

DEPRIVATION AND URBAN RURAL MEASUREMENTS IN ISD

Summary report, 2004

Paper for the ISD *Geography, Population, Census and Deprivation Group*
prepared by a *Measuring Deprivation* subgroup¹

Summary

The Scottish Executive recently commissioned a new measure of deprivation (Scottish Index of Multiple Deprivation; SIMD) which they are keen to see adopted in place of the Carstairs measure. The advantage is that it will be updated every 3 years compared to the 10 year gap for census-based measures, however, it was not derived with a view to measuring inequalities in health or healthcare, or comparing health data across areas. This report provides evidence on its suitability for the purposes that ISD will be using it.

This report investigates the SIMD measure alongside the Carstairs measure, and further looks at the issues of geography and categorisation. Recommendations on how deprivation should be measured consistently across ISD are provided along with a summary of the rationale behind the recommendations. We also include recommendations on analysing deprivation over long time trends, and on the new urban rural classification.

The report is split into 3 sections: recommendations, introduction (including definitions), and the evidence behind the recommendations.

¹ The subgroup comprised Jennifer Bishop, David Clark, Veronica Harris, Diane Stockton and Matt Sutton. Lorraine Shack produced the postcode sector populations (1981-2001).

Recommendations

Deprivation categorisation

- Quintiles (five equally-sized population groups) should be the preferred analytical grouping for routine reporting. In the case of large numbers when more detail is useful, deciles can be used (ten equally-sized population groups). In the rare cases where deciles are not sufficient to examine the extremes of affluence and deprivation then twenty equally-sized population groups (vigintiles) could be considered if the data are sufficiently robust. Note: The groups should be assigned using population weights so that they are equally sized.
- For web presentation, quintiles should be presented and (in the case of graphical presentation) the underlying numbers should be available in an accompanying spreadsheet.
- The seven level (depcat) categorisation used historically should no longer be used for routine analyses.
- For the Scottish Executive, analyses should include quintiles and estimates for the most deprived 15% of the population.

Routine Scottish level analyses from 1997 onwards (for the web, national statistics, etc):

- SIMD04 quintiles or deciles at data zone level.
- 2001 data zone populations grouped into SIMD04 data zone deciles/quintiles.

In-depth Scottish level analyses from 1997 onwards (for very detailed analyses):

- Carstairs01 Bespoke deciles at output area level will best measure the range of deprivation as long as data are not sparse.
- 2001 output area populations grouped into Carstairs01 Bespoke output area deciles.

Routine and in-depth NHS board level analyses from 1997 onwards:

- SIMD04 NHS Board-based or Scotland-based (as appropriate) deciles or quintiles at data zone level.

- 2001 data zone populations grouped into the relevant SIMD04 data zone deciles/quintiles.

Analyses including time periods pre-1997

- Carstairs01 deciles or quintiles at postcode-sector level for analyses running from 1991 onwards (use 2001 categories for whole time period).
- Carstairs91 deciles or quintiles at postcode-sector level for analyses running from the 1980s (use 1991 categories for whole time period).
- 1981-2001 postcode-sector population estimates grouped into the relevant Carstairs postcode-sector deciles or quintiles.
- If/when data zone populations become available for these earlier periods then SIMD will be used instead of Carstairs for these historic analyses.

Urban-rural analyses

- The urban-rural classification at output area level should be used where possible. The SE are assessing whether the data zone classification introduces any bias. It would be preferable for ISD to be able to use the data zone level classification (will allow the use of annual populations rather than census)
- The urban-rural 6-fold classification should be used in detailed analyses looking at urban rural issues. The 8-fold classification should be used if there is a particular interest in very remote areas (the 6-fold classification covers rurality but not remoteness).
- The 2-fold classification can be used in less detailed analyses where the interest is purely in urban areas and rural areas (and not remoteness) or where there is an interest in sub groups of the urban rural population e.g. affluent/deprived.
- 2001 output area populations grouped in urban/rural classification

Introduction

Deprivation Measures

Information on deprivation has been used for a variety of purposes in ISD over a number of years. The main uses include: measuring inequalities in health and healthcare; comparing standardised health and healthcare variables across organisations and areas; and tracking changes over time.

This report considers two separate measures of deprivation and assesses their suitability for use in ISD.

The deprivation measure that has been used predominantly in ISD (and Scotland) is the Carstairs and Morris index. It was originally derived using four 1981 Census variables: % people in households without a car, % males unemployed, % who live in households with more than one person per room, and % in social class 4 or 5. The index was updated by Philip McLoone using information from the 1991 Census and again based on the 2001 Census. A deprivation score is derived at postcode sector level. Further information can be found at

<http://www.msoc-mrc.gla.ac.uk/Publications/pub/carstairs.html>

To complement this, ISD have computed data zone and output area level Carstairs estimates based on the 2001 Census. They have also computed a Bespoke deprivation index that has been derived to best explain the variations in the health measures from the 2001 Census using the Carstairs methodology.

Most recently, the Scottish Index of Multiple Deprivation (SIMD) was commissioned by *Scottish Neighbourhood Statistics*. This index uses a wide range of administrative data (31 indicators) classified into 6 domains; Income, Employment, Housing, Health, Education and Access. The SIMD 2004 is a weighted combination of these domains and is calculated at data zone level. Further information can be found at

<http://www.scotland.gov.uk/SIMD2004Report>.

There are potential issues about the suitability of the SIMD measure for the purposes that ISD will be using it: (i) it doesn't make sense to compare health with a deprivation measure that includes health variables, and (ii) geographical access is not a socio-economic measure of deprivation and there is no evidence of an effect of this measure of access on health. To investigate the implications of including the health and access domains we investigated the combined SIMD, a SIMD measure with the health domain excluded, and a SIMD measure with the health and access domains excluded. We also investigated the potential of using the income domain alone (an approach that is being undertaken in some health areas in England).

Level of Geography

Consideration of how ISD should measure deprivation also focuses on the geographical units should it be measured at; postcode sectors, data zones or output areas:

	Number of Areas	Population Size			Std. Deviation
		Minimum	Maximum	Mean	
Output Area	42604	50	2357	119	45
Data Zone	6505	476	2813	778	154
Postcode Sector	1010	51	20512	5012	3438

Note: Data zones are more homogenous in size than the other two area types.

Categorisation

This report also considers how to classify deprivation measures based on the following options:

Categorisation	Number of Categories	
DEPCATS	7	Divides the Scottish population into 7 unequal categories creating a normal distribution
Quintile	5	Divides the Scottish population into 5 equal categories of 20%
Decile	10	Divides the Scottish population into 10 equal categories of 10%

For statistical analysis we would prefer equal-sized groups. DEPCATs are unequal and the extremes are smaller than deciles meaning that DEPCATS could be better for extremes of deprivation. In the rare cases where deciles are not sufficient to examine the extremes of affluence and deprivation then twenty equally-sized population groups (vigintiles) could be considered if the data are sufficiently robust.

We also advocate that the deciles/quintiles should be assigned using a population weight so that the groups are equally-sized.

Urban Rural

Urban rural issues are often examined alongside deprivation e.g. in looking for differences in deprived populations in urban and rural areas. The Scottish Executive recently published an updated Urban Rural Classification. This can be used as a 6-fold or an 8-fold classification. It distinguishes between urban, rural and remote areas within Scotland and includes the following categories:

8-fold Classification	6-fold Classification	2-fold Classification
1 Large Urban Areas	1 Large Urban Areas	1 Urban
2 Other Urban Areas	2 Other Urban Areas	
3 Accessible Small Towns	3 Accessible Small Towns	
4 Remote Small Towns*	4 Remote Small Towns	
5 Very Remote Small Towns		
6 Accessible Rural	5 Accessible Rural	2 Rural
7 Remote Rural*	6 Remote Rural	
8 Very Remote Rural		

Note: This classification distinguishes remoteness from rurality, however, the 2-fold measure loses this property because it concentrates on rurality only (settlements of less than 3000 people).

* These areas can be categorised together as remote accessible

Consideration of whether to group up categories or use the 8-fold categorisation depends on the analyses being undertaken. Analyses for some of the categories are based on small populations, especially if looked at alongside deprivation:

8-fold Classification	Population size	Proportion of population
1 Large Urban Areas	1,972,536	39.0%
2 Other Urban Areas	1,473,570	29.1%
3 Accessible Small Towns	525,168	10.4%
4 Remote Small Towns*	79,173	1.6%
5 Very Remote Small Towns	64,350	1.3%
6 Accessible Rural	660,729	13.1%
7 Remote Rural*	141,938	2.8%
8 Very Remote Rural	144,547	2.9%

Further information can be found at

<http://www.scotland.gov.uk/library5/rural/seurc-00.asp>

Policy Context

Policy and targets on Health Inequalities form part of a wider Cabinet initiative on 'Closing the Opportunity Gap in Scotland', which covers most Departments of the Scottish Executive. The Cabinet Group, led by the Communities Minister, has decided on a common approach towards defining deprivation in Scotland, by using the full Scottish Index of Multiple Deprivation (SIMD). Most of the recently announced targets on tackling inequalities are based on improvements in the 15% most deprived data zone areas, defined by the full SIMD. For Health, as the targets are based on improvements in previous trends, these are temporarily based on the most deprived quintile defined by the Carstairs Deprivation Index. However, there is a commitment to re-base these targets on the SIMD and to consider the use of the 15% most deprived areas.

The Evidence

Analyses at Scotland level

Analyses were performed on 12 different health variables:

Health variables	Measure standardised	Source years
Acute hospital episodes for respiratory disease	No	2002
Psychiatric hospital episodes for schizophrenia	No	2002
Deaths from CHD	No	2000-2002
Self-assessed health	Yes	2001
Limiting long-term illness	Yes	2001
Mortality ages <75	Yes	2002
Life Expectancy at birth	-	2000-2002
Life Expectancy at age 65	-	2000-2002
Breast cancer incidence	Yes	2001
Lung cancer incidence	Yes	2001
Breast screening uptake	No	2001
Breast cancer survival	No	1996-2000

to compare the available deprivation measures:

Measure	Brief name
Carstairs 2001 index at postcode sector level	Carstairs01_pc
Carstairs 2001 index at output area level	Carstairs01_oa
Carstairs-based bespoke 2001 index at output area level	Carstairs01B_oa
Carstairs 2001 index at data zone level	Carstairs01_dz
Carstairs-based bespoke 2001 index at data zone level	Carstairs01B_dz
SIMD 2004 at data zone level	SIMD_dz
SIMD 2004 excluding health at data zone level	SIMDxh_dz
SIMD 2004 excluding health and geography at data zone level	SIMDxhg_dz
SIMD 2004 income measure at data zone level	SIMDinc_dz

The best measure was defined as the one that had the best “discriminatory” properties, i.e. identifies best the deprived areas with the poorest health. To measure this we produced inequality slope statistics for each health variable, and each inequality slope statistic was then compared to the “best” within the health variable (see Table 1).

- Unsurprisingly, postcode-sector based deprivation is less discerning than those done at smaller geographies, although the magnitude of the difference is larger

than might have been expected (slopes between 17 and 41% more moderate than the slope of the “best” measure).

- The two output area measures gave the steepest slopes, and for ten out of the twelve health variables the Carstairs-based Bespoke 2001 measure at output area level outperformed all the other measures.
- Comparing only the data zone level measures, there was no clear indication of one measure outperforming the rest.
- The SIMD measure excluding health and geography consistently outperformed the SIMD combined measure. It is the best measure for health analyses, both empirically and conceptually. However, because the magnitude of the difference between this and the SIMD combined measure is relatively small we may wish to adopt the combined measure for consistency with other organisations across Scotland (including the SE).

Overall, the Carstairs-based Bespoke 2001 index at output area level was clearly the best measure for Scotland level comparisons. At data zone level the SIMD measures performed similarly to the Carstairs measures. Adoption of the combined SIMD measure at data zone level for all analyse would lead to a loss of precision of health inequalities of between 3-26% compared to the best measure, and this loss would be due to geographical precision rather than the quality of the measurement.

Analyses at NHS board level

The Carstairs-based Bespoke 2001 index at output area level and the combined SIMD at data zone level were investigated further to determine how they performed at a lower geography. We produced analyses by NHS board for a selection of the health variables (see Table 2 and Appendix Figures 1-3).

- For analyses based on large numbers of cases (e.g. limiting long-term illness) the output area measure performs consistently better for each NHS Board. However, for analyses based on fewer cases (e.g. lung cancer; which is

actually the most common cancer) the pattern is less clear and both measures run into problems with very sparse data. Graphically, both measures produce very similar results.

- There may be two types of comparisons between Boards (a) of particular deciles or (b) comparing within-Board differences between deciles across Boards. For these national deciles are required but it is worth noting that population sizes will be different (see Table 3) and the mean levels of deprivation within the deciles will be different across Boards (e.g. other boards may have population in decile 10 but Glasgow's decile 10 will be more deprived).
- For Board analyses, quintiles rather than deciles should be used for Boards with small decile populations, namely, Borders, Dumfries and Galloway, Orkney, Shetland and Western Isles.
- If the focus is on comparisons within a particular NHS Board then local deciles (deciles recalculated within the NHS Board) will produce more stable estimates.

Analyses for NHS Boards can be performed using the combined SIMD at data zone level without any great loss of precision, and NHS board-based deciles or quintiles should be considered when analysing at NHS Board level.

Trends over time

Currently there are no real options in terms of measures or geographies for trend analyses because we are restricted to the availability of population estimates at small area level. We have produced postcode-sector population estimates for the period 1981-2001 using GROS population estimates from the three censuses (1981, 1991 and 2001) and interpolating between these time points (adjusted to annual NHS Board population estimates). These population estimates can be aggregated into postcode-sector based Carstairs deciles using the 1981, 1991 or 2001 Carstairs scores, but should not be used in isolation at postcode-sector level.

Overall, 80% of the 1010 postcode sectors remain in the same deprivation decile or shift by only one deprivation decile between Carstairs91 and Carstairs01 (see Table 4). The effect of using Carstairs91 compared to Carstairs01 scores to define the deciles was found to be minimal in test analyses undertaken (see Figure 1), therefore, it seems reasonable to use Carstairs 2001 postcode deciles for long-term trend analyses.

- For trend analyses from 1997 onwards, the combined SIMD04 deciles at data zone level with 2001 data zone populations can be used. The loss of precision from a fixed population base is offset (i) against the loss of precision when using postcode-sector geography and (ii) the confusion of using a different measure for longer-term trends compared to recent estimates.
- Trend analyses including data from pre-1997 can only be analysed using Carstairs postcode-sector based deciles and the matching population file. The whole data range (including the post-1997 years) should be analysed in this way. Carstairs01 deciles should be used throughout.
- The 1981-2001 postcode-sector based population estimates are only available for 5 year age bandings, so long term trend analyses based on different age structures (e.g. teenagers) are not possible.

Note: The GROS are investigating the feasibility of estimating data zone populations back to 1991. If these are produced then the recommendation for trends from 1991 onwards will change to the combined SIMD04, in line with the rest of this report.

Urban-rural comparisons

The population distribution by SIMD and Urban Rural 6-fold classification is shown in Table 5. The choice of level of detail will depend on the focus of the analysis being undertaken.

Table 1: Scotland level analyses - all deprivation measures compared to the one with the steepest inequality slope (100%)

Deprivation measure (deciles)	Acute hospital episodes for respiratory disease ; discharges rates per 100,000 population 2002	Psychaitric hospital episodes for schizophrenia ; discharge rates per 100,000 population 2000-2002	Deaths from CHD ; rates per 100,000 in people aged 45-64 2000-2002	SIR - Standardised Illness Ratio (limiting long-term illness)	SNGR - Standardised Not-Good Ratio (self-assessed health)	SMR - Standardised Mortality Ratio ages <75	Life Expectancy at birth	Life Expectancy at age 65	Breast cancer; Age-standardised incidence rates per 100,000 population 2001	Lung cancer; Age-sex-standardised incidence rates per 100,000 population 2001	Breast screening programme uptake rates; women aged 50-64 in 2001	Three year survival rates (%) from breast cancer; women diagnosed 1996-2000
Carstairs01_pc	69%	59%	71%	70%	74%	72%	76%	76%	65%	73%	71%	83%
Carstairs01_oa	91%	94%	97%	96%	96%	96%	94%	76%	93%	99%	99%	83%
Carstairs01B_oa	100%	100%	100%	100%	100%	100%	100%	86%	100%	100%	100%	96%
Carstairs01_dz	83%	80%	87%	86%	88%	89%	90%	81%	78%	90%	93%	92%
Carstairs01B_dz	87%	80%	89%	89%	91%	90%	92%	85%	77%	91%	94%	95%
SIMD_dz	89%	74%	74%	87%	91%	89%	97%	96%	71%	88%	94%	97%
SIMDxh_dz	87%	70%	71%	87%	90%	88%	95%	92%	71%	87%	94%	94%
SIMDxhg_dz	90%	75%	75%	89%	92%	91%	97%	97%	78%	90%	95%	100%
SIMDinc_dz	90%	74%	71%	87%	90%	90%	97%	100%	76%	86%	92%	98%

For example, in column 1, the Carstairs 2001 postcode-sector level analysis gave an inequality slope which was only 69% as steep as the Carstairs 2001 bespoke output area inequality slope

Note: See appendix table 1 for a more detailed version of these analyses

Table 2: NHS Board level analyses – combined SIMD at data zone level compared to the Carstairs01 Bespoke index at output area level

NHS Board	SMR - Standardised Mortality Ratio ages <75		SNGR - Standardised Not-Good Ratio (self-assessed health)		SIR - Standardised Illness Ratio (limiting long-term illness)		Acute hospital episodes for respiratory disease; discharges rates per 100,000 population 2002		Lung cancer; Age-sex-standardised incidence rates per 100,000 population 2001	
	Ratio of slopes	OA measure steeper?	Ratio of slopes	OA measure steeper?	Ratio of slopes	OA measure steeper?	Ratio of slopes	OA measure steeper?	Ratio of slopes	OA measure steeper?
A&A	1.16	Yes	1.09	Yes	1.09	Yes	1.09	Yes	2.73	Yes
Borders	1.42	Yes	1.19	Yes	1.20	Yes	1.73	Yes	0.78	No
A&C	1.09	Yes	1.09	Yes	1.10	Yes	1.10	Yes	1.55	Yes
Fife	1.12	Yes	1.14	Yes	1.14	Yes	1.04	Yes	0.54	No
G Glasgow	1.11	Yes	1.12	Yes	1.12	Yes	1.14	Yes	0.97	No
Highland	1.00	No	1.01	Yes	1.01	Yes	1.07	Yes	0.74	No
Lanarkshire	1.03	Yes	1.10	Yes	1.06	Yes	1.00	No	12.50	Yes
Grampian	0.96	No	1.10	Yes	1.12	Yes	1.18	Yes	1.10	Yes
Orkney	-5.52	No	0.82	No	1.01	Yes	1.82	Yes	0.11	Yes
Lothian	1.11	Yes	1.11	Yes	1.12	Yes	1.22	Yes	0.99	No
Tayside	1.12	Yes	1.07	Yes	1.10	Yes	1.14	Yes	0.85	No
F Valley	1.23	Yes	1.11	Yes	1.10	Yes	1.16	Yes	1.33	Yes
W Isles	3.39	Yes	1.41	Yes	5.78	Yes	-0.61	Yes	3.69	Yes
D&G	1.10	Yes	1.02	Yes	1.05	Yes	0.91	No	2.31	Yes
Shetland	2.61	Yes	0.95	No	1.02	Yes	0.70	No	-1.03	Yes

Note: See appendix table 2 for a more detailed version of these analyses

Table 3: Proportion (%) of the population within each combined SIMD Scotland-based decile, by NHS Board

NHS Board	Combined SIMD Scotland-based deciles										Total
	1 (Aff)	2	3	4	5	6	7	8	9	10 (Dep)	
A&A	2.9	10.8	6.9	8.8	7.3	11.9	13.3	15.8	15.0	7.3	100
Borders	3.9	11.5	13.9	27.7	20.0	13.9	3.9	2.3	2.3	0.8	100
A&C	4.8	8.7	8.3	9.1	10.7	11.5	8.3	11.7	16.5	10.4	100
Fife	8.2	11.5	10.6	12.0	12.2	10.2	10.9	12.2	9.8	2.4	100
G Glasgow	10.7	7.7	5.9	4.9	5.2	5.8	7.2	8.9	10.9	32.9	100
Highland	2.7	8.2	9.9	16.1	18.5	18.2	14.0	7.2	2.7	2.4	100
Lanarkshire	2.6	8.6	6.6	6.9	9.9	10.8	12.9	13.8	18.8	9.1	100
Grampian	18.3	14.3	16.9	13.0	12.7	9.3	6.3	4.8	3.2	1.2	100
Orkney	0.0	11.1	11.1	33.3	29.6	7.4	7.4	0.0	0.0	0.0	100
Lothian	22.1	10.8	9.6	9.3	8.0	8.8	10.9	10.2	6.0	4.5	100
Tayside	7.2	10.7	16.1	15.7	11.1	6.4	7.9	7.9	10.5	6.6	100
F Valley	7.0	11.0	13.4	9.4	8.1	12.1	11.8	13.2	9.7	4.3	100
W Isles	0.0	0.0	0.0	0.0	13.9	33.3	36.1	16.7	0.0	0.0	100
D&G	2.1	4.2	11.9	11.4	20.7	20.7	16.6	4.7	6.2	1.6	100
Shetland	0.0	10.0	16.7	46.7	23.3	3.3	0.0	0.0	0.0	0.0	100
Scotland	9.7	9.9	10.1	10.3	10.2	10.1	10.1	10.0	10.0	9.7	100

Table 4: Allocation (%) of postcode sectors into each Carstairs decile (1991 compared to 2001)

Carstairs 2001	Carstairs 1991										Total
	1	2	3	4	5	6	7	8	9	10	
1	63.0	22.5	2.2	3.6	2.9	2.2	2.2	0.0	0.0	1.5	100.0
2	18.0	44.3	17.2	6.6	3.3	4.1	1.6	0.8	3.3	0.8	100.0
3	3.6	26.8	40.2	14.3	6.3	4.5	2.7	1.8	0.0	0.0	100.0
4	3.4	7.6	33.1	30.5	15.3	2.5	3.4	1.7	1.7	0.9	100.0
5	1.0	3.0	8.1	27.3	33.3	19.2	5.1	2.0	1.0	0.0	100.0
6	0.0	3.4	4.5	16.9	23.6	30.3	13.5	5.6	2.3	0.0	100.0
7	0.0	1.3	2.5	1.3	13.9	29.1	34.2	12.7	2.5	2.5	100.0
8	0.0	1.2	4.9	0.0	2.4	7.3	28.1	36.6	17.1	2.4	100.0
9	0.0	0.0	3.7	0.0	0.0	2.5	12.4	28.4	46.9	6.2	100.0
10	0.0	0.0	0.0	0.0	0.0	0.0	1.1	6.7	16.9	75.3	100.0

Note: 444 (44%) out of 1010 postcode sectors stayed in the same deprivation decile, 369 (36%) shifted by one decile, and 16 (1.6%) shifted more than five deciles over the 10 year period

Figure 1: Comparison of incidence rates for lung cancer in 2001: rates based on Carstairs 1991 deciles compared to those based on Carstairs 2001 deciles

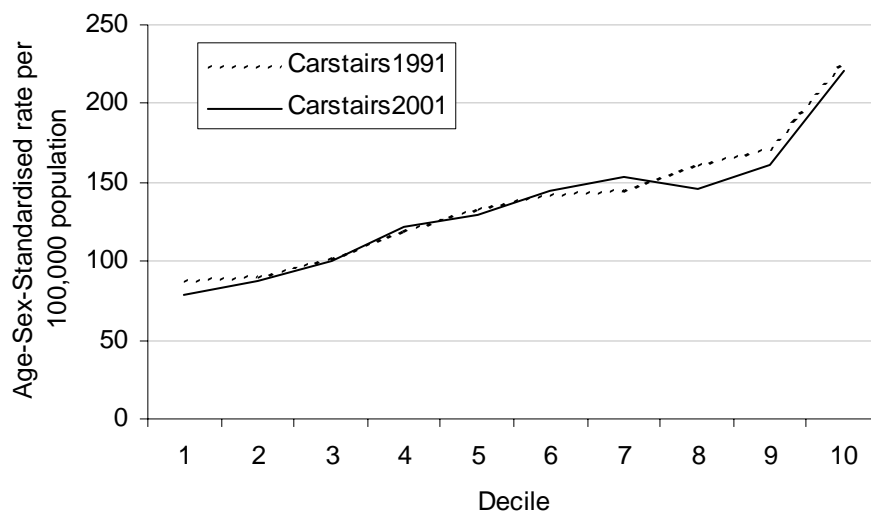


Table 5: Proportion (%) of the population within each combined SIMD Scotland-based decile, by Urban Rural Classification

Urban Rural Classification	SIMD deciles									
	1	2	3	4	5	6	7	8	9	10
1 Large Urban Areas	14.5%	8.8%	7.4%	5.5%	5.6%	6.3%	7.9%	11.0%	12.9%	20.1%
2 Other Urban Areas	7.7%	10.8%	8.7%	8.7%	9.3%	10.9%	14.1%	12.2%	11.2%	6.3%
3 Accessible Small Towns	12.1%	13.2%	11.7%	8.9%	10.7%	11.2%	9.5%	12.3%	9.4%	1.0%
4 Remote Small Towns	4.5%	9.9%	11.1%	7.9%	18.3%	18.1%	12.8%	7.1%	6.5%	4.0%
5 Accessible Rural	4.9%	12.7%	18.1%	21.2%	16.3%	11.2%	6.5%	3.9%	4.0%	1.2%
6 Remote Rural	2.0%	2.3%	10.7%	22.9%	22.7%	21.1%	12.1%	4.2%	1.6%	0.3%
1-4 Urban	11.5%	10.1%	8.6%	7.1%	8.0%	9.0%	10.5%	11.5%	11.6%	12.2%
5-6 Rural	4.1%	9.6%	15.9%	21.7%	18.2%	14.1%	8.2%	4.0%	3.3%	1.0%

Background notes

The GROS are producing annual data zone level population estimates for 2002 onwards, and these will be circulated for use for post-2001 analyses when they become available. For the time being 2001 data zone populations should be used.

The next SIMD update will be in 2006. At this time we will bring out further recommendations on the use of these.

For further information about the different measures considered in this report then please visit the ISD GCPD infozone area (available to NSS personnel only).

Files needed for analyses

All the files needed to do the above analyses will be made available on the deprivation area of ISD Online. The categorisation variables will also be included in the ISD data warehouse.