Public Health England

Rural Health and Health Services

Appendix to the PHE National Board paper PHE/15/01

1. Background

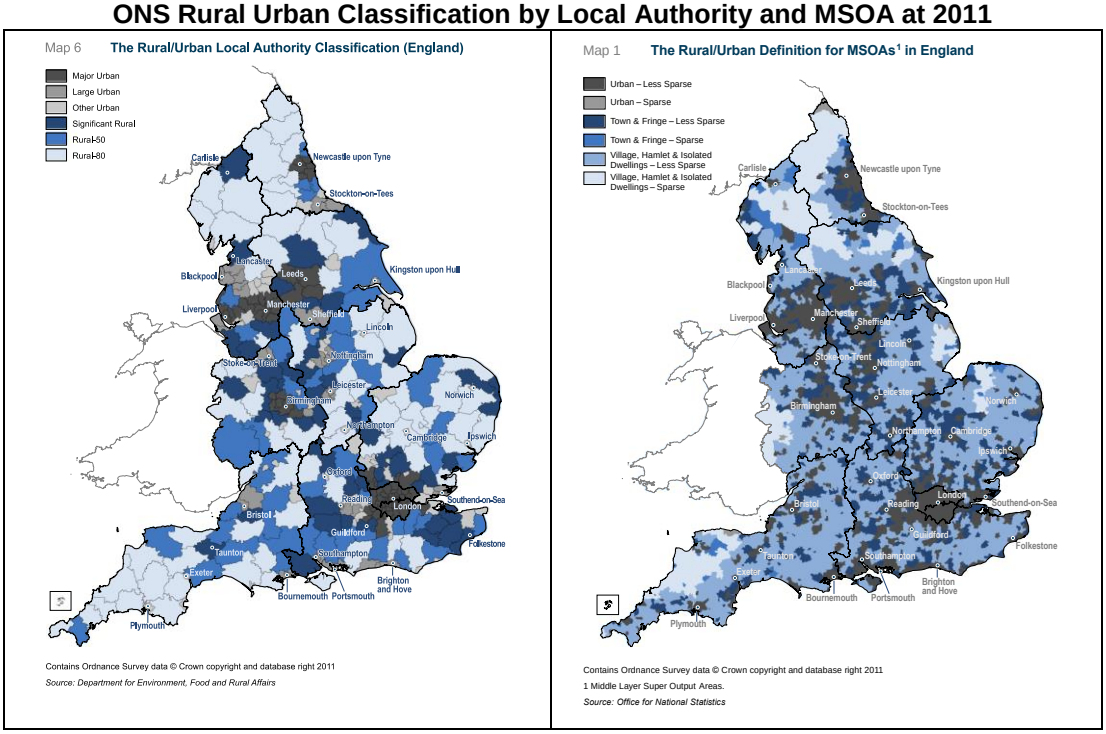
1.1. Directors of PH and PHE Centre Directors in rural areas have raised challenges and opportunities in relation to rurality and improving public health outcomes. The purpose of this paper is:

- To explore the issues relating to rurality and health, with guidance from each of the local areas represented; and
- To consider the implications for PHE support and action either at regional and/or national level.

2. Rurality

2.1. The Office of National Statistics Rural-Urban Classification[1] defines areas as rural if they fall outside settlements with more than 10,000 resident population. This provides for a distinct rural/urban distinction, and further division into six categories: Town and Fringe; Town and Fringe in a sparse setting; Village: Village in a sparse setting; Hamlets and Isolated Dwellings; and Hamlets and Isolated Dwellings in a sparse setting. The picture of urban and rural areas by local authority and middle-layer super output areas are shown below.

ONS Rural Urban Classification by Local Authority and MSOA at 2011



2.2. Rurality has also been described by socio-economic, cultural and other dimensions, and rural areas are as varied and difficult to typify as urban areas. In brief, making a circle of England clockwise starting in the north, they include the north east and upland farming communities, the Yorkshire dales, the agrarian Lincolnshire farms, the fens and east coastal communities, the home counties, the south west where in the tourist season the population can increase tenfold, the market gardens of Evesham Vale and the orchards of Herefordshire, the Marches with many tenant sheep farmers, the Lancashire moorlands to the Lake District national park and back into the north of Cumbria to the borders.

3. Rural Populations[2]

3.1. Rural areas are 85% of the English landmass, and on 2011 census data, about 9.3 million people (17.6 per cent of the population) lived in rural areas and about 570,000 people (1.1% of the population) lived in settlements in a sparse setting.

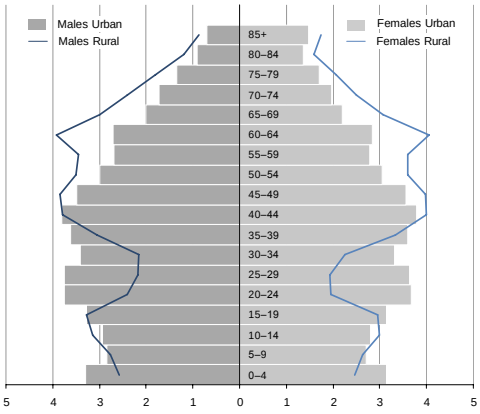
3.2. Rural areas have a larger proportion of older people and smaller proportion of young adults. The population pyramid below shows the hollowing out of the younger age group and increased proportion of older men and women relative to urban areas.

Population Pyramid for England - mid 2009: Rural/Urban for Men and Women

Figure 52 **Population pyramid for England: by area type, mid-2009**

England

Percentage of rural/urban population



3.3. The young adult (15 to 29 age group) is smaller in rural than in urban areas; they are 21.2% of the urban population but only 14.6% of the rural population. People over 45 years are more than 50% of those living in rural areas compared with about 40% in urban areas. This is even greater in Rural Town and Fringe areas where on average 26% of the population are over 65 years old and 54% of the population are over 45. There are various factors involved and include both population ageing and migration, inward for older adults and outward for younger adults moving for education and employment.

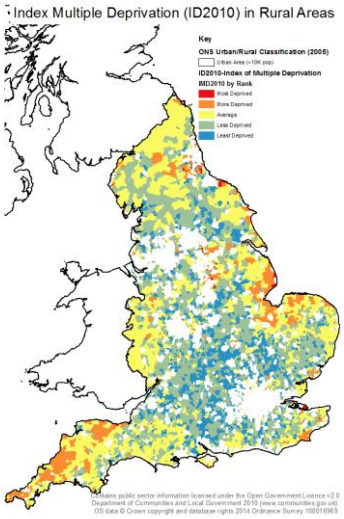
3.4. Minority Ethnic Populations[3]. The percentage of people identifying themselves as 'White British' in 2011 was 95% in rural areas compared with 77.2% in urban areas. The 'White Other' was the largest of the ethnic groups in both rural and urban areas, 'Indians' the third most common in rural areas and 'Pakistanis' and people of African descent were both less than 0.2% of the rural population.

3.5. Migrant Workers[4]. The Commission for Rural Communities looked the position of migrant workers in rural areas, including the challenges posed by language, culture, tensions with local communities and other factors. They found a high proportion of migrant workers moving into work in areas such as Herefordshire, Lincolnshire and Cambridgeshire, as well as areas around Somerset and Devon, the Fens, Norfolk, parts of Cumbria, and the Vale of Evesham. These workers also tended to be young adults, compared with the older settled rural populations.

3.6. Tourist Populations[5]. Tourism can swell population numbers greatly in the short or longer term, and while very important to the economy in rural or remote areas, also poses challenges. For example, in Lincolnshire many people retire there but to static caravans (around 27,000) with issues of winter warmth, temporary residence (planning requirements prevent 52 week residence) and lack of GP registration.

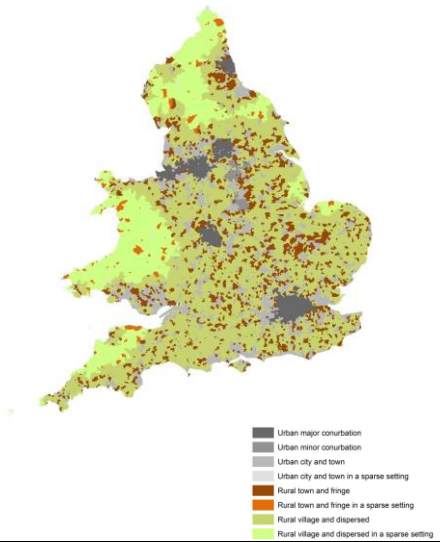
4. Issues for Inequalities in Rural Areas

4.1. The maps below show Super Output Areas by rank quintile of the Index of Multiple Deprivation 2010 for English rural areas (excluding urban areas) alongside a map of rural/urban definitions at 2011[6].



Source. PHE West Midlands KIT

England & Wales; 2011 LSOAs: Rural-Urban Typology



4.2. It suggests that comparing deprivation between rural areas, there are higher levels in the rural north east, south east, south west and the Marches, and pockets in central generally less deprived areas.

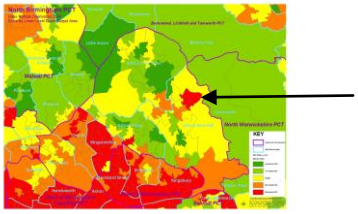
4.3. It is uncertain how much of the rural population is impacted by social deprivation, particularly extreme deprivation which may be persistent across generations, and how this translates into poor outcomes.

4.4. There is also the experience of being poor in areas of affluence and how this gap between wealth and poverty is experienced by individuals, particularly in relatively small communities where it may be very marked. The adverse effects on individuals and communities of this differential in wealth has been shown by various researchers.[7]

4.5. There are challenges to mapping inequalities in rural areas which include both the relevance of indicator sets and how to identify pockets of deprivation. The IMD 2000 excluded 'car ownership' which tends to reflect lack of good public transport rather than wealth,[8] and included 'geographical access to services'. The IMD 2010[9] included indicators which tend to reflect rural inequality better including; road distance to services such as GPs; housing affordability; housing without central heating; and road traffic accidents.

4.6. There are still questions from the DsPH on the working group about the current IMD 2010. For example it may not reflect cost of living issues in rural areas stemming from reduced choice and availability of services, shops and amenities; where transport and communications access may be more limit; and the prices of fuel, food and other items may sometimes be higher in rural areas. Older rural housing stock is also less energy efficient and more expensive to heat.

4.7. In relation to small area deprivation, it can be at a very small level as shown below with a housing estate on the border of Birmingham with rural Staffordshire and Warwickshire. On the urban/rural fringe is a small, deprived housing estate, which was only identified by analysis at a small level.



Source: PHE West Midlands KIT

4.8. The list of IMD 2010 indicators is given in Annex A, and it would be interesting to understand how well this indicator set does or not provide an accurate depiction of relative inequalities in rural or urban areas. The IMD is being updated for 2015 and PHE has submitted a number of comments including

proposals on increasing accessibility to non-technical audiences, a common approach with DCLG on assigning LSOAs (lower super output areas) to deprivation categories within geographies, and enhancing the 'housing affordability' indicator.

4.9. Also as important is the identification and analysis of pockets of deprivation. Small area analysis is fairly well understood and there is much literature to draw on but there needs to be caution because of the risks associated with small numbers, eg appropriate geographical boundaries and denominators, statistical problems and risks to confidentiality. PHE could commission work on small area public health statistics from the Small Area Health Statistics Unit[10] (SAHSU) to support public health work in rural areas.

5. Socioeconomic Factors: Some Rural/Urban Comparisons[2]

5.1. An analysis of the socio-economic status of rural areas published in 2010/11[11] found that in general the quantitative evidence showed rural areas to be better off on average than urban areas but worse off for some measures including higher fuel and transport costs and high house prices. This study also suggested that for rural England, for some indices, there are 'two countrysides' – a better off, less sparse and more accessible one, and a less populous and isolated sparse countryside. The following data would appear to show this where sparsity is distinguished, but they do not reveal small pockets of greater deprivation.

5.2. Employment and Earnings[2]

In 2012 - Employment	**Urban**	**Rural**	**Rural sparse**
Working-age (16-64) people in employment	70.1%	75.3%	74.0%
Working age people in full-time employment	74.7%	71.9%	
Working age people in rural settlements in part-time employment		28.1%	31.3%
Males living in urban/rural areas in full employment	88.4%	89.6%	
Females living in urban/rural areas in full employment	58.8%	52.6%	
Economically active people who were unemployed	8.6%	5.0%	
Working age people not available for work or not seeking work	23.3%	20.9%	23.0%
In 2012 - Earnings	**Major urban**		**Rural sparse**
Average workplace-based earnings	£26,900		£19,700

5.2.1. Levels of employment appeared to be higher in rural than urban areas and there were fewer people unemployed or not available/seeking work, apart from in sparse rural areas. There are fewer rural women in full employment. For part-time rural workers there appeared to be more in sparse areas.

5.2.2. Employment types include farming, home working (or working from home) and self-employment which in rural areas is well above national average. Rural areas also have higher proportions of small local business units (excluding farming) relative to population but they tend to employ fewer people than those in urban areas.

5.2.3. For people living and working in their areas, average workplace-based earnings are generally lowest in sparse rural areas (around £19,700), and highest in major urban areas (around £26,900). However, less sparse areas in less sparse areas there are also high levels of household income, and the low levels of poverty.

5.2.4. Earnings data are problematic as it is difficult to distinguish between people who live in rural areas but commute to work in urban areas and generally have higher incomes from those who live and work in rural areas who generally have lower incomes; rural incomes are at least partially dependent on the ability to commute, especially for full-time workers and for men.

5.3. Education, Qualifications and Skills[2]

% leaving Key stage 4 with 5 A-C GCSEs (based on residency)	**2007/8**	**2012/13**
Urban areas	63.4	83.2
Rural areas	69.7	83.1
Full-time entrants to higher education/1,000 18-20 year olds	**2004/5**	**2011/12**
Predominantly urban	117	151
Predominantly rural	121	165
Proportion of working age population with at least one qualification (residency based)	**2004**	**2011**
Predominantly urban	84.1	88.8
Predominantly rural	87.1	91.3
Proportion of working age population with NVQ level 4 (residency based)	**2004**	**2011**
Predominantly urban	25.2	32.6
Predominantly rural	27.1	31.9
Qualified to degree level: Urban – lower, Rural - higher		

5.3.1. The pattern for both urban and rural is one of improvement from 2004 to 2011. The levels of people qualified to at least degree level or equivalent, or working in higher managerial or professional occupations are higher than average in rural areas but average or below average in sparse areas. It should be noted that the patterns are complicated by the issue of residency of person and location of institution as some pupils or students will travel to urban areas for education or vice versa.

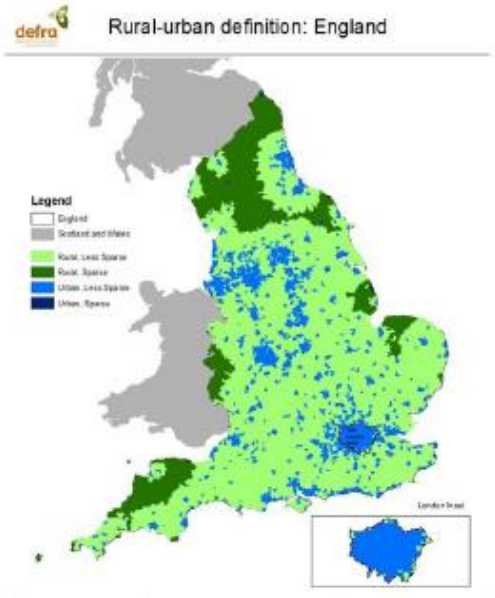
5.4. **Crime**[2]

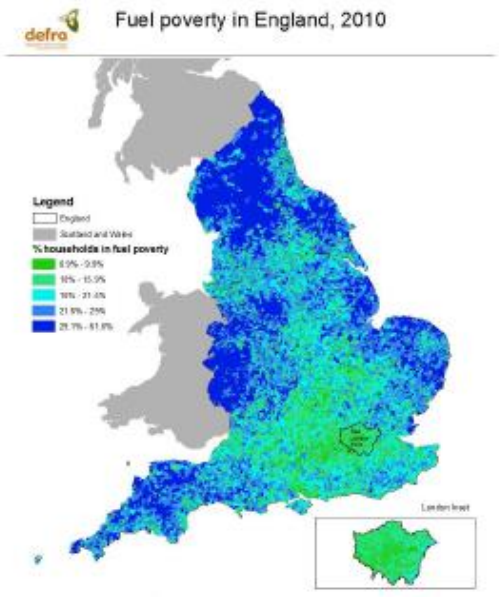
2012/13	Predominantly urban	Predominantly rural
Rate of violence against the person/1,000 people	12.3	7.2
Rate of sexual offences/1,000 people	1.1	0.7
Rate of recorded crime for robbery offences/1,000 people	2.6 (9x rural)	Much lower
Rate of recorded crime for domestic burglary/1,000 people	12.8	4.8
Rate of vehicle offences/1,000 people	8.4	4.2

5.4.1. For violent and other types of crime, the rates in rural areas are much lower than in urban areas, making it a safer place to be on the face of it. However, this does not include business crimes that affect rural communities such as theft of livestock and machinery.

5.5. **Fuel Poverty**

5.5.1. Households in fuel poverty are at risk of being unable to heat their homes to an adequate standard, and less able to spend their income on other amenities. As the maps and data below show, there are higher rates of fuel poverty in rural than urban areas, and this increases with greater rurality. The rates have declined since 2006 but the rates are still high in sparse rural areas. The following maps show the distribution of fuel poverty set alongside rural/urban definitions.





	Urban	Rural	Sparse rural
Households in fuel poverty 2006	10.7%	15.3%	38.9%
Households in fuel poverty 2010	15.9%	18.4%	34.1%
Households off the gas grid 2009	9%	38%	64%

Using the low income high cost (LIHC) measure of fuel poverty, National Energy Action (NEA) identified in a 2013 report that there were 2.6 million households in England that were fuel poor, of which 500,000 lived in rural locations, which is a much higher proportion relative to total population. The properties in rural or off gas locations were statistically more likely to be larger, detached or older, and the conclusion of the report was that while there were more fuel poor households in urban areas, the problem of fuel poverty is '…likely to be most acute in many rural and off gas locations.'[12]

5.6. Rurality and Income

5.6.1. A report in 2011 looked at the question of needs and costs of households in relation to rurality, in particular how costs for rural households might be different from those for urban households.[13] It found that, based on April 2010 prices, some things might be cheaper for rural households (eg primary school children leisure activities), many household requirements were the same, and in some critical areas, rural households faced additional costs. Their overview is summarised below.

Overview of areas of different and additional rural costs by commodity

Commodity category	Rural difference
Transport	Key difference in terms of mode of transport and distances travelled.
Fuel (heating and power)	Key difference in terms of fuel type and housing type.
Food	No difference except additional transport costs.
Clothes	Some difference in terms of outdoor wear. Additional transport costs.
Household goods	Some difference: heating back-up and gardening. Additional transport costs.
Communication	Some difference: Internet and newspapers.
Personal goods and services, including healthcare	No difference except additional transport costs.
Social and cultural participation	Some direct cost difference for some households; additional transport costs for all households.

Additional weekly rural costs for four rural household types.

	Rural town	Village	Hamlet
Pensioner couple	£2.26 (1%)	£43.00 (19%)	£48.08 (22%)
Single working age adult, no children	£15.98 (9%)	£31.92 (18%)	£41.37 (24%)
Working age couple, two children	£46.67 (12%)	£59.52 (15%)	£72.20 (18%)
Lone parent, one child	£21.98 (9%)	£33.65 (14%)	£36.81 (16%)

What these data show, for costs at that time, and using the minimum income standard methodology, is the major impact of sparsity and transport costs, and the significant impact that the additional costs would have for poorer households.

6. Health of Rural Populations

6.1. The health of people in rural areas is on average better than that of urban areas. Rural health and services have been the subject of reports in recent years in England,[14,15,16] Wales[17] and Scotland[18] and all note that rates of ill-health by many indicators are worse in urban areas. A DEFRA summary[19] of recent key indicators shows that:

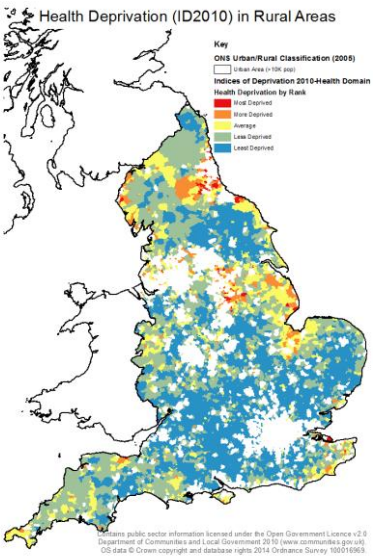
- Overall health outcomes are more favourable in rural than urban areas, particularly in sparse areas.
- Average life expectancy is highest in *Rural-80 areas*.
- Infant mortality is lower in rural areas than in England as a whole.
- Potential years of life lost (PYLL) from common causes of death such as cancers, Coronary Heart Disease (CHD) and stroke is lower in rural areas.

Potential years of life lost per 10,000 in England 2010-12

	All cancers	CHD	Stroke	Suicide & Undetermined injuries
Predominantly urban	144.5	44.3	14.6	32.5
Predominantly rural	128.7	31.8	11.0	34.3

6.2. The same reports also, however, acknowledge the masking of deprivation and ill-health and the diverse experience of rural communities, just as much as urban communities. The map of IMD 2010 indices for rural health show some of the distribution of ill-health across rural England, in the north east, east coastal, south west and Marches stand out, but also high levels in south Yorkshire and north/central east Midlands, much of it town fringe.

IMD for Health in Rural Areas by Quintile



Source. PHE West Midlands KIT

6.3. There are, moreover, some clear problems for rural areas.

6.3.1. Older populations growing older. While rates of ill-health on common conditions associated with ageing such as cancers, stroke and heart disease are on average lower in rural areas, the prevalence of these conditions will be higher, although older rural populations are healthier.

6.3.2. Road traffic accidents. The Dept of Transport[20,21] recently identified road traffic accidents as a major problem on rural roads. It found that 60% of fatalities occurred on country roads; three people died each day on average which is nearly 11 times higher than on motorways; a quarter of drivers have had a near miss and 1 driver in 20 has had a collision on a country road. It is not specified whether these were rural or urban drivers, but the issue is stark for all users of rural roads.

6.3.3. Suicide and undetermined injury risk where this may be higher in farming communities, and may be due to various factors related to isolation, and ease of access to the means of suicide such as guns and poisons.

6.3.4. Risks associated with farming populations such as accidents, and ill health related to zoonoses. Zoonoses are a problem both for diseases spread to humans (eg E coli) and between animals, which pose both a health and business impact. For example, the foot-and-mouth outbreak of 2001[22] involved the deaths of nearly four million animals in the UK, and profoundly affected thousands of farmers' livelihoods. The Countryside Agency estimated the cost to UK farming in 2001 at between £800m and £2.4bn and the cost to tourism at about at least £2 - £3bn.

7. Resource Allocation for Rural Communities

7.1. The costs of providing care in rural areas and the development of appropriate funding formulas have been considered over a period of years by the independent Advisory Committee on Resource Allocation (ACRA) which advises on the distribution of health funding. Indeed the ambulance funding formula has had an element to cover additional rural costs. While there is limited evidence of additional costs there is a strong logic case for the additional costs associated with the provision of community services in particular. Scotland uses an approach to adjust for extra costs based on travel times, and approach which might provide the basis for an adjustment to the NHS funding formula used in England.

8. Rural Proofing of Products and Tools

8.1. NHS England, the Dept for Environment, Farming and Rural Affairs (DEFRA), the Welsh Assembly and the Scottish Government have developed strategies and tools for rural proofing over the past few years. These include challenges of rurality and service design,[23,24] rural proofing guidance[25] and NHS England

commissioner guidance for rural Clinical Commissioning Groups[26]. The DEFRA Rural Proofing Guidelines make suggestions as follows.

DEFRA Rural Proofing Guidelines - Summary

How to Rural Proof. Possible Actions to Take

- Allow for higher rural unit **delivery costs** in funding formulae or allocations
- Look at **alternative means** of providing and accessing the services in rural areas, e.g. through the use of volunteers or social enterprise
- Encourage **alternative delivery** through the possible use of volunteers or the mutualisation of service delivery
- **Reduce the need to travel** by using outreach, mobile services or localised delivery
- Consider better **integration or improvement of transport links**
- Allow local delivery bodies **flexibility to find the best local solution**(s); avoid a "one-size-fits-all" approach
- Use the **rural networks and meeting points** that do exist, for example post offices, village halls, parish notice boards
- Ensure the **needs of smaller businesses** are specifically addressed
- **Use small area based data** to identify social, economic and environmental differences that need to be accounted for in the policy
- **Engage with rural stakeholders** and their networks so you can gather evidence and test your proposals

8.3. Rural Proofing for PHE Products and Services

Public Health England has a responsibility to all localities to support them to deliver effective provision for public health. PHE could play a key advocacy role to support the investigation and monitoring of rural health experience and to ensure proofing of public health tools and products. The development of small area analytical support is major contribution and there is also a question of how to make these initiatives work in small communities. For example, interventions such as NHS Health Check[27] and Making Every Contact Count rely for their population effect on reaching large numbers. In rural areas, these initiatives will still reach large sectors of the population, but there are

some who may be at a disadvantage because of small numbers, sparsity, and for many of the same reasons as more deprived people in urban areas.

Some examples of how the DEFRA proofing might apply to public health are as follows:

Higher rural unit delivery costs: It is not clear whether NICE or other expert bodies look at the rural dimension in their work on the evidence-base and cost effectiveness methodology for public health. As their guidance is fundamental to PHE advice giving to others it may be useful to open discussion on this to support advice to the rural PH community.

Alternative means of provision, access and delivery: Placing less reliance on people accessing services and looking at the options for provision in community or work settings. Such approaches were adopted in relation to provision of mental health support to the farming community after the foot and mouth outbreak, which reached farmers in their settings and also deployed support from veterinary staff and others.

Reduce the need to travel by using outreach, mobile services or localised delivery. This picks up the previous theme but also raises questions about PHE products that rely on e-delivery, unless internet and mobile access is available, fast and reliable.

Better integration or improvement of transport links. This relates more to health and care service provision but also has a bearing on public health service delivery. It does raise questions about the role of PHE in supporting localities to promote better transport in rural areas.

Flexibility to find the best local solution(s) (to avoid a “one-size-fits-all”). As an example, PHE currently promotes walking as a strategy for physical exercise. The evidence suggests that rural people walk about half the distance of people in urban areas, which probably relates to the dangers of rural roads, including the lack of pavements. An approach to physical exercise needs to recognise this.

Rural networks and meeting points. There are facilities in many rural settings, such as post offices, schools and village halls and other communal settings, but rural communities are also often faced with the loss of these amenities so there needs to be caution by PHE about assumptions about what is available, and what is used by the community.

Needs of smaller businesses. There are many small businesses in rural areas, and they are significant small local employers, both in farming and other sectors. It is important to consider how to support and work with them in recognition of how they help to sustain rural communities, and also to help prevent problems they may pose to health. One example is that of farm visits,

which attract visitors and hence revenue but where it is important to ensure they do not pose infection risks such as E-Coli.

Use small area based data. This has already been discussed as an important factor for rural areas.

Engagement with rural stakeholders. Rural localities build a lot of engagement with their local communities and organisations. National organisations such as the Action for Communities in Rural England[28] and National Council for Voluntary Organisations[29] would provide a route for national engagement in addition to being a resource around community needs and action through the contacts and support they give.

9. Sustainable Health and Care Service Delivery in Sparse Rural Areas

9.1. The issue of service access[30] is a major concern for rural areas. Reports cite factors such as distance, time taken in travelling for both users and professionals, access to public transport, limited choice of provision and limited service operating hours. This is complemented by what anecdotally is thought to be rural user reticence to make demands on services, due to a culture of self-sufficiency or other factors. The issues around service provision are also complicated by fluctuating populations including migrant workers and holiday populations.

9.2. There is a complex and difficult problem of how to design in choice and plurality in service access while maintaining a high level of quality and safety. Choice and plurality is strongly governed by having ready access to a spectrum of service provision. This has been identified as an important issue for rural communities across many services, not just health[29]. It has several components including:

- Access in relation to distance both for patients travelling to services, and for service professionals travelling to people in their homes. Journeys are longer, and hence costlier, to patients and to services.
- Access in relation to telecommunications and other infrastructure.
- Opening hours and appointment times have an extra edge for people who have to make long distance journeys; an 8.30 appointment may involve an overnight hotel stay.
- Concerns about ‘distance decay’ where people may delay accessing services due to distance from provision.
- Access to rapid interventions, where timeliness is essential for a good prognosis, such as acute CVD episodes.

- Workforce issues including both capacity and capability; some rural areas indicated difficulties in attracting and retaining appropriately trained staff at all levels across both health and social care and that this was impacting on the ability to sustain safe, high quality services.

- Spectrum of service provision (this dimension has been termed clinical peripherality[31]) which is a mix of what services ostensibly provide with what rural health care workers actually do;

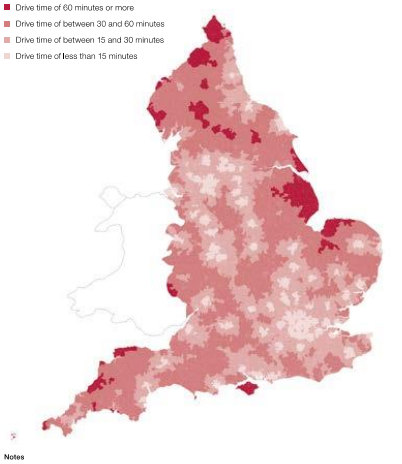
- Concerns about delivery of high quality community care for people with chronic and complex needs, in particular the frail older population, in the context of an increasingly ageing population. Scotland has also noted a higher palliative care workload as people in remote areas had a higher preference for dying at home.

- People's expectations of health care; they may use primary care more where urban people would access hospital services, eg for heart pain.

9.3. Examples of Challenge for Rural Areas

The National Audit Office recent review of maternity services looked at drive time for obstetric and midwifery-led units[32]. It found that between 2007 and 2013, the average drive time to the nearest unit was constant at 13 minutes and the estimate of women of childbearing age living within a 60-minute drive increased from 97% to 99%. However, there were still a few areas where women lack a meaningful choice of type of maternity unit. For instance, in the areas shaded in dark red on the map, women have over an hour's drive to reach both types of unit.

Figure 10
Average drive times to both an obstetric and a midwifery-led unit, 2013



Notes
1 Some women living on the border of Wales or Scotland may have access to a choice of services in those nations. If so, they may be within shorter drive times than the figure key suggests.
2 The drive times are estimates and rely on the accuracy of the software used to calculate them.

Source: National Audit Office

Distance is also a challenge for access to hospital and primary care services as the data below show, particularly in sparse areas.

			No of households by distance		
		Distance	**Sparse**	**Rural**	**Urban**
GP surgeries (All sites) (4km)	2011	<= 4K	22,810	3,513,500	18,171,910
		>4K	47,220	899,100	11,570
Hospitals (8km)	2011	<= 8K	15,370	2,424,150	17,585,520
		>8K	54,670	1,988,460	597,960
Pharmacies (4km)	2011	<= 4K	15,540	2,891,860	18,171,770
		>4K	54,490	1,520,730	11,710

Distance decay[33]
Pharmacy and GP experience suggest that the further people live from primary care services, the less likely they are to access those services.

Rapid access
Stroke Units (SU) and thrombolysis have rationalised services for wider patient benefit and the hyperacute stroke service model is being rolled out in some areas. It has been noted that in rural areas, long travel times may offset some of the benefits of SUs, and rapid specialist review may rely upon a greater use of telemedicine, communication technology that allows specialists to diagnose and advise treatment of patients remotely[34].

Workforce
There is evidence of challenges in recruitment of health care workers to rural areas. Scotland is developing strategy to address the needs for health care professionals.[35]

Social care[36]
A SCIE report from 2007 asserted there was considerable variability in the provision of services to people living in rural areas and that overall, they are less likely to receive services comparable with their urban counterparts. They noted that they cost more to deliver, and that efforts to ensure equity, in terms of the standards and levels of service provision through policy initiatives such as 'rural standards' and 'rural proofing', have had mixed success.

9.4. Developing Models of Health Care for Rural Areas

9.4.1. NHS England has recently launched its Five Year Forward View which proposes both a strong emphasis on prevention, and starts to suggest how services should start to look in the future, with particular emphasis on expanding and strengthening primary care and out-of-hospital services.[37]

9.4.2. The document recognises that 'one size does not fit all' and makes reference to the differences between an urban area such as Coventry and a rural area with a lot of sparsity such as Cumbria. It cites examples of models of care

and notes that 'Cumbria, Devon and Northumberland have quite a lot in common in designing their NHS of the future.' It would be a good opportunity to take this as framework and apply rural proofing principles in relation to the future design of services for rural areas.

9.4.3. It is also an opportunity to look at how best to use resources in rural areas. Service costs are often cited as a problem for rural areas. These may or may not be greater than for urban areas but the distribution of resource within local authorities means there may be far less actual provision for rural communities. The issues include having to maintain funding for existing provision such as unviable hospitals which are not appropriate and where alternative forms of provision would be a much better use of the resource, in line with the approaches in the NHS Five Year Forward View.

9.4.4. The examples of models proposed in effect shift all but the most specialised and emergency and urgent care away from large hospitals into community-based service models which bring together a range of provision to build care around the patient. The types of model proposed are:

- **Multispecialty Community Providers** where groups of GPs combine with nurses, other community health services, hospital specialists and perhaps mental health and social care to create integrated out-of-hospital care.

- **Primary and Acute Care Systems** which integrate hospital and primary care provision — combining for the first time general practice and hospital services, similar to the Accountable Care Organisations now developing in other countries too.

- **Urgent and emergency care** redesign across the NHS to integrate between A&E departments, GP out-of-hours services, urgent care centres, NHS 111, and ambulance services.

- **Smaller hospitals** will have new options to help them remain viable, including forming partnerships with other hospitals further afield, and partnering with specialist hospitals to provide more local services.

- Midwives will have new options to take charge of the **maternity** services they offer.

- More NHS support for frail older people living in **care homes**.

9.4.5. The focus on models of out of hospital care, the maintenance of smaller hospitals and greater service integration resonate with some of the proposals for rural proofing but would need to be worked on and tested by commissioners and providers. It would be important for rural expertise to be engaged in work on health service design.

9.5. Cross Boundary Flows with Devolved Administrations

9.5.1. There is a need to take account of the cross-boundary flows with devolved administrations. This particularly affects English local authorities and health trusts bordering Wales and Scotland. Current local government and NHS boundaries do not reflect the 'natural' communities and how populations use public and commercial services, due to factors such as public transport routes, proximity of the cross border service and location of employment. For example, Shrewsbury is seen by many people in Powys as their market town and the Royal Shrewsbury Hospital their local hospital.

9.5.2. As some of the services offered by the NHS vary between England and Wales there is the potential for variations in access to health care programmes. This, for example, affects population screening services. This can be particularly complex where patients are resident on one side of the border but are registered with a GP surgery on the other side of the border.

9.5.3. In relation to NHS funds, the Scottish health board would be the responsible commissioner for any patients resident in Scotland who are treated in England. Similarly, there is national agreement about how patients will be managed by the NHS regarding responsible commissioner between Wales and border CCGs in England,

9.5.4. However, there is an issue for Local Authority commissioned open access services such as sexual health, for which demand continues to rise. There is no explicit arrangement and it is down to the LAs to agree arrangements individually. For sexual health services, Welsh residents accessing a clinic in England do not have their Local Authority of residence recharged for the cost of this service as would happen if they resided in England. This places a burden of the host local authority particularly as rural councils generally receive a lower per capita grant than urban areas. Local Authorities that border Wales have been in discussion with the Welsh administration on how best to manage cross boundary issues regarding open access services.

10. Transport, Telecommunications, Utilities and Other Services

10.1. Transport is essential in providing people with access to work, learning, health care, food shops and leisure activities[38]. It is an ongoing issue for rural areas, many of which are poorly supplied with both bus and rail provision for both long and short journeys.

Transport Data Comparing Rural and Urban Areas

2008-12	Trips /person	Trip length (m)/person	Distance travelled (m)/person	Walk (m)/person
Urban	959	6.4	6,158	202
Rural town & fringe	1002	8.7	8,763	152

Rural villages, hamlets, isolated dwellings	990	10.2	10,057	109
2012	**Car/van access**		**Regular bus nearby**	
Urban households	72%		96%	
Rural households (more likely to have two cars)	89%		49%	

10.2. The data above show how people in rural areas travel longer distances than people in urban areas, and have much less access to bus services. About 88% of trips in rural areas were made by car compared with 76% in urban areas. Travel is also more costly; the same report cites the figure that households in the smallest rural settlements spent £90 per week on travel in 2009, both because of distances, and having to pay more at the pump. [39]

10.3. Bus availability is expressed as the percentage of households where the nearest bus stop is within 13 minutes walk, and where there is a service at least once an hour. This access is far less for rural than urban areas, although it is reported to have increased from 38-49% between 2011 and 2012. Notwithstanding this increase, it still leaves half the rural population with limited bus accessibility.

10.4. The 'walking' data are also interesting and show that people in rural villages, hamlets and isolated dwellings walk about half the distance of people in urban areas. Access to activities such as running or walking is a particular challenge for rural areas; roads often have no pavements, and 'green space' may not be readily accessible due to factors such as land layout and access permissions.

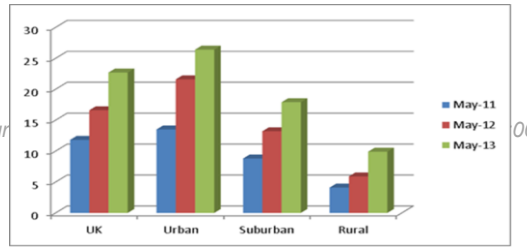
10.5. **Telecommunications**

Telecommunications have been proposed as a means of improving access, including for example, telemedicine. While rural people are big users of these services and many get a good service, utilities need to recoup the costs necessary to roll out and maintain services which make it a challenge to provide services to the same level as more highly populated areas.

10.5.1 **Broadband coverage**

The uptake of broadband[40] is high in rural areas, but the performance, particularly in sparse rural areas is poor. Average actual download speeds are lower in rural areas because of longer line length and lower availability of both fibre and cable broadband. This has also prompted fewer rural customers to upgrade to superfast broadband. Broadband speeds are increasing but at a lower rates than in rural areas as the figure below shows[41].

Average download speeds (Mbits/s) for fixed broadband connections over time

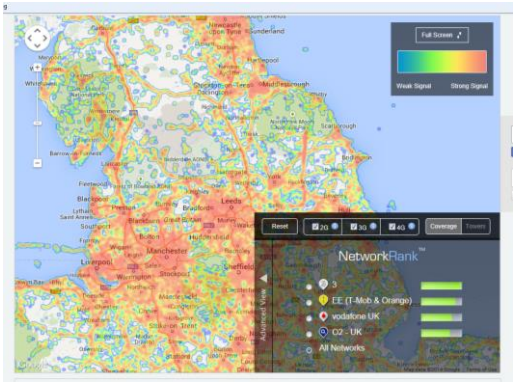


The position is improving and the government has pledged to improve access and achieve full coverage, with particular recognition of rural areas[42], but it leaves questions about the options for remedies such as telemedicine, which requires a lot of data for processes such as image transfer, is a viable service option until superfast broadband is available to everyone.

10.5.2 **Mobile coverage**

Mobile phone coverage is also a problem in sparse rural[43] areas as a screenshot map showing parts of the midlands and north shows.

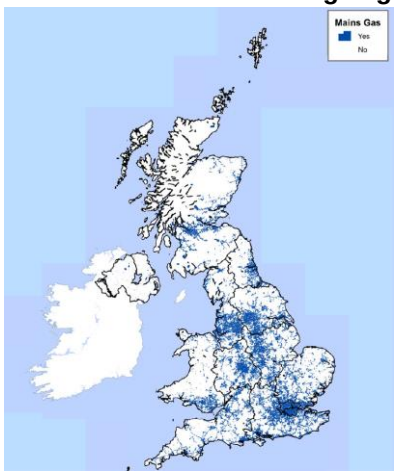
UK Mobile Coverage (the four main providers): to October 1st 2014



10.6. **Other Utilities**

Gas utility provision is estimated by household gas meter point.[44] Being off gas grid affects both urban and rural households. In urban areas it is usually because there is no connection within properties such as blocks of flats, whereas in rural areas it is because of distance from the grid. Being off-grid forces people to rely either on electricity or more expensive canister gas or fossil fuels. The following map shows postcodes of the UK which do and do not have access to a gas supply; those that do not are in white.

Postcodes of areas on and off gas grid



10.7. **Other Infrastructure and Amenities**

Other infrastructure such as postal deliveries, shops, leisure, education and other amenities are a major issue for rural areas. The Plunkett Foundation estimates that around 400 commercial village shops close each year and around 28 pubs a week[45]. The Royal Mail offers a universal service but there are concerns about future commitment to current service to remote areas[46]. There are concerns about access to over-the-counter banking services[47], which will affect both urban high streets and market towns, where the impact on rural communities will not be easily alleviated by remedies such as relocation to supermarkets and greater use of broadband.

11. Developing Communities of Interest

11.1 There is reference throughout the literature to the strength and resilience of rural communities, although there is also some reference to more negative aspects such as being 'different' within a rural context and the stigma and isolation that people can experience[48].

11.2. Rural communities have considerable resources and experience and a wide spectrum of skills and knowledge. They are areas where small business appears to be the most flourishing business model, and there is either real or potential scope for serious voluntary sector and community engagement on how localities are developed and run. Some government initiatives are likely to foster this and the Action with Communities in Rural England is taking a close interest, which suggests the benefit which they could bring to rural communities. They include:

- An emerging government programme the Rural Development Programme[49] for England, which aims to improve the environment, support business or promote growth in the local economy.

- The DCLG programme 'Giving people more power over what happens in their neighbourhood' [50] which gives communities new rights in relation to amenities, local service delivery and the planning of new developments. It offers, for example, the Community Right to Bid, which gives community groups the right to buy community buildings and facilities; and the Community Right to Challenge, which allows voluntary and community groups, and others to bid to run a local authority service where they believe they can do so differently and better.

11.3. Local councils and services in rural areas have a lot of expertise in relation to engagement and there are many good examples of local initiatives in Norfolk, Shropshire, Lincolnshire, Suffolk, Cornwall and other areas with rural populations [51].

11.4. Rural communities are themselves responding to the challenges of provision by setting up their own community-owned enterprises such as shops and pubs, food and farming enterprises and other forms of community ownership. An organisation that provides support for these initiatives reported that by the end of 2013, it had helped 319 community shops and 22 co-operative pubs to open and start trading.[52]

11.5. There are questions for public health about how to engage with these initiatives, both with localities and working with stakeholders such as Action with Communities in Rural England which is already a source of expertise, acting to help build communities of interest; providing advocacy, expertise, platforms for information sharing and other support.

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Annex A. Index of Multiple Deprivation 2010 Indicators

Income Deprivation Domain	Adults and children in Income Support families 2. Adults and children in income-based Jobseeker's Allowance families 3. Adults and children in Pension Credit (Guarantee) families 4. Adults and children in Child Tax Credit families 5. Asylum seekers in England in receipt of subsistence support, accommodation support, or both 6. Claimants of Jobseeker's Allowance 7. Claimants of Incapacity Benefit 8. Claimants of Severe Disablement Allowance 9. Claimants of Employment and Support Allowance 10. Participants in New Deal for the 18-24s who are not in receipt of Jobseeker's Allowance, 11. Participants in New Deal for 25+ who are not in receipt of Jobseeker's Allowance 12. Participants in New Deal for Lone Parents
Health Deprivation and Disability Domain	13. Years of Potential Life Lost 14. Comparative Illness and Disability Ratio 15. Acute morbidity 16. Mood or anxiety disorders
Education Skills and Training Deprivation Domain	17. Key Stage 2 attainment 18. Key Stage 3 attainment 19. Key Stage 4 attainment 20. Secondary school absence 21. Staying on in education post 16 22. Entry to higher education 23. Adult skills
Barriers to Housing and Services Domain	24. Household overcrowding 25. Homelessness 26. Housing affordability 27. Road distance to a GP surgery 28. Road distance to a supermarket or convenience store 29. Road distance to a primary school 30. Road distance to a Post Office
Crime Domain	31. Violence 32. Burglary 33. Theft 34. Criminal damage
Living Environment Deprivation Domain	35. Housing in poor condition 36. Houses without central heating 37. Air quality 38. Road traffic accidents

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