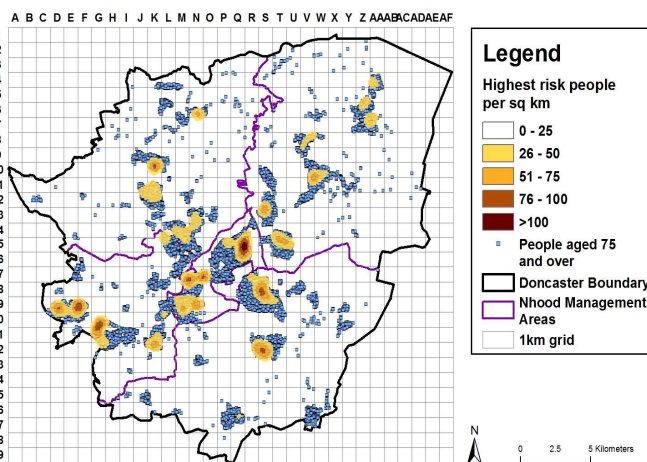


## Emergency Hospital Admissions in Doncaster

### Aims

Doncaster MBC and Doncaster PCT, using neighbourhood renewal funding, commissioned Mayhew Associates (MA) to undertake a detailed assessment of population and deprivation in Doncaster. Based on administrative data sources, MA *nkm* techniques were used to estimate the Doncaster population. The resulting database was used to study emergency hospital admissions. Reducing these can lead to reduced hospital waiting lists. Appropriately targeted interventions could avoid hospital admission and reduce lengths of stay. We analysed all current residents for emergency admissions made between 2004-2006 to assess the risk profile of typical cases.



Map showing highest risk of emergency hospital admission for all people in Doncaster

### What we did

In partnership with the PCT and local authority, we obtained and linked data from each agency to the Local Property Gazetteer. We then risk assessed all current residents using the following risk factors: aged 75 and over, local authority housing tenure, household known to Social Services and if they lived >1 mile from their GP. We mapped the density of people with the highest risk profiles so as to enable the PCT to identify the areas and sub-groups most at risk of admission (see map).

Category	number in category	Aged 75+	living in local authority housing	Known to social services	Living > 1 mile to GP	% emergency hospital admission	lower confidence limit	upper confidence limit
1	1891	Y		Y	Y	34.1	31.9	36.2
2	1459	Y	Y	Y		33.9	31.4	36.4
3	2651	Y		Y		33.4	31.6	35.2
4	644	Y	Y	Y	Y	32.8	29.1	36.5
5	1048		Y	Y	Y	20.1	17.7	22.7
6	2885		Y	Y		19.3	17.9	20.8
7	2661	Y	Y			18.3	16.8	19.8
8	1204	Y	Y		Y	17.4	15.3	19.7
9	6523	Y				14.6	13.8	15.5
10	5402	Y			Y	14.2	13.2	15.1
11	6181			Y		13.6	12.7	14.4
12	3798			Y	Y	13.5	12.4	14.6
13	9090		Y		Y	12.5	11.9	13.2
14	23761		Y			12.3	11.9	12.8
15	122925					8.4	8.2	8.5
16	89487				Y	7.6	7.5	7.8
total	281610	22435	42752	20557	112564	9.9	9.8	10.0

Risk factor segmentation of Doncaster population according to emergency hospital admissions. Base: whole Doncaster population; admission window from 01/04/2004 to 31/03/2006

### Outputs

Our logistic regression model confirms that being 75 years or older and being known to Social Services are the largest contributing factors, increasing the odds of emergency hospital admissions over 2 times each. Local authority housing tenure was also statistically significant. Combined, these increase the average admission rate of 9.9% to over 30%. Unexpectedly, living further from your GP slightly reduced the risk of admission, speculatively because GPs are potential conduits in the admissions process and so need to be part of any PCT-led emergency admission avoidance strategy.

Tailoring services to local needs