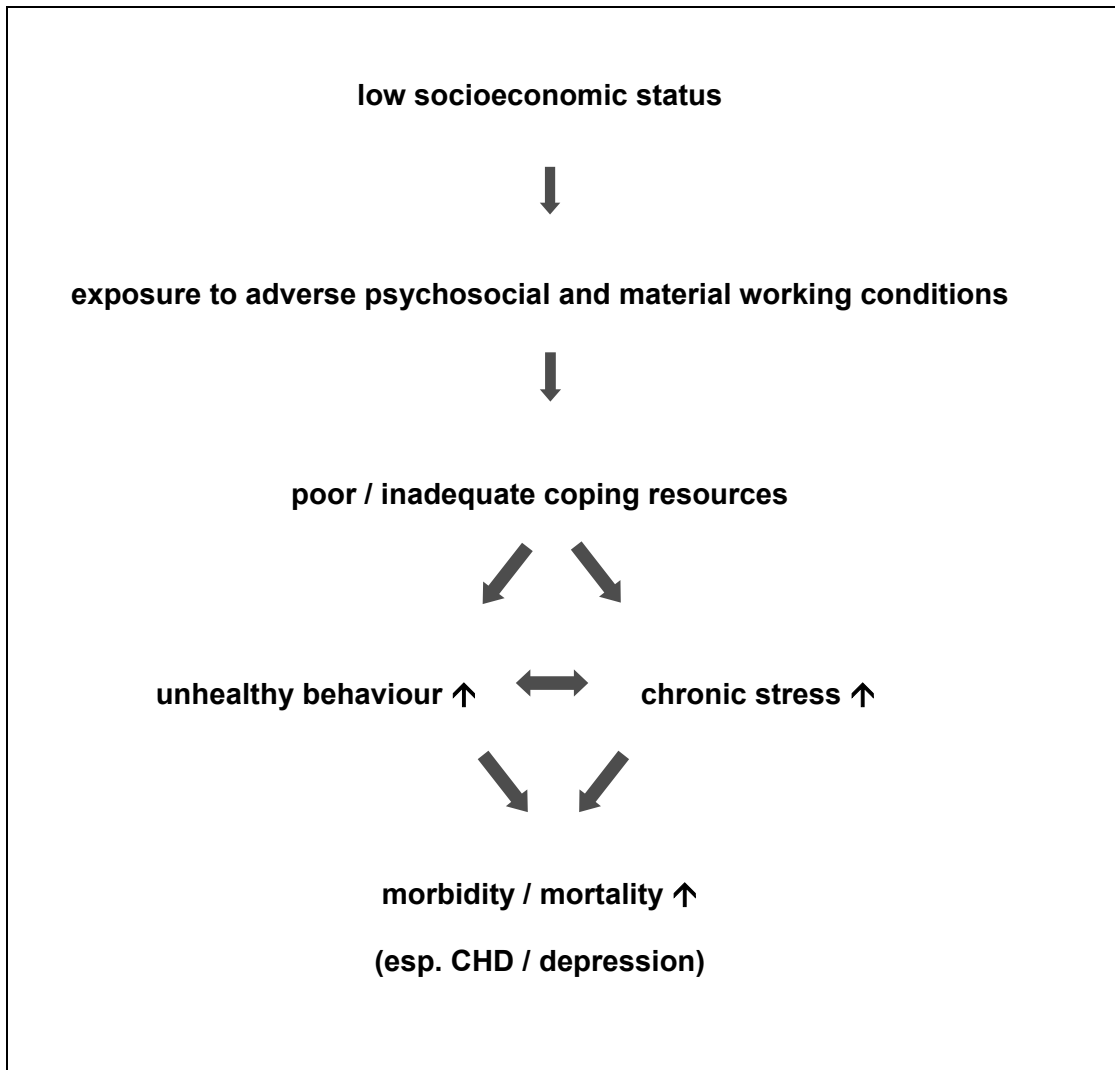
2.14 Each of these types can be further described in terms of a number of dimensions (e.g. age, gender, disability, religious affiliation, ethnicity and geography). Together, these result in inequalities in health experience and outcomes (Figure 2.2).

Figure 2.2 Health inequalities: layers of influence



2.15 A newly completed international research programme designed to progress understanding further is the four year Social Variations in Health Life Expectancy in Europe programme, funded by the European Science Foundation (ESF). The Final Programme Report (ESF, 2003) summarises the activities undertaken and main findings emerging from the three strands and emphasises the aim of bringing the research closer to policy. The report points out that at regional, national and international level, governments are paying greater attention to the evidence base for public health policies, but recognises that whilst these policies seek to reduce inequalities in health, in terms of underlying social determinants, social and economic trends are widening inequalities.

2.16 Within the context of this report it is notable that the corpus of international work has addressed three separate lines of research developments. The first is a life-course perspective, involving analysis of data from longitudinal

Figure 2.4 Social inequalities in health in midlife: contribution of adverse working conditions

Source: Siegrist, 2003

- 2.19 Studies have shown that, even after adjusting for individual level factors including socio-economic status, the socio-economic characteristics of the environment people live in (e.g. neighbourhood) can have an independent effect on health (Siegrist, 2003; ESF, 2003).

IDENTIFYING PEOPLE VERSUS AREAS

- 2.20 Processes linking areas and people are dynamic and complex and include the important issue of selective migration processes, which currently is being addressed in a study by O'Reilly (in preparation) funded by the Research and Development (R&D) Office for the Health and Personal Social Services (HPSS).

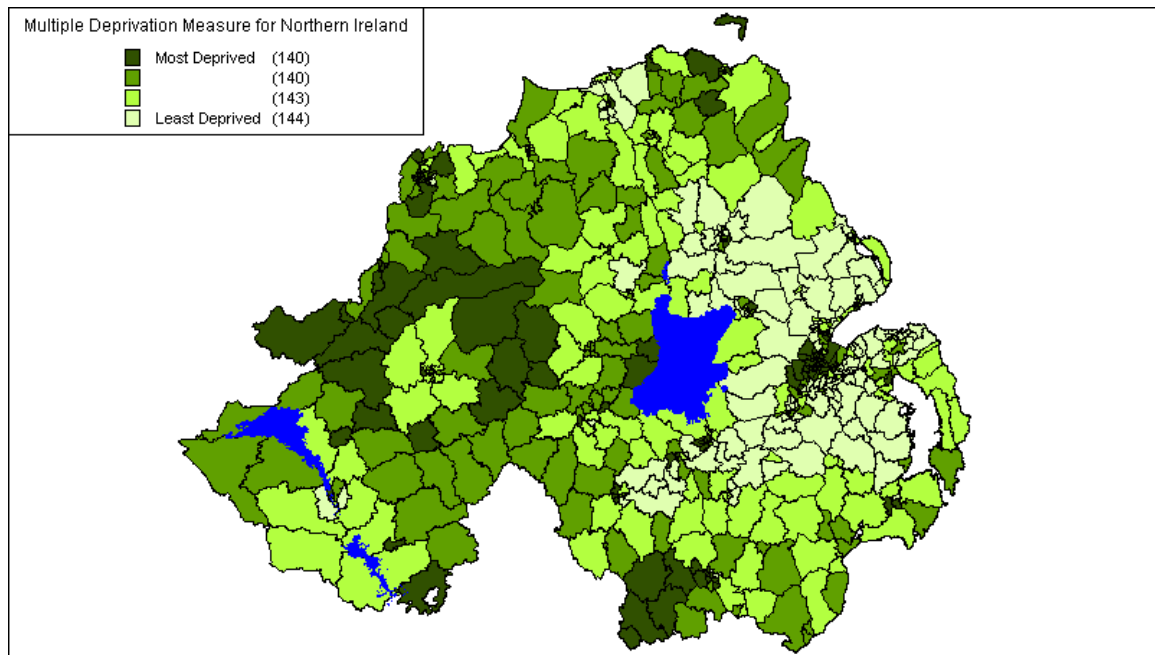
- 2.21 Also, in tackling equality and targeting social need a number of issues arise in identifying people, groups and areas. Some areas suffer from acute multiple deprivation and in such cases geographical targeting is clearly appropriate. The identification of relatively deprived areas within Northern Ireland and their subsequent targeting by programmes and projects aimed at socio-economic need date back to the 1970s. However, as Beatty, McCoy and Power (2001) have pointed out, care needs to be exercised in using a geographically based indicator. Policies which target social need should address people in need, and those which are targeted at geographical areas are designed to benefit defined groups of people. However, the targeting of policies on geographical areas can never result in perfect targeting on the intended group of people. There are two types of error in this approach: deprived people not living in geographically defined areas of deprivation are missed (false negatives); and people who are not deprived but who live in a geographically defined area of deprivation are wrongly included (false positives). The 'ecological fallacy' is to assume that deprived areas contain only deprived people.
- 2.22 Of course, not all policies are targeted solely at deprived people; the provision of health and social care services is aimed more widely. If a policy is intended to deliver a service to a specific target group (that is, those who need the service), but geographical targeting is used to focus the service on deprived areas, further anomalies can arise. This would lead to targeting of those who live in deprived areas, some of whom will be in need of the service, so scoring a correct 'hit'. However, it will score an incorrect 'hit' on those who live in a deprived area but who do not need the service, and will 'miss' those not living in deprived areas who are deprived or do need the service. Those that it is capable of 'hitting' need to be defined and quantified if possible; as do those that it is capable of 'missing'. Other ways must then be found to deal with these incorrect hits and misses.
- 2.23 Work by Beatty *et al.* (2001) to quantify the 'hits' and 'misses', using various assumptions, concludes that up to one half of the Northern Ireland population can be 'miss-targeted', depending on the particular geographical deprivation index used. Most of these are 'false positives', which implies that geographical targeting errs on the side of caution.

- 2.24 As Beatty *et al* (2001) have indicated, a geographic approach poses difficulties in terms of the unit of analysis. Ideally, the population of a geographic unit should be as socio-economically homogeneous as possible. In practice, this is rarely achieved and the distribution of deprivation within a geographical unit will differ; one area might display a fairly homogeneous level of deprivation, while in another area there might be a small pocket of severe deprivation within an area of relative affluence. Ideally an analysis should be able to identify areas of deprivation irrespective of the level of deprivation in surrounding areas.
- 2.25 In practice, for reasons of data availability, administrative units are often used, although it is highly unlikely that geographical deprivation patterns follow precisely those of administrative boundaries. It is possible that the mismatch of administrative boundaries (used for analysis purposes) and unobserved deprivation boundaries could lead to an area of relative deprivation not being identified.
- 2.26 It has been pointed out by researchers (Moore *et al*, 2001) that the geography of deprivation (residential segregation) is such that deprived people living in cities are far more likely to live in an area recognised as deprived than are deprived people in rural areas or small settlements. Area based policies based on conventional deprivation analysis and 'administrative geography' may thus by-pass most of the deprived living in small settlements and the countryside.
- 2.27 The size of the unit of analysis is also important. Theoretically, the smaller the unit the better since small units are more likely to be homogeneous and pockets of deprivation less likely to be missed. Indeed, the theoretical optimal is analysis based on single individuals. The size of the geographic unit should reflect the objective of the analysis. Thus, for small community projects, targeting would usually be at the level of electoral ward rather than district council areas. In the application of deprivation measures in Northern Ireland, electoral wards have tended to be the geographical units used most frequently. (A typical Northern Ireland electoral ward has a population of about 3,000 individuals living in about 1,000 households). However outputs from the 2001 Census include new smaller area units, called 'Census Output Areas'; these comprise approximately 340 people and about 125 households.

- 2.28 The difficulty with area based approaches to targeting rather than targeting at the individual level is especially notable in the light of research at the University of Ulster that has examined the relationship between settlement size, deprivation and health on the incidence of breast cancer (McQuillan and Moore, 2000; McQuillan, 2001; Moore *et al*, 2001). For example, affluent women on aggregate have the greatest risk of breast cancer, but women from deprived rural areas experience similar rates to women from affluent urban areas, and women from affluent rural areas face even higher risks. Similar results have been found in other studies on the incidence of cerebral palsy and perthes' disease (Kealey *et al*, 2000).
- 2.29 Despite the acknowledged problems and challenges, spatial analyses can be very informative as demonstrated in Chapters 7 and 8 of the present report. Throughout the report, the focus is primarily on indicators that are directly relevant to health and social wellbeing, and to health and social care in Northern Ireland. However, the report also includes some of the large number of the wider determinants of health, which will impact on health inequalities, particularly those related to deprivation that has been at the core of the New TSN policy. An attempt has been made to focus on inequalities indicators, that is measures of inequality across different population sub-groups, and not just health and social wellbeing measures or indicators per se.

MEASURING INEQUALITIES

- 2.30 Without hard evidence we can neither expose current disparities nor demonstrate success in narrowing such gaps over time. However, it is recognised that the measurement of inter-individual and inter-group diversity and differentials is subject to considerable debate (e.g. Evans *et al.*, 2001). There are technical considerations regarding, for example, measurability, choice of reference group or norm, and choice of indicators or methods which can range from simple and intuitive approaches to more technically complex measures (for review, see Anand *et al.*, 2001).
- 2.31 There seem to be plentiful data in Northern Ireland relevant to health and social care (McWhirter, 2002) and there are clearly very wide variations in levels of deprivation across Northern Ireland (Figure 2.5).

Figure 2.5 Noble measure of multiple deprivation for electoral wards

Source: The Northern Ireland Multiple Deprivation Measure, 2001

2.32 However, requirements for detailed analyses of inequalities and inequities often necessitate linkages between social and health data sets that are logistically and methodologically challenging, and that are not yet possible. The unavailability of relevant data and other data constraints severely limit the range of indicators that can be used. Also, incomplete (multivariate) statistical analyses of a number of pertinent data sets limit the conclusions that can be drawn at present, particularly when current findings are derived from descriptive or univariate analyses. In spite of the difficulties inherent in an area based approach, because of the paucity of individual level data, it is likely that area based information will be used as proxy information for individuals' characteristics not only in fulfilling the statutory equality agenda but also New TSN. This is evidenced in the base report of the new Inequalities Monitoring System reported in Chapter 8 and the Appendix.

2.33 Whilst the report overall aims to present a comprehensive corpus of evidence, the sets of indicators used in the 'Inequalities Monitoring System' were chosen on the basis that the data required to measure the indicators satisfied three criteria. Not only had the data to be of good quality, but it also had to be available at electoral ward level and be amenable to standardisation – that is, could be broken down by age and gender.

2.34 A number of the indicators that were not deemed to be suitable will be developed in the future. Future improvements in the range of data and

indicators will be critical to enhancing the documentation and systematic evaluation of how socio-economic position, age, gender, community background, race/ethnicity, and other factors combine to produce social inequities in health. Whilst there are considerable challenges, including data disclosure and data protection issues, a number of developments are worthy of particular note. These include a range of initiatives by the Northern Ireland Statistics and Research Agency (NISRA):

- the (free) web-based Northern Ireland Census Access Project (NICA) (www.nicensus2001.gov.uk). Health and care is one of the topics and data are available at different geographic area levels, including the new small area units, called 'Census Output Areas', (which comprise approximately 340 people and about 125 households). The site includes browsing and analyser facilities, and thematic maps at small area level. Developments include a warehouse comprising down-loadable bulk data and an extension of the thematic maps to include larger geographic areas;
- the web-based Northern Ireland Neighbourhood Information Service (NINIS) launched in June 2003 (www.ninis.nisra.gov.uk) which disseminates - free of charge - statistical and locational data for small areas in Northern Ireland. One of the 13 themes is health and care. Current data sources are Central Government Administrative Databases and 2001 Census key statistics and future data sources include Local Government, the voluntary and community sectors, the new deprivation measures, and modelled small area statistics covering population and income. Outputs comprise textual reports, down-loadable data tables and thematic maps and further planned developments include a mapping facility for the Noble Deprivation Measures;
- a review currently being commissioned of Measures of Spatial Deprivation which will lead to the development of new measures of spatial deprivation. The results and indicators will be stored on the NINIS website and thus available for public use. NISRA plan to issue a short report giving guidance on the use and application of spatial measures of deprivation (eg for resource allocation purposes) and also update the NINIS website to give more functionality regarding the Noble measures specifically;

- work on Urban-Rural definitions in order to give a classification of Census Output Areas - in terms of the urban - rural hierarchy. This work will also delimit towns and villages; given that this will be based on Output Areas - other Census data could be amalgamated to get spatial indicators of limiting long-term illness etc by town. The likely timeframe for publication of the Urban-Rural report is Spring/Summer 2004;
- new population projections for Northern Ireland were published on 18 December 2003; it is planned to use these projections to publish new sub-Northern Ireland population projections. The likely publication date is Spring 2004;
- the Northern Ireland Longitudinal Study being developed (with funding from DHSSPS and the R&D Office for the HPSS). This will begin by linking individual records from the 2001 Census, vital statistics from the General Register Office (GRO), and HPSS data – starting with Cancer Registrations; and
- the development of a number of new population surveys. These include: the Family Resources Survey; the extension to Northern Ireland of the British Household Survey (two sweeps of data collection for the Northern Ireland Household Panel Survey have been completed); and the UK Millennium Cohort Study.

Also relevant are:

- the new Health and Care Number resulting from the Unique Patient Client Identifier project which will facilitate linkage across different HPSS data systems at an individual level;
- the two new inequalities research programmes recently commissioned by the R&D Office relating to New TSN and the public health strategy, Investing for Health; and
- the programme of research commissioned by the Equality Directorate in the Office of the First Minister and Deputy First Minister.

2.35 Despite many challenges and drawbacks, and the fact that much remains to be done, this report describes important disparities related to health and social care that might otherwise be concealed in aggregate Northern

Ireland wide measures. The report is premised upon the belief that it is better to use more rather than fewer indicators. Furthermore, the report essentially is very largely descriptive; the data and statistics in and of themselves do not address the issue of whether the differences observed are as expected or are in excess of that expected. Assuming that parity is the desired state, there is clearly a need to understand why disparities arise and to address possible reasons for unacceptable differences between groups of people, as far as they are understood.

2.36 It is hoped that this report will serve to provide valuable baseline data. The range of indicators documented provides information on the current situation, and in many instances also trends over time. They thus help to:

- identify where action is needed;
- provide support for the setting of broader objectives, or indeed local inequalities targets;
- inform performance management of the health and social services;
- monitor progress, including intermediate measures of process, outputs and outcomes;
- identify measures of success or impacts; and
- act as a basis for reviews, reports and other evaluations.

2.37 It is also expected, that as New TSN and the statutory Equality Duties become more mainstreamed, that differentiation of data by various social groups will become as routine as the current universal practice of describing the health status of different age groups.