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Gloucestershire COUNTY COUNCIL

Social Isolation in Gloucestershire

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October 2013

Gloucestershire County Council: Social Isolation in Gloucestershire

Overview

This report describes the use of the CACI Acorn Customer Segmentation Tool to map those residents that may be vulnerable to 'Social Isolation' and 'Loneliness'. The methodology follows the Essex County Council work in that an 'isolation index' was created through the use of customer segmentation indices. (For more detail please see Annex 1).

There isn't a measurement that can directly determine where in Gloucestershire isolation may affect residents. A nearest estimation, however, was attempted by considering a number of variables that may be indicative of 'Isolation' and possible 'Loneliness'. These are listed in Table 1.

Table 1

Selected Variables Household based (LSOA and individual household)
Age - Head of household:65-74
Age - Head of household:75+
Household Size:Household size : 1 person
Highest Level of Qualifications:No formal qualification
Highest Level of Qualifications:GCSE / O levels / CSE / School Certificate
Highest Level of Qualifications:ONC / BTEC / apprenticeship
Highest Level of Qualifications:A-levels/ AS levels or Higher
Health Indicators:Mental illness/anxiety/depression/nerves
Car Ownership:Number of Cars 0
Isolation:Frequency of talking to neighbours: < once a month or never
Isolation:Have someone who will listen: No-one
Isolation:Have someone to help in a crisis: No-one
Isolation:Have someone you can relax with: No-one
Contentment:Not satisfied with: social life
Household Annual Income:£0-£20,000
Internet -Never used

The Acorn tool contains an individual index value for each of the variables identified above. For example an index value of 100 for 'Age 65-74' would mean the likelihood that the household contains a 'head of the household aged between 65 and 74 is the same as the average for the UK. A value of 200 would illustrate that the household is twice as likely to contain a 'head of household aged 65-74'.

Index values for those variables listed above were extracted from the CACI Acorn Household data and combined to create an 'isolation index' at two geographical levels - Lower Super Output Area (LSOA) and Household level. Mapping at LSOA level would identify areas where there are numbers of households potentially vulnerable to isolation and at Household level would focus on individual households that indicate a level of isolation.

At the LSOA level comparisons were drawn between the 'isolation index' that was initially created from combining all the variables without any weighting[1] and an 'index' produced from applying various weightings to individual variables. As noted with the Essex model initial comparisons showed that changing the weighting to individual variables appeared to have little effect on the overall index and therefore an 'isolation index' created from an aggregation of all variables without weighting was used.

[1]Weighting is a mathematical device used when performing a sum, integral, or average to give some elements more "weight" or influence on the result than other elements in the same set. In this instance a weighting of 1 to 5 was applied with 1 equivalent to no weighting and 5 representing 5 times as important.

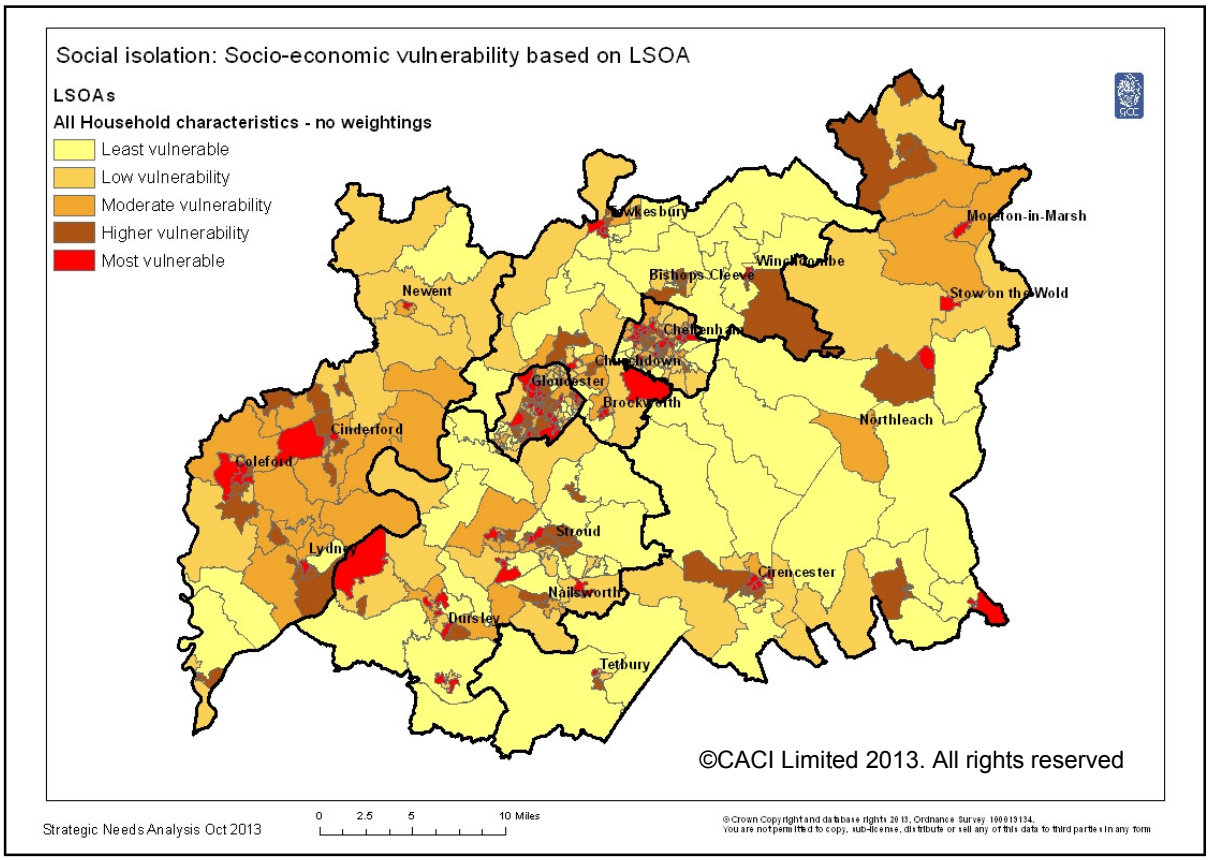
The Household level variables were treated slightly differently in that weighting was applied to the index of each variable depending on its value thereby producing a 'risk rating'. In this instance only the 'risk rated indices' relating to the four Isolation variables and one Contentment variable were combined and used to create an 'isolation index' at this level. (Please refer to Annex 1 for more detail).

LSOA results

The 'aggregated isolation indices' were divided into quintiles[2] and mapped in order to identify hot spots.

Map 1 shows this scenario with red indicating the most vulnerable LSOAs and yellow the least vulnerable.

Map 1



The most vulnerable areas highlighted in the above map appear to be associated with the main urban centres and also the fringes of the more isolated market towns. There also appears to be a cluster of areas of moderate to higher vulnerability in the south west of Forest of Dean district and the north east of Cotswold district.

Household results

The 'aggregated isolation indices' at household level were also divided into quintiles. Those households within the top quintile (top 20%) which equated to those with an 'isolation index score' of above 40 were mapped. (For more detail please refer to Annex).

[2] A quintile is one of the four numbers that divide a range of data into five equal parts, each being 1/5th (20%) of the range.

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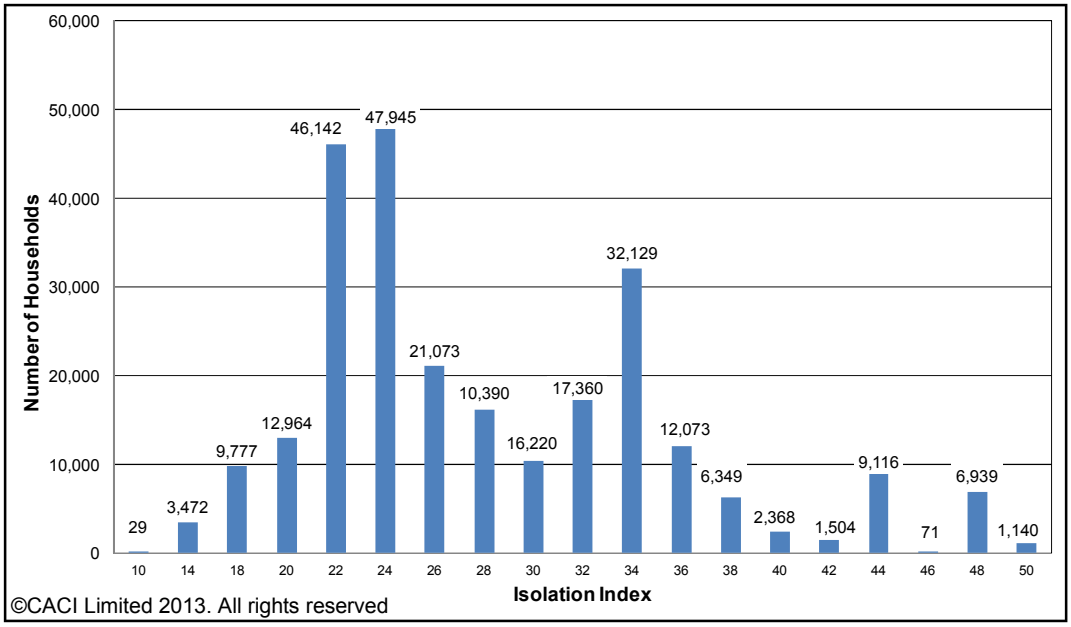
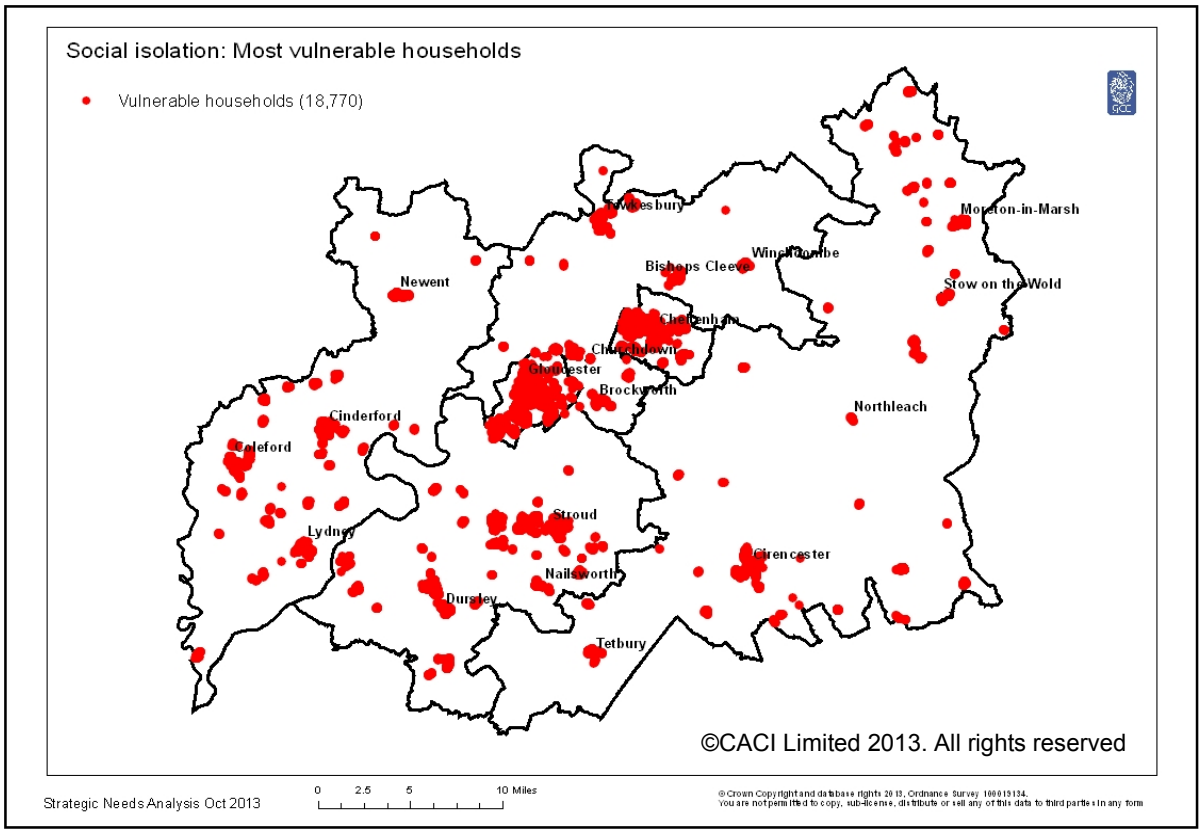
Of the 257,000 households in Gloucestershire some 18,770 fell within the top quintile (top 20%) i.e. those with an 'isolation index' above 40 as shown in Chart 1. These households, representing some 7% of the total number of households in the County were likely to be the most vulnerable to isolation.

Chart 1: Number of households relative to 'isolation index'



Their geographic distribution is shown in Map 2. It is evident from the cluster pattern that not unexpectedly, there is correlation with the LSOA level data, however, there are also households appearing in areas that are presented as low vulnerability at the LSOA level.

Map 2



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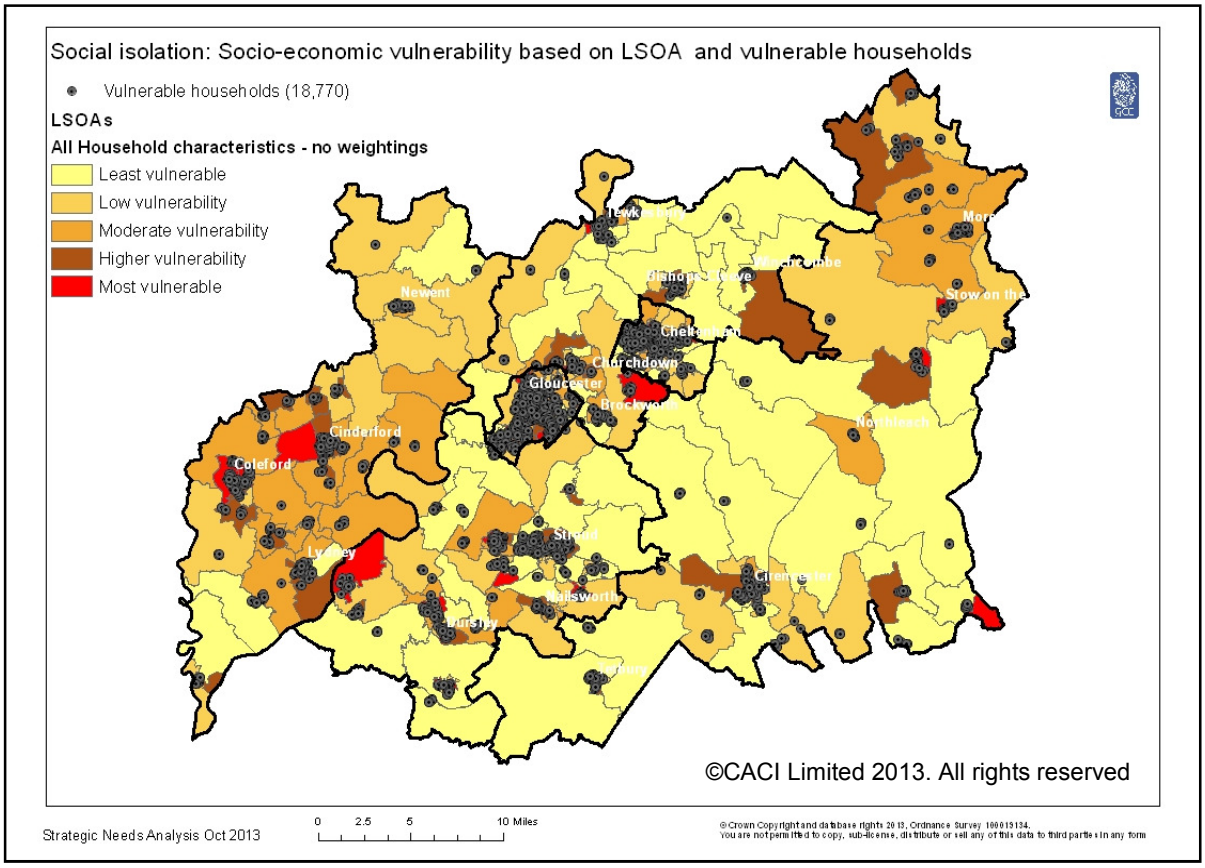
Map 3

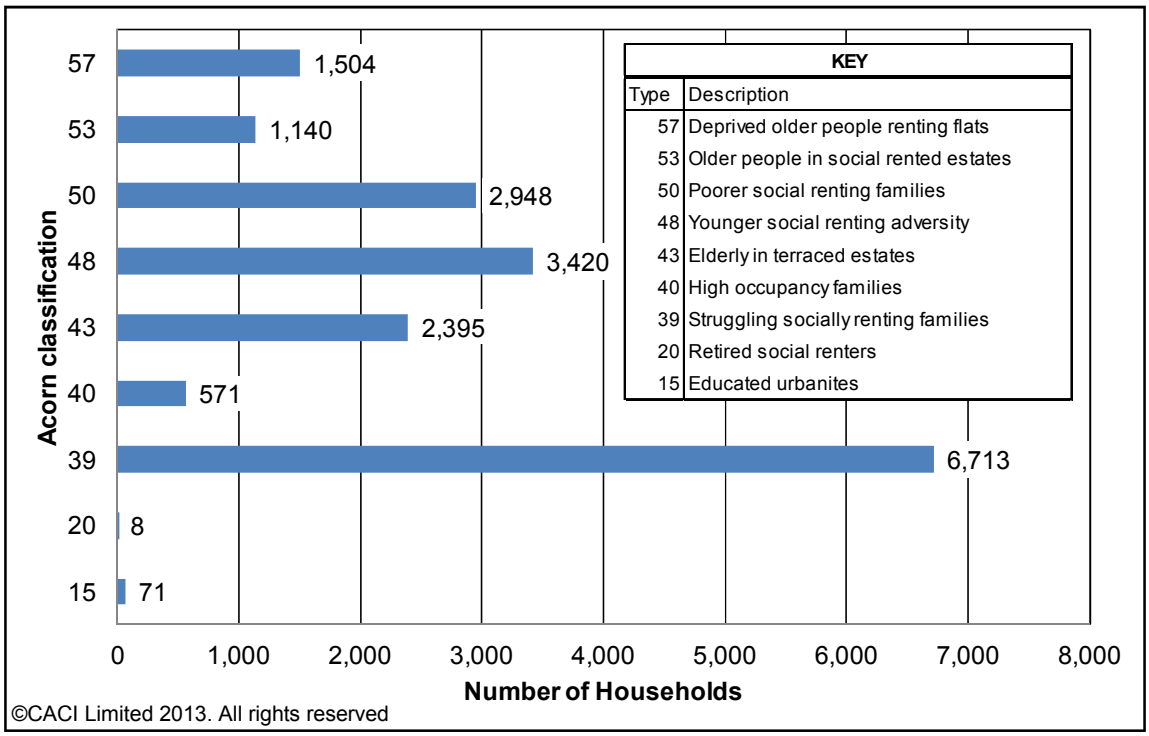


As with the Essex County Council work, overlaying the socio economic based data at LSOA level with the specific isolation based household data has enhanced the picture of those areas at risk or vulnerable to isolation as shown in the Map 3. The merit of using both levels of detail is borne out by not only identifying the most vulnerable areas but also picking up some specific instances that may have been overlooked at the broader level.

Those 18,770 households considered likely to be the most vulnerable to isolation have also been profiled in terms of their CACI Acorn classification as shown in Chart 2. This enhances the research findings in that it provides an overview of the characteristics of a household that could be vulnerable to isolation.

The descriptions not unsurprisingly reflect a correlation with age, single occupancy, low income and socially rented housing. Interestingly, only a third of households are represented by older people. The largest household type group (6,700 households) is described as ‘Struggling socially renting families’. This group is typified by families with school age or grown up children and include a number of single parents. Mostly they live in two or three bedroom terraced or semi-detached houses rented from a social housing provider. Many of these families may be barely getting by financially.

Chart 2



Conclusion

Hopefully this initial work will give a sense of where isolation and possible loneliness situations are likely to occur. Further analysis will be undertaken to establish what may emerge from the various combinations and weightings of the data. At this stage however, local experience will be a useful yardstick to test this methodology.

Annex 1

Methodology

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LSOA Mapping

The LSOA scores were based on a cumulative index which equated to the sum of individual households and sum of the indices aggregated to LSOA level from the individual household level. This was then converted to an aggregated index for each LSOA by dividing the cumulative index by the number of households as shown in Table 1.

Table 1

Local LSOAName	Households	Cumulative index	Aggregated index
		Age - Head of household 65-74	Age - Head of household 65-74
ALL SAINTS 1	680	73899	108 7

Cumulative index/No of households = Aggregated index e.g. 73899/680=108.7

Weighting from 1 to 5 could then be applied to the aggregated index for each variable as shown in Table 2. The sum of the weighted aggregated indices divided by the sum of the weightings produced a final average aggregated isolation index for each LSOA. However, as stated earlier the average aggregated 'isolation index' without weighting (i.e. weighting set to 1) was selected and the values were divided into quintiles for mapping at LSOA level.

Table 2

Weighting	3	3	1	1	1	1	1	1	1	3	3	3	3	3	1	1

	Weighted aggregated indices																
LocalLSOANam	Age - Head of household:65-74	Age - Head of household:75+	Household Size:Household size : 1 person	Highest Level of Qualifications:No formal qualifications	Highest Level of Qualifications:GCSE / O levels / CSE / School C	Highest Level of Qualifications:ONC / BTEC / apprenticeship	Highest Level of Qualifications:A-levels/ AS levels or Highers	Health Indicators:Mental illness/anxiety/depression/nerves	Car Ownership:Number of Cars 0	Isolation:Frequency of talking to neighbours: < once a month or	Isolation:Have someone who will listen: No-one	Isolation:Have someone to help in a crisis: No-one	Isolation:Have someone you can relax with: No-one	Contentment:Not satisfied with: social life	Household Annual Income:£0-£20,000	Internet -never used	AVERAGE AGGREGATED INDEX
ALL SAINTS 1	326	313	95	55	81	83	115	69	74	276	298	202	308	263	62	66	**89**

Sum of aggregated variables divided by sum of weighting = 2685/30 =89

Household mapping

The household level variables were weighted according to a risk index shown below. This was applied to the index of each variable depending on its value as shown in Table 3. e.g. If the index value was greater than 150 then a value of 5 was applied.

Index >150 = 5
Index >125 = 4
Index > 80 = 3
Index > 50 = 2
Otherwise = 1

As for the LSOA scores, weighting between 1 and 5 could then be applied to each 'risk rated' index. The product of the sum of weighting for each variable and the variable 'risk rating' was divided by the sum of the weighting for each variable to create an 'aggregated isolation risk index' for each household as shown in Table 3.

In this instance only those 'risk rated indices' relating to the four Isolation variables and one Contentment variable were combined and with no further weighting to create an 'aggregated risk' or 'isolation index' at this level as shown in Table 3.

Again the aggregated 'isolation index' without weighting (i.e. weighting set to 1) for all the households was selected and divided into quintiles. Those households within the top quintile (top 20%) which equated to an index score of above 40 were mapped.

Table 3

Individual Household	Weighting	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	
		Index																Risk rated indices															
Age - Head of household:65-74	258																	Age - Head of household:65-74	5															
Age - Head of household:75+	259																	Age - Head of household:75+		5														
Household Size:Household size : 1 person	155																	Household Size:Household size : 1 person			5													
Highest Level of Qualifications:No formal qualifications	96																	Highest Level of Qualifications:No formal qualifications				3											
Highest Level of Qualifications:GCSE / O levels / CSE / School C	72																	Highest Level of Qualifications:GCSE / O levels / CSE / School C					2										
Highest Level of Qualifications:ONC / BTEC / apprenticeship	68																	Highest Level of Qualifications:ONC / BTEC / apprenticeship						2									
Highest Level of Qualifications:A-levels/ AS levels or Highers	97																	Highest Level of Qualifications:A-levels/ AS levels or Highers							3								
Health Indicators:Mental illness/anxiety/depression/nerves	66																	Health Indicators:Mental illness/anxiety/depression/nerves								2							
Car Ownership:Number of Cars 0	87																	Car Ownership:Number of Cars 0									3						
Isolation:Frequency of talking to neighbours: < once a month or	50																	Isolation:Frequency of talking to neighbours: < once a month or										1					
Isolation:Have someone who will listen: No-one	287																	Isolation:Have someone who will listen: No-one											5				
Isolation:Have someone to help in a crisis: No-one	115																	Isolation:Have someone to help in a crisis: No-one												3			
Isolation:Have someone you can relax with: No-one	110																	Isolation:Have someone you can relax with: No-one													3		
Contentment:Not satisfied with: social life	92																	Contentment:Not satisfied with: social life														3	
Household Annual Income:£0-£20,000	91																	Household Annual Income:£0-£20,000															3
Internet:Never used	130																	Internet:Never used															4
																		Aggregated risk															30.0

Sum of weighting for selected variable x variable risk rating =15, divided by sum of the weighting 5 = 3.0. Multiply by 10 to create 2 significant figures before decimal point.
NB Where weighting set to 0 those risk rated indices are not included in the 'aggregated risk' score.

Reference: Essex County Council Social Isolation in Essex 2013