Getting the measure of rural deprivation in Wales

Commissioned by:
Local Government Data Unit ~ Wales

on behalf of:
Welsh Local Government Association’s Rural Forum

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Section 1 Executive summary

1.1.1 This report was commissioned by the Local Government Data Unit ~ Wales (Data Unit), as part of a study by the Data Unit into different ways of measuring rural deprivation, and the potential impact on funding allocations.

Measuring rural deprivation (Section 2)

1.1.2 The increasing acknowledgement of the problems faced by rural communities partly reflects the availability of better information. The availability of socio-economic data at small area level mean that rural issues can be drawn-out from data that previously grouped together rural and urban areas.

1.1.3 However, there remains a strong perception that rural disadvantage and deprivation issues are still not adequately captured in the Welsh Index of Multiple Deprivation (WIMD) and other national measures of deprivation. Concerns relate to a lack of indicators to identify specific rural issues, such as employment access and quality, housing affordability, access to services, and cost of living. Other issues have been raised in terms of possible bias in existing indicators, for example lower benefit take-up levels in rural areas mean that indicators based on benefits (for example used in the employment and income domains of the WIMD) will underplay rural deprivation levels.

1.1.4 There is also a more general issue; that area-based measures are less appropriate to identify dispersed rural disadvantage. For example, analysis in Section 4 shows that the nine rural local authorities in Wales account for 33% of the total Wales population, 29% of people receiving income or employment-related benefits, but only 13% of those areas in the most deprived quintile.

1.1.5 In considering the case for a ‘Rural WIMD’, there are two key questions:

- **When would a Rural WIMD be appropriate for use (rather than the national WIMD)?** Any rural index of deprivation would not seek to ‘compete’ with the WIMD, which would still be the main measure to identify those Welsh areas with the highest concentrations of deprivation. Any Rural WIMD would therefore not be designed to compare between deprivation levels in urban and rural areas, and used only to further target those resources that had already in some way been assigned to rural areas. Before setting out to develop a robust index of rural deprivation, rural stakeholders should agree appropriate uses for the index and develop real use example scenarios. This information should be used in defining the specification for any Rural WIMD.

- **Which geographic level?** There is always a trade-off between data availability and the desire for measures at the smallest area level possible. Discussion of any Rural WIMD should consider whether the availability of finer-grained Output Area level data from Census 2011 and other sources means that an Output Area level model could usefully be developed.

How are factors such as deprivation and sparsity included into the way that resources are allocated to local areas? (Section 3)

1.1.6 Public resources need to be allocated fairly between different areas – and be seen to be allocated fairly. Broadly, resources can be allocated to different areas...
based on one or more of needs, costs, spend and/or potential impact\(^1\). Key issues that rural areas are likely to want to take into account to ensure that programmes are fairly distributed to local areas include:

- **Programme funds for vulnerable people should not be targeted to deprived areas:** Where a programme explicitly aims to improve conditions in the most deprived communities\(^2\), it may be appropriate for funding formulae to include indicators such as the WIMD that identify highly deprived areas. However, where programmes are intended to target resources to vulnerable people or service users wherever they live, funding formulae should be careful not to discriminate against those vulnerable groups who happen to live outside the most deprived areas.

- **Direct measures of client group needs should generally be used rather than overall deprivation indices:** Deprivation indices such as the WIMD may be appropriate for use in allocation formula where they are used as a proxy for ‘need’. However, more direct measures of client group needs, such as socio-economic indicators appropriate to that particular client group, should be used in place of deprivation indices wherever possible.

- **Costs due to sparsity and diseconomies of scale should be adequately included:** Many services cost more per person to deliver to rural communities because of a range of factors including greater travel costs (both direct costs and time-related costs), and lower demand levels producing lower economies of scale. However, research shows that the cost factors incorporated into funding formulae can be too low, and so fail to accurately account for the costs of rural service provision.

**An example: The Supporting People (SP) programme (Section 4)**

1.1.7 The current Supporting People grant distribution to Welsh Local Authorities does not obviously correspond to population size, deprivation or ‘need’ levels, with some rural LAs receiving nearly five times greater funding per capita than other rural LAs. The move to a formula-based funding distribution can potentially provide a more equitable distribution between local areas.

1.1.8 The Aylward review and subsequent consultation identifies a funding distribution formula that includes deprivation (30\% of the total funding to be based on the location of the most deprived areas in Wales) and an index of ‘social fragmentation’ (10\% of the total funding).

1.1.9 We suggest that the Social Fragmentation Index requires further testing and consultation in order to be seen not to introduce any systematic bias or element of double counting into the formula for Supporting People funding. As yet it is unclear whether the index is appropriate for use in a robust and transparent formula for distributing Supporting People funds to local areas.

1.1.10 The proposed use of the WIMD for resource allocation explicitly targets funds at highly deprived areas (those in the most deprived quintile of areas in Wales), not

\(^1\) Funds may also be directly commissioned, for example through a bidding process that takes into account readiness and capacity to deliver.

\(^2\) Such as the Communities First programme, or the English Neighbourhood Renewal Strategy.
the vulnerable people that the SP is intended to support. The ‘threshold’ effect introduced by using only the most deprived quintile of areas means that vulnerable people with housing needs, but who happen to live outside the most deprived areas in Wales, will not receive any benefit from this 30% component of the fund. This fails a key test for fair provision of services, namely that targeted services, for example to disadvantaged people, reach those targeted people and groups wherever they live.

1.1.11 A more robust approach to incorporating deprivation levels into the distribution of Supporting People resources is to use the income and employment indicators from the WIMD, which identify the proportion of the relevant population receiving low income or employment-related benefits. This is essentially the approach taken in the English Supporting People formula. As with using WIMD directly, the resulting formula would have the effect of weighting the grant allocation such that areas of higher deprivation levels would receive higher per capita values, but without the threshold effect seen when using only the most deprived areas.
Table 1.1. Supporting People ‘deprivation’ component, showing current allocations and hypothetical allocations based on: per capita, most deprived areas, and people receiving income or employment benefits

<table>
<thead>
<tr>
<th>Local authority</th>
<th>‘Deprivation’ allocations based on 30% of current SP grant (£M)</th>
<th>Based on per capita (£M)</th>
<th>Based on areas in most deprived 20% (£M)</th>
<th>Based on income and employment indicators (£M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiff</td>
<td>6.09</td>
<td>4.53</td>
<td>5.68</td>
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<td>Swansea</td>
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<td>3.11</td>
<td>5.47</td>
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<tr>
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<td>1.47</td>
<td>1.05</td>
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<td>1.99</td>
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<td>Newport</td>
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<td>The Vale of Glamorgan</td>
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<td>Isle of Anglesey *</td>
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<td>Rural total</td>
<td>13.3</td>
<td>13.1</td>
<td>5.4</td>
<td>11.6</td>
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<tr>
<td>Wales total</td>
<td>39.9</td>
<td>39.9</td>
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<td>39.9</td>
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<tr>
<td>Rural local authorities share of Wales total</td>
<td>33.3%</td>
<td>32.9%</td>
<td>13.5%</td>
<td>29.2%</td>
</tr>
</tbody>
</table>

*Rural local authorities are denoted with *

1.1.12 The potential impact on allocations to rural areas is significant, see Table 1.1. It is proposed that 30% of the £133 million Supporting People Grant is allocated on the basis of the Welsh Index of Multiple Deprivation, some £40 million. Using the measure ‘areas in the deprived quintile’ would target £5.4 million of this to the nine rural local authorities. Using the measure ‘people receiving income or employment-related benefits’ would target £11.6 million to the rural local authorities. In other words, rural local authorities would receive £6 million less per year on the basis of targeting Supporting People funds to the most highly deprived areas, rather than supporting vulnerable people wherever they live.
Section 2 Measuring rural deprivation

2.1 About this report

2.1.1 This report was commissioned by the Data Unit, as part of a wider study by the Data Unit into different ways of measuring rural deprivation, and the potential impact on funding allocations. The full study:

- explores approaches to measuring deprivation, including those used in other countries, and considers their suitability in the Welsh context;
- examines the extent to which the current Welsh Index of Multiple Deprivation (WIMD) methodology is effective in measuring deprivation in rural areas;
- examines the merit of having a separate rural index, including considering how such an index might be constructed and used;
- examines how deprivation in the rural context is reflected in policy development and funding decisions;
- assesses how appropriate or otherwise the current approaches to using WIMD are, particularly with respect to funding decisions covering rural areas;
- provides analysis of the impact on funding allocations of the current approaches to using WIMD, including an assessment of its impact in the proposed formula for distributing Welsh Government ‘Supporting People’ funding.

2.1.2 The study has not been a review of WIMD beyond its uses within the rural context.

2.2 What is rural deprivation?

"Poverty is usually viewed as an outcome, denoting an inability to share in the everyday lifestyles of the majority because of a lack of resources (often taken to be disposable income). Disadvantage is essentially similar but is multidimensional, considering all aspects of a person’s life and not only income or expenditure ... Deprivation is slightly different, focusing on the lack of certain essentials such as food, housing, mobility or services.”

2.2.1 Many features of disadvantage and deprivation are the same anywhere. People in rural communities can suffer from many of the same issues as people experiencing disadvantage or deprivation in other areas. These include poverty, unemployment, poor education and skills, poor youth opportunities, illness and disability, inadequate housing, and a lack of power and influence.

2.2.2 However, some issues can disproportionately affect people in rural areas. Researchers have identified three main contributory factors potentially leading to a "self-sustaining spiral of (rural) disadvantage". These involve:

- resource deprivation, as embodied in problems of low income and housing;
- opportunity deprivation which relates to availability of services (for example health and recreation); and

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• mobility deprivation which concerns transport costs and the inaccessibility of jobs, services and facilities.

2.2.3 Under these three factors, analyses of rural deprivation (and indeed indicators to measure rural deprivation) often focus on key drivers such as:

• access to and quality of employment;
• vulnerability (fragility) of rural economies;
• low income and earnings, including in-work poverty;
• access to, and affordability, of housing;
• access to services; and
• peripherality and isolation.6

2.3 Measuring rural deprivation

2.3.1 Some researchers have argued that the ‘rediscovery’ of rural poverty in recent years, and an increasing acknowledgement of the problems faced by rural communities, partly reflects the availability of better information.7 The availability of socio-economic data at small area level mean that rural issues can be drawn-out from datasets that previously grouped together rural and urban areas. There is now a large body of work exploring issues of rural disadvantage across the UK.8

The Index of Multiple Deprivation

2.3.2 The national ‘gold-standard’ for measuring deprivation at small area level is the WIMD, and equivalents in England, Scotland and Northern Ireland. These measures have been improved over time to take account of at least some rural concerns, such as distance to key services, and the geographic unit at which data is available (previous indices used wards, but more recent work has used the finer-grained Lower Super Output Area, LSOA geography).

2.3.3 However, there remains a strong perception that rural disadvantage and deprivation issues are still not adequately captured in the WIMD and other national measures.9 Two main issues are consistently highlighted:

1) Issues with indicators used in the WIMD

2.3.4 Many concerns relate to a lack of indicators to identify specific rural issues:

1. Employment access: Many of those involuntarily out of work do not receive benefits, and so are not included in the WIMD employment domain.10 Recent analysis of ‘hidden unemployment’ includes unemployed people who want work but have not actively sought it for six weeks, ‘underemployed’ adults

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8 Including the series of reports from the Commission for Rural Communities and Countryside Agency, and detailed work from academics and other groups. See Appendix A for further reading.
9 There are similar perceptions of the English Indices of Multiple Deprivation (IMD), as well as measures of deprivation in the other home nations.
10 The WIMD employment domain is based on an indicator which measures the percentage of the working-age population receiving employment-related benefits. People not receiving such benefits are therefore not included in the measure.
who are in part-time work because they cannot find full-time work, and those economically inactive but who would like to work\textsuperscript{11}.

2. \textit{Employment quality}: Employment in rural areas is more likely to be low pay, seasonal/intermittent and part-time employment. These issues of employment quality are not currently picked up in the WIMD.

3. \textit{Housing affordability}: The lack of affordable housing is a major concern in rural areas. A measure of housing affordability has been incorporated in the English IMD since 2004, but not in the WIMD\textsuperscript{12}.

4. \textit{Access to services}: Earlier versions of national measures of deprivation\textsuperscript{13} tended to primarily use data from the Census (the main source of available data at small area level), with no data on distance or travel time to services. The English IMD 2000 was the first to include an element of distance to services, with the 2004 update moving to a road distance measure rather than straight-line. The WIMD has since extended the English IMD measures to include a greater range of services (such as those called for by the Commission for Rural Communities in submissions to the English IMD consultation), and journey times rather than distances (although this raises questions over whether car journey or public transport times are more appropriate).

5. \textit{Cost of living}: Work on the minimum income standard identifies a greater cost of living in rural areas, fundamentally driven by transport costs (see below). Major rural concerns around the higher cost of living also include fuel poverty, housing affordability, and higher prices in local shops due to the absence of larger supermarkets.

2.3.5 Other concerns have been flagged in terms of possible bias in existing indicators:

- People in rural areas are less likely to take-up benefits, so indicators based on benefits (for example used in the employment and income domains of the WIMD) will underplay rural deprivation levels. Research carried out for the English IMD identified that benefit take-up varies by benefit type, recipient characteristics and geographical area type, however concluded that the evidence was not yet strong enough to robustly weight benefit levels at small area level, and that further research over a longer time period was needed\textsuperscript{14}.

2.3.6 These issues have been raised in consultations on the WIMD and other national IMD measures, leading to the current national deprivation measures more accurately reflecting rural issues than earlier versions. For example, indicators on distances (and travel time) to services, and housing affordability (in the English IMD), have the effect of giving greater weight to rural concerns. Consultations on further development of the WIMD should be used to highlight additional rural concerns that have not yet been taken into account in WIMD development.

2.3.7 As well as influencing the development of the WIMD to better take rural concerns into account, a different approach would be to develop separate measures that

\textsuperscript{11} For example, see the TUC Analysis 2012.

\textsuperscript{12} There is also a need for the housing condition indicators to be updated once Census 2011 is published.

\textsuperscript{13} Such as the Index of Local Conditions, based on the 1991 Census.

\textsuperscript{14} Bradshaw and Richardson (2007), Spatial Variations in the Take-Up of Means-Tested Benefits.
are able to more accurately identify rural deprivation. This is explored in Section 2.5 below.

2) Issues with area-based measures in general

2.3.8 A more general issue raised is that area-based measures are less appropriate to identify dispersed rural disadvantage. This may be the case however finely-tuned the underlying indicators or methodology. As a consequence, different approaches such as the ‘rural share of deprivation’ (see 2.4.5 to 2.4.7 below) may be more appropriate for targeting resources to tackle deprivation in rural areas.

2.3.9 This concern over area-based measures has been mitigated to some extent by the development of finer-grained measures at LSOA level (rather than previous measures at the larger ward level)\(^{15}\). However, due to the lack of available data at the finer-grained Output Area or postcode levels, it is unlikely that future versions of WIMD will be able to move to a finer-grained level, even if desired by many groups.

2.3.10 One approach is for rural groups to make use of the finer-grained data that is published, or made available by government agencies, to supplement the WIMD data. Work by OCSI in England showed that Output Area analysis led to a significantly greater identification of highly deprived rural areas than the national IMD measure (at LSOA level)\(^ {16}\). This information can help supplement the national IMD, and help local agencies better target resources at rural deprivation.

2.4 Other indicators of rural deprivation and disadvantage

*Countryside Agency and Commission for Rural Communities work on rural disadvantage*

2.4.1 Work commissioned by the Countryside Agency on measures of rural deprivation identified ‘bundles’ of indicators to reflect rural issues\(^ {17}\).

- *Employment access*: Unemployed, long-term sick and on government training schemes.
- *Employment quality*: Long hours and low pay.
- *Employment vulnerability*: Long term employment decline in areas.
- *Low earnings*: Low earning occupations.
- *Housing access*: Earning below the local ‘housing wage’.
- *Housing conditions*: Overcrowding and households without central heating.
- *Population sparsity*.

\(^{15}\) The WIMD is available at Lower Super Output Area level. Moving from wards to Lower Super Output Areas to Output Areas gives a roughly five times finer-grained level of detail each time. Wards cover on average 8,000 people, Lower Super Output Areas 1,500 people, and Output Areas 300 people.


\(^{17}\) Dunn, J. et al. (1998) Developing indicators of rural disadvantage, Countryside Agency.
2.4.2 Many of these issues were subsequently incorporated into the English IMD (first developed in 2000), and later versions in England and Wales. Additional issues not yet included into the WIMD have been discussed above.

2.4.3 Later work by the Countryside Agency on measures of rural disadvantage, following the publication of the English IMD 2000, highlighted that it was useful to provide additional indicators on particular issues such as access to housing, and distance to services. However, the work did not attempt to combine the individual indicators into an overall index of rural deprivation, in part to avoid confusion of "when to use the Government’s Index of Multiple Deprivation ... and when to use a rural index."\textsuperscript{18} Again, many of the indicators highlighted in the work were included in subsequent versions of the WIMD and English IMD.

2.4.4 The Commission for Rural Communities (CRC) has long advocated for the English IMD to include additional indicators relevant to rural issues, for example to account for lower benefit take-up levels in rural areas. In addition, the CRC suggests using a wider basket of indicators to assist in the identification and therefore prioritisation of the more dispersed deprivation found in rural (and some urban) areas:

- Housing affordability;
- Average weekly earnings;
- People on low household incomes and low wages;
- People in fuel poverty;
- People in seasonal, intermittent and part time employment; and
- Road distance to GP Surgery, schools, banks and building society\textsuperscript{19}.

The rural share of deprivation

2.4.5 Work by OCSI for the Commission for Rural Communities and Action with Communities in Rural England (ACRE) has developed the notion of the ‘rural share of deprivation’\textsuperscript{20}. This work argues that area-based measures that focus on the most deprived areas, such as the IMD, are less appropriate for targeting programmes in rural areas, and that the numbers of deprived or excluded people should be taken into account when allocating resources and/or targeting programmes.

2.4.6 A key message from the work on the rural share of deprivation is that programme funds for \textit{vulnerable people} should not be targeted to \textit{deprived areas}. For example, analysis of the rural share of deprivation in England shows that only 2% of the most deprived areas in England are rural, but that 18% of those living below the poverty line live in rural areas\textsuperscript{21}.

2.4.7 On this basis, focusing programmes at the most deprived areas results in rural areas receiving a much smaller share of resources than would result if

\textsuperscript{18} Countryside Agency (2003). Indicators of rural disadvantage: guidance note.
programmes were targeted at deprived/vulnerable groups wherever they live. This impact is also seen in Wales, with Table 4.1 (Section 4) showing that the nine rural local authorities in Wales account for 33% of the total Wales population, 29% of people receiving income or employment-related benefits, but only 13% of those areas in the most deprived quintile.

**West Midlands 'Rural Deprivation Indicator’**

2.4.8 Work from the West Midlands Regional Development Agency (Advantage West Midlands) produced a rural deprivation indicator at ward level across the West Midlands, using the following indicators:

- Housing Affordability (comparison of commercial income data against house prices);
- Mortality rates;
- JSA claimants;
- Job density;
- Total working age claimants;
- Household Income under £20k (from commercial income data); and
- Knowledge economy (% of people employed).

2.4.9 Analysis at ward level showed significant differences between the combined measure, and the English IMD. In particular, rural areas were more deprived based on this indicator, than on the national IMD measure. However, this is to be expected given that some of the indicators used are measures of economic strength rather than deprivation levels (for example, job density and the % of people employed in knowledge economy jobs), so are likely to identify urban areas as faring well.

2.4.10 The analysis makes clear that the indicator has been created using the principle that rural deprivation is somehow different from urban deprivation, and is not trying to ‘compete’ with or undermine the national IMD measure. In other words, the indicator can help rural groups and providers better target services, but is not intended to create an alternative to the IMD when making the case for resource allocation.

**Minimum income standards and costs in rural areas**

2.4.11 A different approach to identifying rural disadvantage has been taken in work by the Joseph Rowntree Foundation and Loughborough University on the minimum income standard. Analysis has explored how needs and costs vary for different households in relation to rurality:

"the minimum cost of living in rural areas is greater than living in urban areas ... by 1–12 per cent in rural towns, 14–19 per cent in villages and 16–24 per cent in hamlets, for an illustrative range of household types"

"By far the largest single element of extra costs was transport, which made up between 60 and 100 per cent of the differences. The more rural the location, the more significant this cost becomes"  

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2.4.12 This echoes research in the South West of England using a budget standards methodology to determine the level of income needed by different household types to avoid poverty and to live healthily. Based on higher costs in rural areas, a greater proportion of rural households were living in poverty once costs were taken into account, than when simply based on income\textsuperscript{24}.

2.5 A ‘Rural WIMD’? Issues to consider

2.5.1 Rural groups have often advocated the development of separate rural indices of deprivation. A main argument is that any such rural index could in principle better highlight rural issues, so would be a more accurate (and fairer) measure for allocating resources in rural areas. Below we highlight two issues that would need to be considered in developing a Rural WIMD:

- When would a Rural WIMD be appropriate for use (rather than the national WIMD)?
- What might a Rural WIMD look like?

When would a Rural WIMD be appropriate for use (rather than the national WIMD)?

2.5.2 Any rural index of deprivation would not seek to ‘compete’ with the WIMD; the national WIMD would still be the main measure across all areas in Wales to identify those areas with the highest concentrations of deprivation. Any Rural WIMD would not be used to compare, or allocate funds between, urban and rural areas.

2.5.3 Therefore, resources to be targeted using any rural index of deprivation would only be those that had already in some way been assigned to rural areas. Appropriate uses might include:

- Identifying how national regeneration funds for improving rural conditions are allocated to particular rural areas;
- Local agencies commissioning services for rural areas within the local agency area;
- Distributing the rural share of any funding pot between rural Local Authorities.

2.5.4 Before setting out to develop a robust index of rural deprivation, rural stakeholders should agree appropriate uses for the index and develop real use example scenarios. This information should be used in defining the specification for a Rural WIMD.

2.5.5 It is also worth noting comments from the Countryside Agency team in their work on indicators to better identify and target rural deprivation, where they ruled out creating an overall index:

"We have not attempted to combine the individual indicators into an overall index of rural deprivation. In part this was because the statistical procedures require so many subjective decisions. There would also have been confusion\textsuperscript{23, 24}.


\textsuperscript{24} Fahmy and Gordon (2002). Mapping deprivation in the South West.
about when to use the Government’s Index of Multiple Deprivation ... and when to use a rural index. Instead we prefer the approach where single indicators or domains highlight a particular aspect of deprivation such as health or income.”

What might a Rural WIMD look like?

2.5.6 The project brief for this report did not ask us to scope the full details of a possible Rural WIMD, but did ask us to briefly consider what such an index might look like. Below we highlight some of the issues that would need to be defined in any specification.

Which indicators?

2.5.7 In the section on the WIMD above (Section 2.3), we highlighted concerns that have been raised in the past by rural groups around: employment access and quality, housing affordability, cost of living, and distance to services. In each of these areas, there is scope to improve the evidence-base by commissioning additional development work. In particular, indicators of housing affordability could be developed, as has been done for the English IMD since 2004.

Should a combined index be created?

2.5.8 In principle, a combined index of deprivation in rural areas could be used for targeting priority areas for additional support, also for identifying the amount of support to particular areas, and for comparing performance and resources between different areas.

2.5.9 However, the case for creating a combined index of rural deprivation, rather than simply extending the evidence-base of relevant indicators, needs to be based on how in practice this would be used by rural areas (see 2.5.2 to 2.5.5 above). Although a Rural WIMD would have some benefit for benchmarking and research purposes, the real value would come from rural and local agencies using such an Index when targeting resources.

Which geographic level?

2.5.10 There is always a trade-off between data availability and the desire for measures at the smallest area level possible. LSOA level is probably the finest-grained measure that is possible in a robust index that covers all aspects of rural deprivation. However there are relevant datasets available at the finer-grained Output Area (OA) level.

2.5.11 Table 2.1 below highlights datasets that could be used. In particular, the release of Census 2011 from the end of 2012 onwards will add to the detailed datasets available at OA level. Discussion of any Rural WIMD should consider whether the availability of finer-grained OA level data from Census 2011 and other sources means that an OA level model could usefully be developed.

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### Table 2.1. Datasets that could potentially be used in a ‘Rural WIMD’, by geography

<table>
<thead>
<tr>
<th>WIMD domain</th>
<th>What datasets are published at Output Area level?</th>
<th>Additional datasets published at Lower Super Output Area (LSOA) level or Local Authority (LA) level</th>
</tr>
</thead>
</table>
| Income      | • Working age people receiving income related benefits (DWP 2011) | • Children in families receiving income related benefits (LSOA)  
• Older people receiving income related benefits (LSOA) |
| Employment  | • Working age people receiving employment related benefits (DWP 2011)  
• Unemployment (Census 2001/2011) | • People economically inactive who would like a job (LA) |
| Health      | • People with a limiting long-term illness, Census 2001/2011 | • ‘Years of Potential Life Lost’, age and sex standardised measure of premature death (LSOA)  
• ‘Comparative Illness and disability’, age and sex standardised measure of morbidity and disability (LSOA)  
• Measures of acute morbidity, age and sex standardised rates of emergency admissions to hospital (LSOA)  
• Proportion of adults under 60 suffering from mood or anxiety disorders (LSOA modelled indicator)  
• Low Birth weight (LSOA)  
• Cancer incidence (LSOA)  
• All age all cause mortality rate (LSOA) |
| Education   | • Adult skills: people with no or low qualifications, Census 2001/2011 | • Average points score of pupils taking English, Maths and Science, Key Stage 2 and Key Stage 3 exams (LSOA)  
• Average capped points score of pupils taking Key Stage 4 (GCSE or equivalent) exams (LSOA)  
• Secondary school absence rate: proportion of authorised and unauthorised absences from secondary school (LSOA)  
• Proportion of young people not staying on in school or non-advanced education above age 16 (LSOA)  
• Proportion of those aged under 21 not entering Higher Education (LSOA)  
• Primary and secondary school absence rate (LSOA) |
| Geographical access to services | • Road distance to services (available for 2010)  
• Households with no access to car, Census 2001/2011 | • Travel time to key services by walking or public transport (LSOA) |
<table>
<thead>
<tr>
<th>WIMD domain</th>
<th>What datasets are published at Output Area level?</th>
<th>Additional datasets published at Lower Super Output Area (LSOA) level or Local Authority (LA) level</th>
</tr>
</thead>
</table>
| Housing (and affordability) | • Household overcrowding, Census 2001/2011  
• Houses without central heating, Census 2001/2011 | • Social and private housing in poor condition (LSOA modelled from LA level data)  
• Homelessness (LA)  
• Difficulty of access to owner-occupation (LA)  
• Fuel poverty (LSOA) |
| Community safety | | • Recorded offences (reported violent crimes, burglaries theft, criminal damage) per capita or household (LSOA)  
• Youth offenders (LSOA) |
| Physical Environment | | • Air quality (LSOA modelled from point measurements)  
• Road traffic accidents (LSOA)  
• Flood risk (LSOA)  
• Proximity to waste disposal and industrial sites (LSOA) |

2.5.12 It is also worth highlighting that our work on the rural share of deprivation (see above) and other analysis of rural disadvantage strongly makes the case that measures identifying deprived people should be used alongside measures of deprived areas. In other words, a Rural WIMD would not avoid the more general question of whether area-based measures – however good – are appropriate to identify dispersed rural disadvantage.
Section 3  How are factors such as deprivation and sparsity included into the way that resources are allocated to local areas?

3.1  Introduction

3.1.1  Public resources need to be allocated fairly between different areas – and be seen to be allocated fairly. Broadly, resources can be allocated to different areas based on one or more of needs, costs, spend and/or potential impact\(^{26}\).

3.1.2  In this section we explore how resources can be allocated to local areas, highlighting issues that need to be taken into account to ensure that resources are allocated in a fair and transparent fashion. This section:

- Identifies how the Welsh Index of Multiple Deprivation (WIMD), and similar measures from the other home nations, are used to allocate resources.
- Highlights how socio-economic factors such as deprivation, and cost factors such as sparsity, are typically included into resource allocations to help ensure that people in different areas have access to reasonably equal service levels.
- Identifies key issues that rural areas are likely to want to take into account, so that programmes are fairly distributed to local areas.

3.2  How Indices of deprivation such as WIMD are used to allocate resources

Identifying deprived areas for targeted support

3.2.1  The WIMD, and the similar measures in place for each of the home nations in the UK, have been used extensively to identify deprived areas for additional targeted support, by national, regional and local agencies. Similar indices have also been used internationally to target programmes, for example in South and Southern Africa\(^{27}\).

3.2.2  Examples of programmes targeted using the WIMD include the Welsh Communities First programme, which aims to improve the living conditions and prospects for people in the most disadvantaged communities across Wales. Initially, the programme was targeted at the most deprived 100 wards across Wales, as identified by the WIMD 2000, as well as 32 additional pockets of deprivation and 10 communities of interest.

3.2.3  In England, perhaps the best known of initiatives using the English IMD to target support is the last government’s work under the neighbourhood renewal strategy. The programme aimed to ensure that, within 10-20 years, no one should be seriously disadvantaged by where they live\(^{28}\). Funds were targeted to the most deprived 88 local authorities (as identified by the English IMD), with

\(^{26}\) Funds may also be directly commissioned, for example through a bidding process that takes into account readiness and capacity to deliver.

\(^{27}\) Noble et al (2007). The South African Index of Multiple Deprivation at datazone level.

the level of local funding based on the number of people living in highly deprived areas.

3.2.3.1 Other examples of using indices of deprivation for targeted support include:

- *Targeted regeneration funds* to each of the regions in England in the past has used the IMD, with nearly 20% of the funding to the ex Regional Development Agencies based on the English IMD.
- *Sure Start and Children’s Centres*: In England, the location of the initial waves of Sure Start centres were based on the most deprived areas according to the IMD, as was funding for the Neighbourhood Nurseries Initiative and other programmes aimed at supporting vulnerable children and families.
- Targeted programmes of support to the most deprived areas in South Africa to increase benefit take-up levels.
- Many of the *National Lottery* grants are explicitly targeted at the most deprived areas based on indices of deprivation, as are other funds such as Bill and Melissa Gates Foundation gifts for the provision of information technology learning centres.
- Other incentives such as *reduced stamp duty on property and land transactions* have been used to stimulate the housing market in deprived areas, and the Coalition government provided *National Insurance tax breaks* for firms located in the most deprived regions of the UK (outside the Greater South East).

**Using indices of deprivation to target resources for universal services**

3.2.4 It is less common to use overall index measures of deprivation such as WIMD to allocate funds for universal services which support particular groups irrespective of location. Rather, more specific indicators such as the numbers or proportion of vulnerable people are usually included into distribution formula, see sections below for examples.

3.2.5 However, there are relevant examples where overall deprivation indices are used explicitly as a deprivation component of the fund, including:

- In Wales, the Revenue Support Grant includes a deprivation grant, based on the WIMD 2000. However, this is a relatively small component of the overall grant, which includes a large number of more specific socio-economic indicators. It is also worth highlighting that the English local government grant formula does not use the overall index of deprivation (although some components from within the IMD are used, see below).
- In Scotland, 20% of the Supporting People formula is allocated based on the population living in the most deprived 15% of small areas – essentially this ensures that 20% of the fund is targeted solely at the *most deprived areas* in the country, over and above the location of *vulnerable people* already included in the allocation (the Scottish Supporting People formula also allocates 20% based on the numbers of disability living allowance claimants, and 30% on the numbers of homelessness applications).

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29 Local Government Finance Report (No.1) 2012-2013 (Final Settlement - Councils).
3.3 Allocation to local areas based on population needs

3.3.1 The simplest form of population needs-based allocation is to allocate resources equally on a per capita basis, where every person receives an equal fraction of resources. With this approach, the allocation to an area is simply based on the number of people in that area; the implicit assumption being that people have on average the same need for the particular resources that are being allocated. Differences in allocations between areas simply reflect the different numbers of people in those areas.

3.3.2 However, it is more common to include differential levels of ‘need’ for different groups. In the most straightforward cases, some services are appropriate only for specific groups, so allocations should reflect the size of those groups rather than the overall population size. For example, school allocations are based on the number of children of school age rather than the total population. In addition, some groups are disproportionate users of services; for example, older people are typically more likely to use health care services than other groups, and allocations to local areas for health-care should reflect this. Areas with higher numbers of older people should therefore receive a greater share of health-care resources than areas with fewer older people (all other things being equal).

3.3.3 If there is robust information available on the level of services needed by particular users, this can be used directly in needs-based allocation formulae. However, we often do not have this information, so it is common for service allocations to include a basic amount per capita, with additional top-ups to reflect those groups identified as heavier users of such services. The exact values for top-up funds can be based on statistical analysis of how much extra services are required by specific groups, or on the basis of policy decisions to support particular groups (or areas) with additional funds.

3.3.4 Resources can also be targeted at areas where there is a particular concentration of needs. For example, regeneration programmes have been targeted at ex-coalfield areas, or coastal areas, that have been identified as needing additional support.

Examples of using socio-economic and deprivation indicators to allocate resources

3.3.5 As outlined above, funding formulae commonly include indicators of socio-economic need. A standard approach is for formulae to include a basic amount per client (or per capita), plus additional top-ups to reflect local circumstances such as socio-economic indicators and/or area costs (wage differences, sparsity and so on). For example:

- The England Supporting People formula includes components for each of the main client groups, with a basic amount per potential user (for example the number of older people locally), plus a deprivation factor to reflect that older people in more deprived areas are more likely to be heavier users of housing

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30 In the Supporting People programme in England these are older people, homeless families, young people, single vulnerable (homeless), single vulnerable (mentally ill), socially excluded, and people with disabilities.
support services than the average. This deprivation factor is mainly based on income and employment-related benefit levels locally (these indicators are used in the English IMD, but the overall IMD score or rank is not used in the formula). Other components of the English IMD are also used, including housing quality and geographical access to services sub-domains.

- School funding formulae are based on the numbers of pupils (basic amount per user), typically with ‘top-ups’ for particular groups such as those with Special Education Needs (SEN), or those who are deprived (based on a proxy of ‘eligibility for Free School Meals’).
- English healthcare funding includes a large number of socio-economic indicators identified as predictors of healthcare need using statistical techniques.
- As highlighted above, the Scottish Supporting People formula uses numbers of disability living allowance claimants and homelessness applications.

### 3.4 Allocation to local areas based on service costs

#### 3.4.1 The actual costs of providing services are likely to vary between different areas. More remote and isolated areas may face extra costs due to lack of economies of scale, and additional transport or mobile service costs. Conversely, urban areas may face extra costs due to higher wages and land/office costs.

#### 3.4.2 Funding formulae typically try to take these varying costs into account, often including factors for sparsity and labour costs. Both the Scottish and English allocation formulae for healthcare include adjustments for the additional costs of delivering health care in remote and rural areas, using such indicators as distance to key services and health care providers. Similarly, the English Supporting People programme includes elements for sparsity, labour costs and population density.

#### 3.4.3 However, the impact of these cost factors on allocation formula is typically much smaller than the socio-economic ‘needs’ factors explored above. For example, in the English local government allocation formula, sparsity accounts for less than 1% of the overall grant ‘Relative Needs’ block, with population density representing around 5%, and socio-economic factors such as deprivation representing around 12%\(^31\). The English Supporting People allocation similarly gives little weight to sparsity, with labour costs accounting for a much greater share of costs in the formula\(^32\).

#### 3.4.4 Analysis suggests that the weighting given to sparsity factors in funding formulae do not adequately reflect the additional costs for delivering services. Research commissioned by the Sparse-Rural group of Local Authorities in England "indicates clearly that there is a substantial cost penalty faced by Predominantly Rural authorities in providing services to communities across their large geographical areas. It also demonstrates that the provision for sparsity within the formulae is very small compared to the size of the actual cost"

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\(^31\) Although the impact of sparsity for individual local authorities can be significant, accounting for 8% of the total grant in sparse rural areas. LG Futures (2011). Costs of Providing Services in Rural Areas.

penalty”\textsuperscript{33}. Similarly, the Commission for Rural Communities identifies discrepancies between funding formulae for different programmes, with some including factors for sparsity, but others not\textsuperscript{34}.

\subsection{3.5 Allocation to local areas based on current and past spending}

\subsubsection{3.5.1} A third approach to resource allocation is to use some element of existing expenditure, with the rationale that this can provide a useful guide to both population need and service costs. When using this approach, agencies need to be clear that differences in existing spend are due to differences in need and/ or service costs, and not simply due to lower take-up of services or local decisions to spend money in different ways.

\subsubsection{3.5.2} A primary example is the English health care allocation model, which includes factors for current spending, on the basis that this is an effective way to recognise the differing costs of providing care to different age groups and additional costs in different parts of the country. However, there has been criticism of this approach, suggesting that lower costs in some areas could be due to lower take-up of services rather than lower levels of need\textsuperscript{35}. Health studies comparing service-use measures against direct needs estimates (morbidity) have found that the former allocated a greater share of resources to deprived urban areas than implied by morbidity alone; rural areas, by contrast, appeared to be under-resourced on the basis of service-use measures\textsuperscript{36}.

\subsubsection{3.5.3} Many funding allocations also include an element of existing spend in an implicit way, through a transition period that ensures changes to funding formulae do not produce extreme funding changes for areas. These ‘damping’ factors help minimise the impact to areas of both big decreases in funding (causing reduction in existing service levels) and also big increases in funding (which can create issues due to needing to ramp-up spending quickly on particular services). However, during this transition period the funding received by areas is therefore linked to previous allocations (in other words, existing spend).

\subsection{3.6 Allocation based on potential impact}

\subsubsection{3.6.1} A fourth approach to allocating resources is on the basis of the potential impact of the programme on particular areas or groups. This might be about maximising the impact of a particular programme, or ensuring that all areas meet some minimum outcome level.

\textsuperscript{33} LG Futures (2011). Costs of Providing Services in Rural Areas.


\textsuperscript{35} For example, Asthana and Gibson (2007) Health care equity, health equity and resource allocation: towards a normative approach to achieving the core principles of the NHS. RadStats.

\textsuperscript{36} Asthana et al. (2004). The pursuit of equity in NHS resource allocation: should morbidity replace utilisation as the basis for setting health care capitations? Social Science and Medicine 58(3):539-551.
3.6.2 One way that policy-makers can maximise the impact of a particular programme is through targeting resources at areas where conditions are seen to be most favourable, even if these areas are not those with the greatest need for such programmes. For example, the Department for Business Innovation and Skills Business Plan for 2011-2015 identifies:

“Our economic reforms will ... improve the value of support provided by targeting those areas that offer the greatest potential for long-term economic growth”\(^\text{37}\)

3.6.3 The policy trade-off is that those areas with the greatest potential for growth may not be those areas facing the biggest challenges over job creation. A similar trade-off can occur where programmes are targeted at particular groups (rather than areas), between supporting those most likely to benefit, and supporting those most in need.

**Outcome-based allocation**

3.6.4 Outcome-based allocation is based on the resources required by each area (or service) to bring outcomes up to some common standard. This differs from needs-based allocation, in that the potential impact of the programme is considered together with the population needs and service costs.

3.6.5 The availability of data means that such an outcome-based approach is now technically feasible for some services such as local education services\(^\text{38}\). Similarly, an outcome-based payment model is used for some contracting programmes, such as the Department of Work and Pensions Work Programme and other payment by results programmes.

3.7 **Resource allocation issues for rural areas to consider**

3.7.1 The sections above set out how socio-economic factors such as deprivation (both overall indices such as WIMD, and more specific measures such as the numbers of people on income or employment-related benefits), and cost factors such as sparsity, are typically included into resource allocations. Below we highlight four key issues that rural areas are likely to want to take into account to ensure that programmes are fairly distributed to local areas.

1) **Programme funds for vulnerable people should not be targeted to deprived areas**

3.7.2 The overall goals (policy aims) for any funding programme set the context for the way that resources are allocated. Where a programme explicitly aims to improve conditions in the most deprived communities\(^\text{39}\), it may be appropriate for funding formulae to include indicators that identify highly deprived areas, such as the WIMD. It may also be appropriate in these cases to use a cut-off

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\(^{39}\) Such as the Communities First programme, or the English Neighbourhood Renewal Strategy.
threshold, for example only targeting funds to areas with, for example, the highest levels of deprivation or unemployment.\(^4^0\)

3.7.3 However, where programmes are intended to target resources to vulnerable people or service users wherever they live, funding formulae should be careful not to discriminate against those vulnerable groups who happen to live outside the most deprived areas. Although the most deprived areas have a higher proportion of deprived and/or vulnerable individuals, there are significant numbers of vulnerable individuals who live outside the most deprived areas:

"Although it is true to say that deprivation is much more concentrated in some areas than others, 4 out of 5 people in income benefits households live outside [the most deprived 10% of] areas and this should be borne in mind when developing policy." \(^4^1\)

3.7.4 The use of thresholds such as ‘the most deprived X% of areas’ is therefore generally not appropriate for targeting universal services, as this will ignore the needs of those living outside these areas.

3.7.5 There can also be a systematic bias against some types of area by using thresholds in this way. Analysis of the ‘rural share of deprivation’ in England shows that only 2% of the most deprived areas in England are rural, but that 18% of those living below the poverty line live in rural areas.\(^4^2\) In other words, rural areas have significantly greater numbers of deprived people than would be expected from the level of highly deprived areas.\(^4^3\) In the Section 4 case study on the distribution of the Welsh Supporting People programme grant we show that the impact of targeting funds to only the top 20% of deprived areas is to disproportionately disadvantage rural areas in their ability to support the housing needs of vulnerable groups.

2) Direct measures of client group needs should generally be used rather than overall deprivation indices

3.7.6 Deprivation indices such as the WIMD may be appropriate for use in allocation formula where they are used as a proxy for ‘need’. However, although there is often a clear link between deprivation indices and ‘need’, it is difficult to quantify this relationship. In other words, areas with higher levels of deprivation tend to have higher numbers (or proportions) of vulnerable groups, but it is not clear

\(^4^0\) Such a threshold can lead to big differences in funding between areas on either side of the threshold, which may in practice be only marginally different from each other. This is particularly the case where thresholds are arbitrarily chosen. For example, those areas in the 21% most deprived percentile on the WIMD are similar to those in the 20\(^{th}\) percentile in terms of deprivation levels, but receive significantly different funding under programmes targeted at the most deprived areas.


\(^4^3\) Deprivation in rural areas is characterised by ‘dispersed disadvantage’; any single rural area is less likely to be identified as extremely deprived using an area-based measure. For example, see Shucksmith (2000). Exclusive Countryside? Social inclusion and regeneration in rural areas.
from deprivation levels how much more funding these areas should receive for services for these groups.  

3.7.7 More direct measures of client group needs, such as socio-economic indicators appropriate to that particular client group, should therefore be used in place of deprivation indices wherever possible. The Commission for Rural Communities highlights:

“Targeted funding such as regeneration initiatives can benefit rural as well as other places. However, such targeted funding often uses the Index of Multiple Deprivation (IMD) to allocate resources. This often results in the allocation of disproportionately more resources to areas of concentrated deprivation (urban) rather than meeting more dispersed deprivation (rural). This can be an unintended consequence of using the IMD. We would recommend that the most service relevant data and evidence is used within resource allocation systems.”

3.7.8 For example, programmes supporting those on low incomes could use direct measures of low income groups, such as the number (or proportion) of people receiving low income benefits, or living below a certain income. These indicators (and therefore allocated funds) will tend to correlate with deprivation (highly deprived areas will likely have higher levels of disadvantaged vulnerable groups), but have the benefit of being able to be directly interpreted as a measure of ‘need’.

3.7.9 The headline WIMD is based on a series of eight domains and underlying indicators. Many of the indicators or domains may be more relevant to use than the overall WIMD rank when distributing a particular funding programme to local areas. For example, the English Supporting People programme uses the income and employment domains (these domains measure the numbers and proportion of people receiving income-related or employment-related benefits respectively) as the measure of deprivation, rather than the headline English IMD.

3) Costs due to sparsity and diseconomies of scale should be adequately included

3.7.10 Research shows that many services cost more per person to deliver to rural communities because of a range of factors including greater travel costs (both

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44 The Welsh Index of Multiple Deprivation produces a score for each small area across the country. These scores are then ranked across all such small areas. An area with a WIMD score double that of another area has greater, but not double, the level of need; similarly a higher (more deprived) ranking indicates a higher level of need, but by not how much. For example, it is not true to say that the area ranked 200 has half the deprivation of the area ranked 100 (the area ranked 1 being the most deprived).

45 Commission for Rural Communities (2011), Position statement – ‘How can public resources be fairly allocated between different places?’

46 The eight domains are income, employment, health, education, geographical access to services, housing, physical environment, and community safety. These are combined to give an overall ranking, which compares each Lower Super Output Area (LSOA) against other LSOAs in Wales.
direct costs and time-related costs), and lower demand levels producing lower economies of scale.\(^4\)

3.7.11 However, research also shows that the factors incorporated into funding formulae can be too low, and so fail to accurately account for the costs of rural service provision. Agencies in rural areas will want to be sure that the additional costs of providing services in rural areas are adequately taken into account in funding formulae.

3.7.12 A further issue in terms of service costs can arise where labour costs are included. Typically these are based on local wage levels, likely to be lower in rural areas. However, where labour costs for services are based on nationally agreed pay-scales, the local labour costs will be less appropriate. In other words, the cost of service funding in areas with lower local wage levels may not adequately account for the costs of services where national pay scales are used.

4) Use clear and transparent methodology, with sufficient time for robust consultation

3.7.13 There will always be heated debates over funding formulae; the results are of critical importance for areas, groups and organisations. However, general agreement and support from stakeholders is important. This means that stakeholders need to be absolutely clear on what is driving the underlying allocations, and what the impact is of the particular elements in any funding formula.

3.7.14 Although there can be technical merits in utilising sophisticated statistical techniques for standardising and combining indicators, for the purposes of transparency and stakeholder agreement there is an argument that formulae should not be overly complex. Where a more complex methodology or indicators are used, there needs to be time for sufficient expert input and consultation to be sure of the full implications.

3.7.15 In the case of the WIMD itself (and other indices of deprivation such as the English IMD), a relatively complex underlying methodology has been consulted on over an extended period, with considerable expert input into the process. As a result, there is reasonable clarity on where and how the WIMD can appropriately be used, and where there are systematic biases in the way that the WIMD treats different types of area (not least as discussed in this report).

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Section 4  An example: The Supporting People programme

Background

4.1.1 The Supporting People (SP) programme was launched in 2003 across the UK, bringing together several housing-related funding streams under one umbrella programme. While the programme is UK wide, there are differences in the way it is implemented across the four home nations.

4.1.2 In 2009, the Welsh Deputy Minister for Housing and Regeneration commissioned an independent review of the SP programme. The review, led by Professor Sir Mansel Aylward, considered current policies, arrangements, systems and resources.

4.1.3 The Welsh Local Government Association’s Rural forum was keen to understand the impact of the proposals on rural areas, and asked for the issue to be explored as a case study in this review of measuring rural deprivation.

Current distribution of the SP programme in Wales

4.1.4 The Aylward review considered the way that resources under the programme were distributed to Welsh local authorities. Current funding arrangements are based on spending rather than needs, and the review highlighted that “the [current] distribution has been recognised as inequitable since 2004”. Areas with greater per capita funding were typically those areas with greater capacity in place, rather than those areas with greatest needs48.

4.1.5 Table 4.1 on the following page sets out the 2007-8 funding levels by local authority, with per capita amounts and levels of deprivation49. The summary rows in the table show the values for the nine rural local authorities and Wales as a whole:

- Overall, the per capita distribution of the Supporting People fund is very similar across the rural local authorities on average (£44.7 per capita) as for Wales as a whole (£44.2). The rural local authorities between them account for 33% of the SP fund, the same proportion as would be received if the fund was allocated on a per capita basis.
- However, there are large variations within the rural local authorities, ranging from Conwy (at £72.6, the highest per capita across all Welsh local authorities) and Denbighshire (£70.1), to Pembrokeshire (£16.9, the lowest per capita across all Welsh local authorities) and Monmouthshire (£22.3 per capita). These variations do not reflect deprivation levels measured by either the WIMD or other more specific measures of vulnerable groups explored as part of this study.

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48 The review highlighted that “it became evident early on in the review that Local Authorities receiving larger sums under the current distribution had evolved some highly effective support services”.

49 The 2007-8 funding levels are shown, for consistency with the Aylward review and LE Wales statistical modelling work.
### Table 4.1. The Supporting People grant, showing 2007-8 funding levels by local authority alongside per capita amounts and deprivation levels

<table>
<thead>
<tr>
<th>Local authority</th>
<th>SP Grant per capita (£)</th>
<th>SP Grant total (£M)</th>
<th>Total population (2010)</th>
<th>LSOAs in most deprived quintile</th>
<th>Average WIMD Employment &amp; Income related benefits %</th>
<th>Total population x Average WIMD Employment &amp; Income benefit %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conwy *</td>
<td>72.6</td>
<td>8.0</td>
<td>110,863</td>
<td>10</td>
<td>14.9</td>
<td>16,519</td>
</tr>
<tr>
<td>Denbighshire *</td>
<td>70.1</td>
<td>6.8</td>
<td>96,731</td>
<td>9</td>
<td>15.3</td>
<td>14,751</td>
</tr>
<tr>
<td>Swansea</td>
<td>61.1</td>
<td>14.2</td>
<td>232,501</td>
<td>36</td>
<td>16.3</td>
<td>37,898</td>
</tr>
<tr>
<td>Cardiff</td>
<td>59.5</td>
<td>20.3</td>
<td>341,054</td>
<td>54</td>
<td>14.2</td>
<td>48,430</td>
</tr>
<tr>
<td>Gwynedd *</td>
<td>52.7</td>
<td>6.3</td>
<td>119,007</td>
<td>3</td>
<td>13.6</td>
<td>16,185</td>
</tr>
<tr>
<td>Flintshire</td>
<td>47.9</td>
<td>7.2</td>
<td>149,709</td>
<td>10</td>
<td>11.6</td>
<td>17,291</td>
</tr>
<tr>
<td>Powys *</td>
<td>47.9</td>
<td>6.3</td>
<td>131,201</td>
<td>1</td>
<td>11.0</td>
<td>14,432</td>
</tr>
<tr>
<td>Ceredigion *</td>
<td>46.9</td>
<td>3.6</td>
<td>76,938</td>
<td>2</td>
<td>11.2</td>
<td>8,617</td>
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<tr>
<td>Isle of Anglesey *</td>
<td>46.8</td>
<td>3.2</td>
<td>68,952</td>
<td>7</td>
<td>14.9</td>
<td>10,220</td>
</tr>
<tr>
<td>Wrexham</td>
<td>46.3</td>
<td>6.2</td>
<td>133,559</td>
<td>12</td>
<td>13.7</td>
<td>18,298</td>
</tr>
<tr>
<td>Newport</td>
<td>45.5</td>
<td>6.4</td>
<td>141,306</td>
<td>28</td>
<td>16.0</td>
<td>22,609</td>
</tr>
<tr>
<td>Bridgend</td>
<td>44.3</td>
<td>6.0</td>
<td>134,564</td>
<td>24</td>
<td>16.5</td>
<td>22,136</td>
</tr>
<tr>
<td>Rhondda Cynon Taff</td>
<td>36.8</td>
<td>8.6</td>
<td>234,309</td>
<td>52</td>
<td>18.9</td>
<td>44,284</td>
</tr>
<tr>
<td>Torfaen</td>
<td>34.9</td>
<td>3.2</td>
<td>90,533</td>
<td>10</td>
<td>16.7</td>
<td>15,074</td>
</tr>
<tr>
<td>Caerphilly</td>
<td>34.5</td>
<td>6.0</td>
<td>173,124</td>
<td>29</td>
<td>19.1</td>
<td>33,067</td>
</tr>
<tr>
<td>Carmarthenshire *</td>
<td>33.8</td>
<td>6.1</td>
<td>180,717</td>
<td>12</td>
<td>16.4</td>
<td>29,547</td>
</tr>
<tr>
<td>Neath Port Talbot</td>
<td>30.4</td>
<td>4.2</td>
<td>137,504</td>
<td>28</td>
<td>19.9</td>
<td>27,295</td>
</tr>
<tr>
<td>Blaenau Gwent</td>
<td>28.5</td>
<td>1.9</td>
<td>68,368</td>
<td>19</td>
<td>22.7</td>
<td>15,520</td>
</tr>
<tr>
<td>The Vale of Glamorgan</td>
<td>26.4</td>
<td>3.3</td>
<td>124,976</td>
<td>10</td>
<td>12.1</td>
<td>15,122</td>
</tr>
<tr>
<td>Merthyr Tydfil</td>
<td>24.0</td>
<td>1.3</td>
<td>55,699</td>
<td>16</td>
<td>22.4</td>
<td>12,477</td>
</tr>
<tr>
<td>Monmouthshire *</td>
<td>22.3</td>
<td>2.0</td>
<td>88,089</td>
<td>1</td>
<td>10.1</td>
<td>8,853</td>
</tr>
<tr>
<td>Pembrokeshire *</td>
<td>16.9</td>
<td>2.0</td>
<td>117,086</td>
<td>6</td>
<td>14.3</td>
<td>16,743</td>
</tr>
<tr>
<td>Rural total</td>
<td>44.7</td>
<td>44.2</td>
<td>989,224</td>
<td>51</td>
<td>13.7</td>
<td>135,868</td>
</tr>
<tr>
<td>Grand total</td>
<td>44.2</td>
<td>133.0</td>
<td>3,006,430</td>
<td>379</td>
<td>15.5</td>
<td>465,366</td>
</tr>
<tr>
<td>Rural local authorities share of Wales total</td>
<td>-</td>
<td>33.3%</td>
<td>32.9%</td>
<td>13.5%</td>
<td>-</td>
<td>29.2%</td>
</tr>
</tbody>
</table>

Local authorities are ordered by level of SP Grant per capita. Rural local authorities are denoted with *

LSOAs are ‘Lower Super Output Areas’, a statistical building block created for Census 2001. There are 1,896 LSOAs in Wales

Population data has been aggregated from LSOA level data, so may show small differences with published Local Authority data

### Moving to a distribution formula for SP grant allocations

4.1.6 The Aylward review highlighted that work to implement a distribution formula based on statistical analysis of needs had stalled to difficulties over obtaining the required data, also concerns over the complexity of the (multi-level model) formula. As a consequence:
“there is now almost unanimity across all the sectors that the formula should be: transparent, simple; utilizing readily available data; and introduced as soon as possible.”

4.1.7 A possible formula to be used in the short-term for SP grant distribution was suggested in the Aylward review. Over time (3-5 years) this would be replaced with a more accurate formula reflecting the resources required to deliver Supporting People. The formula suggested for immediate use in the review was:

- WIMD [20%] – the proportion of people in the local authority quintile of all areas across Wales.
- Social Fragmentation Index [20%] – a Census 2001 measure with various components including the proportion of single person households (age <65 years), persons not married or cohabiting, private renting and residential mobility in the previous year.
- Number of people in receipt of at least the middle rate of the care component of Disability Living Allowance [10%].
- Age structure of the population (the proportion of older people living alone) [20%].
- Local measures of homeless people [30%].

4.1.8 In the subsequent consultation on the SP, this was amended to 30% being based on the WIMD, and 10% on the Social Fragmentation Index.

**SP Grant allocation issues for rural areas to consider**

4.1.9 Two key issues are raised with this set of indicators, linked to the discussion in the previous section on issues for rural areas to consider in resource allocation.

4.1.10 First, the inclusion of Congdon’s Social Fragmentation Index is a potentially useful addition to the distribution model, and has been shown to be a good predictor of health and social care issues. However, to date the Index has not been widely used for allocating resources, so not subject to the same level of testing, analysis and consultation over potential bias as the WIMD for example. It is also based on combination of different factors, so not straightforward to interpret. The Index has also been shown to correlate highly with deprivation indices, so may be highlighting similar issues (so lead to an element of double-counting). As a result, we suggest that, without further testing and consultation, the Index is not yet appropriate for use in a simple and transparent formula for distributing SP funds.

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52 For example, Whitley et al (1999), Ecological study of social fragmentation, poverty, and suicide, BMJ, 319(7216): 1034–1037
4.1.11 Second, the proposed use of the WIMD for resource allocation explicitly targets funds only at highly deprived areas (those in the most deprived quintile of areas in Wales), not the vulnerable people that the SP is intended to support. The threshold effect introduced by using only the most deprived areas means that vulnerable people with housing needs, but who happen to live outside the most deprived areas in Wales, will not receive any benefit from this 30% component of the fund\textsuperscript{54}. This fails a key test for fair provision of services, namely that targeted services, for example to disadvantaged people, reach those targeted people and groups wherever they live.

4.1.12 A more robust approach to incorporating deprivation levels into the distribution of SP resources is to use the income and employment indicators from the WIMD\textsuperscript{55}, which identify the proportion of the local population receiving low income or employment-related benefits. This is the approach taken in the English SP formula, where the average of the income and employment domain indicators is used in the deprivation top-up component of the formula. As with using WIMD directly, the resulting formula would have the effect of weighting the grant allocation such that areas of higher deprivation levels would receive higher per capita values, but without the threshold effect seen when using only the most deprived areas.

4.1.13 In addition, using the income and employment domain indicator values (not the ranks), rather than the proportion of areas that are highly deprived, will minimise potential bias against rural and other types of area that have lower concentrations of highly deprived neighbourhoods than would be expected from the proportion of deprived people. For example, the nine rural local authorities in Wales account for 33\% of the total Wales population, 29\% of people receiving income or employment-related benefits, but only 13\% of those areas in the most deprived quintile (see table 4.1).

\textsuperscript{54} This threshold effect does \textit{not} arise as a result of using the WIMD. Rather, it is a result of including only the most deprived 20\% of areas. Analysis by the Welsh Local Government Data Unit for this project shows that a similar threshold effect is seen when using other measures of deprivation such as unemployment claimants.

\textsuperscript{55} The WIMD is based on a series of eight domains and underlying indicators, with the overall WIMD and domains provided as ranks, comparing between areas. The underlying indicators provide direct measures of particular aspects of deprivation, such as the proportion of people in each area receiving income-related or employment-related benefits. The ranks compare each Lower Super Output Area (LSOA) against all LS0As in Wales, so only identify the position in a list; it is not true to say that the area ranked 200 has half the deprivation of the area ranked 100 (the area ranked 1 being the most deprived).
Figure 4.1. Proportions of people receiving income or employment-related benefits, compared against the percentage of local areas that are in the most deprived quintile.

4.1.14 Figure 4.1 above shows the relationship between the level of income and employment benefits against the percentage of areas that are highly deprived (rural local authorities are shown in green). The relationship between the two different ways of measuring deprivation is clear; areas that are high on one measure tend to be also high on the other measure.\textsuperscript{56} However, the chart shows that rural local authorities (green) typically score lower (less-deprived) on the ‘% of areas in the most deprived quintile’ indicator than on the ‘% of people receiving income/employment benefits’. For example, Carmarthenshire has a slightly higher proportion of people receiving such benefits (16.4%) than Newport (16.0%), but Newport has nearly three times the proportion of highly deprived areas (30%) than Carmarthenshire (11%).

4.1.15 In fact, virtually all rural local authorities score lower on the ‘% of areas in the deprived quintile’ measure than they do on ‘people receiving income or employment-related benefits’. By contrast, virtually all urban local authorities score higher. In other words, using a measure of deprived areas will significantly and systematically undercount the level of deprived people in rural local authorities.

4.1.16 The potential impact on allocations to rural areas is significant, see Table 4.2 on the following page. It is proposed that 30% of the £133 million Supporting

\textsuperscript{56} At one level, this is unsurprising; between them, the income and employment domains comprise 47% of the overall WIMD, so there is a very high correlation at small area level. However, here we show that the overall proportion at LA level from the income and employment domains also correlates highly with the distribution of the most deprived areas.
People Grant is allocated on the basis of the WIMD, some £40 million. Using the measure ‘% of areas in the deprived quintile’ would target £5.4 million of this to the nine rural local authorities. Using the measure ‘people receiving income or employment-related benefits’ would target £11.6 million to the rural local authorities.

4.1.17 In other words, rural local authorities would receive £6 million less per year on the basis of targeting Supporting People funds to highly deprived areas, rather than supporting vulnerable people wherever they live.

Future development of the formula for distributing SP grants in Wales

4.1.18 The simple formula suggested in the Alyward review is intended to provide a mechanism for distributing SP funds in the short-term. Future work to develop a formula for distributing SP grants in Wales should take into account the issues flagged up in the previous section:

- Programme funds for vulnerable people should not be targeted to deprived areas;
- Direct measures of client group needs should generally be used rather than overall deprivation indices;
- Costs due to sparsity and diseconomies of scale should be adequately included; and
- Use clear and transparent methodology, with sufficient time for robust consultation.
Table 4.2. The Supporting People ‘deprivation’ component, showing current allocations and hypothetical allocations based on per capita, most deprived areas, and people receiving income or employment benefits

<table>
<thead>
<tr>
<th>Local authority</th>
<th>‘Deprivation’ allocations based on 30% of current SP grant (£M)</th>
<th>Based on per capita (£M)</th>
<th>Based on areas in most deprived 20% (£M)</th>
<th>Based on income and employment indicators (£M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiff</td>
<td>6.09</td>
<td>4.53</td>
<td>5.68</td>
<td>4.15</td>
</tr>
<tr>
<td>Swansea</td>
<td>4.26</td>
<td>3.08</td>
<td>3.79</td>
<td>3.25</td>
</tr>
<tr>
<td>Rhondda Cynon Taff</td>
<td>2.59</td>
<td>3.11</td>
<td>5.47</td>
<td>3.80</td>
</tr>
<tr>
<td>Conwy *</td>
<td>2.41</td>
<td>1.47</td>
<td>1.05</td>
<td>1.42</td>
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<tr>
<td>Flintshire</td>
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<td>1.99</td>
<td>1.05</td>
<td>1.48</td>
</tr>
<tr>
<td>Denbighshire *</td>
<td>2.03</td>
<td>1.28</td>
<td>0.95</td>
<td>1.26</td>
</tr>
<tr>
<td>Newport</td>
<td>1.93</td>
<td>1.87</td>
<td>2.95</td>
<td>1.94</td>
</tr>
<tr>
<td>Powys *</td>
<td>1.88</td>
<td>1.74</td>
<td>0.11</td>
<td>1.24</td>
</tr>
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<td>1.58</td>
<td>0.32</td>
<td>1.39</td>
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<td>1.77</td>
<td>1.26</td>
<td>1.57</td>
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<td>1.83</td>
<td>2.40</td>
<td>1.26</td>
<td>2.53</td>
</tr>
<tr>
<td>Caerphilly</td>
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<td>2.30</td>
<td>3.05</td>
<td>2.83</td>
</tr>
<tr>
<td>Bridgend</td>
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<td>1.79</td>
<td>2.53</td>
<td>1.90</td>
</tr>
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<td>1.82</td>
<td>2.95</td>
<td>2.34</td>
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<tr>
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<td>1.08</td>
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<td>0.21</td>
<td>0.74</td>
</tr>
<tr>
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<td>0.99</td>
<td>1.66</td>
<td>1.05</td>
<td>1.30</td>
</tr>
<tr>
<td>Isle of Anglesey *</td>
<td>0.96</td>
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<td>0.74</td>
<td>0.88</td>
</tr>
<tr>
<td>Torfaen</td>
<td>0.95</td>
<td>1.20</td>
<td>1.05</td>
<td>1.29</td>
</tr>
<tr>
<td>Pembrokeshire *</td>
<td>0.59</td>
<td>1.55</td>
<td>0.63</td>
<td>1.44</td>
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<tr>
<td>Monmouthshire *</td>
<td>0.59</td>
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<td>0.76</td>
</tr>
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<td>Blaenau Gwent</td>
<td>0.58</td>
<td>0.91</td>
<td>2.00</td>
<td>1.33</td>
</tr>
<tr>
<td>Merthyr Tydfil</td>
<td>0.40</td>
<td>0.74</td>
<td>1.68</td>
<td>1.07</td>
</tr>
<tr>
<td>Rural total</td>
<td>13.3</td>
<td>13.1</td>
<td>5.4</td>
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<tr>
<td>Wales total</td>
<td>39.9</td>
<td>39.9</td>
<td>39.9</td>
<td>39.9</td>
</tr>
<tr>
<td>Rural local authorities share of Wales total</td>
<td>33.3%</td>
<td>32.9%</td>
<td>13.5%</td>
<td>29.2%</td>
</tr>
</tbody>
</table>

Rural local authorities are denoted with *
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