

Realising the Power of OAC using ONS' Social Surveys

Gareth Powell

Senior Research Officer
Expenditure and Food Survey
Office for National Statistics

I don't think I've ever done a presentation with such a grand title, so forgive me if I don't live up to it! I'm going to talk for a bit about what can be done with ONS Household surveys using the new OAC. However ONS is a non-policy making department – we basically produce statistics for others to use, mostly government but academics and private companies and people too. As such it's important that we produce statistics that other *want* to use, so my main aim in this presentation is to give you some ideas for what could be done using our surveys – using OAC or not! - so that you can either go away and do it, or talk to us about how you might be able to do it in the future.

Any feedback would be very welcome!

Output Area Classifications

1: Blue Collar Communities	1a: Terraced Blue Collar 1b: Younger Blue Collar 1c: Older Blue Collar
2: City Living	2a: Transient Communities 2b: Settled in the City
3: Countryside	3a: Village Life 3b: Agricultural 3c: Accessible Countryside
4: Prospering Suburbs	4a: Prospering Younger Families 4b: Prospering Older Families 4c: Prospering Semis 4d: Thriving Suburbs
5: Constrained by Circumstances	5a: Senior Communities 5b: Older Workers 5c: Public Housing
6: Typical Traits	6a: Settled Households 6b: Least Divergent 6c: Young Families in Terraced Homes 6d: Aspiring Households
7: Multicultural	7a: Asian Communities 7b: Afro-Caribbean Communities

Output Area Classifications were first published by ONS on 29 July 2005. They are available for free from the website here: http://www.statistics.gov.uk/about/methodology_by_theme/area_classification/oa/default.asp They are classifications of individual Census Output Areas, each of which contains, on average, 264 people. It is based on work using census data at the OA level using 41 variables in 5 'domains' – Demographic Structure, Household Composition, Housing, Socio-Economic and Employment. Variables within each domain were selected to represent the key social, economic and population trends within the UK and cluster analysis was used to group areas together according to these variables. More information on this is available, but I won't go into it here. The current classification set is designed to stay in place until the new census results are available. It is important not to confuse Output Area Codes with Lower Super Output Area (LSOA) codes. They are independent and, although they have similar systems of labelling and hierarchies, are not really related. Output Area Codes have three levels; Super Group, Group and Sub-Group. (Confusingly LSOA codes also have the same names but these apply to different levels.) Super Groups and Groups have labels but Sub-Groups just have codes – these are the same as the Group they belong to but with a 1,2,3 or 4 at the end. There are 7 Super Groups (as you can see) 21 Groups and 52 Sub-Groups. There are on average 32k OAs in each Super Group, 11k in each Group and 4k in each Sub-Group. There are profiles of each Super-Group available, including summary information on their Groups and Sub-Groups. Clearly anything more than fairly superficial analysis would require good knowledge of this information as the labels are not capable of fully describing them.

A quick sale of ONS household surveys

- We survey nearly 500k people per year
- Outputs on many major topics
- ONS is independent
- Surveys often provide long back series
- Harmonised question design

The bulk of the number contacted is from the Labour Force Survey, which is used to derive employment statistics for small areas, but our smaller surveys still have sufficiently large samples for a lot of investigation. For example, the EFS has nearly 6,000 responding households per year.

We cover a number of topics (as shown on the next slide) and it's important to note that some surveys are better than others for particular topics.

Since April the ONS has been independent and so we are officially free of governmental bias – in reality of course we have always been driven by methodological best practise, and independence has not lead to any changes to the way household surveys are run (other than in terms of management structure and so on).

Many of the surveys produced by ONS have been run for a number of years and data is available for previous periods. There are of course discontinuities because of survey changes, for example OAC has only recently been introduced, but in general time series of variables are available for longitudinal analysis.

The ONS is moving towards a more harmonised survey design within an Integrated Household Survey. This means that many questions have been harmonised across surveys, and a number of variables are asked on all surveys (for example, age and employment status) in order to improve estimates for core variables and to improve question design.

ONS household surveys

- Labour Force Survey
- Expenditure and Food Survey*
- English Housing Survey*
- General Household Survey
- Family Resource Survey*
- Omnibus
- Household Assets Survey
- IHS outputs

The surveys which are starred either have plans to add OAC to 2008 datasets or already have OAC on datasets. Family Spending (the EFS publication) will have OAC on and is based on 2007 data.

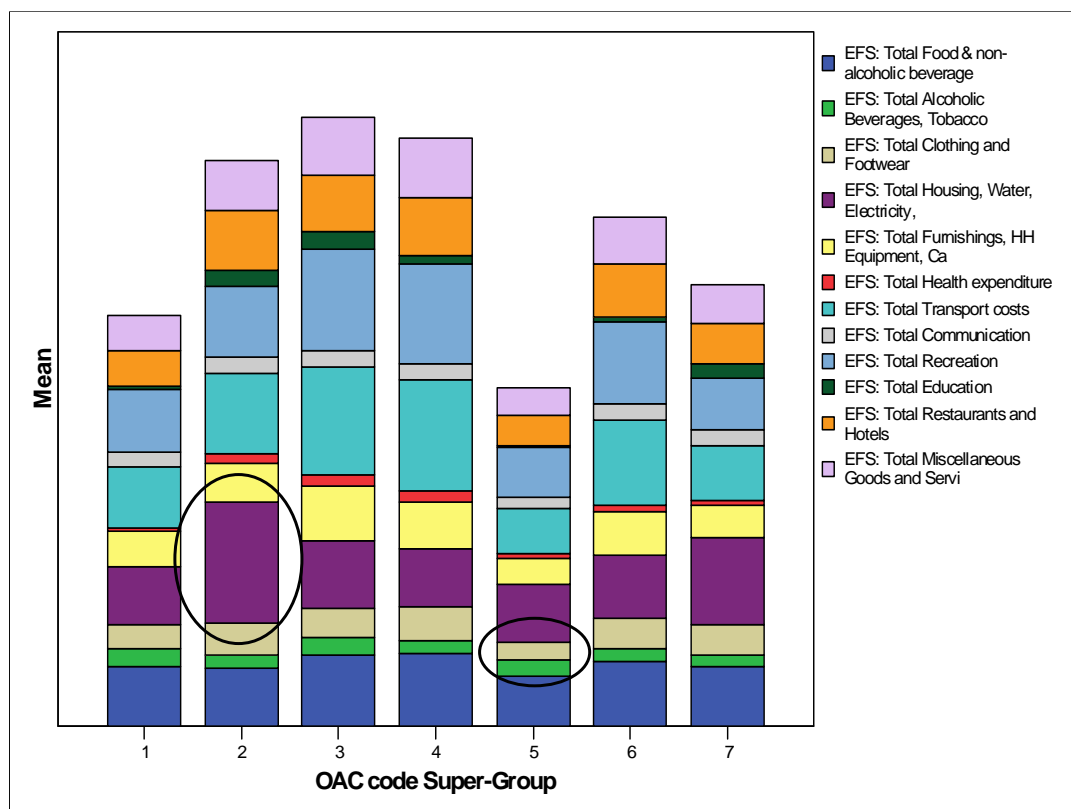
As mentioned, the Labour Force Survey is the biggest of the ongoing surveys carried out by ONS (or anyone else in the UK for that matter). They do not currently have short term plans on implementing OAC but they are looking at it and it is dependent on user demand. This is also the case for other surveys which have not already started putting OAC on datasets.

First forays into OAC

- Following is based on the Expenditure and food survey
- Summary statistics only – official release is in November so this is illustrative only
- ONS is not policy making so I've picked random areas to look at to show some of the potential

As I mentioned, I work on the EFS and so I've tried to put together some brief, high level exploratory graphs together (I'm not going to label it as anything so grand as analysis) using EFS data. The graphs are based on data for 2007, which is not finalised and will not be released until Family Spending comes out in November. This means that unfortunately I can't show you any actual numbers or real detail. I also can't give any guarantees on the accuracy of the data.

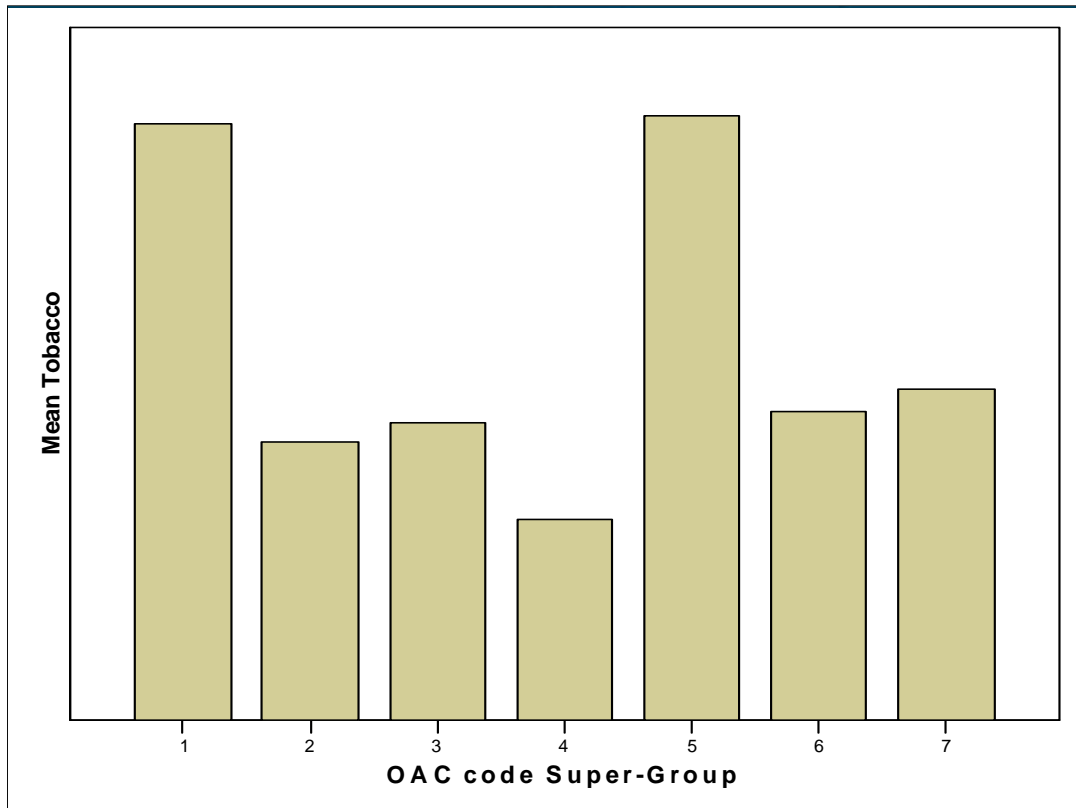
As I say, it's all just for illustration.



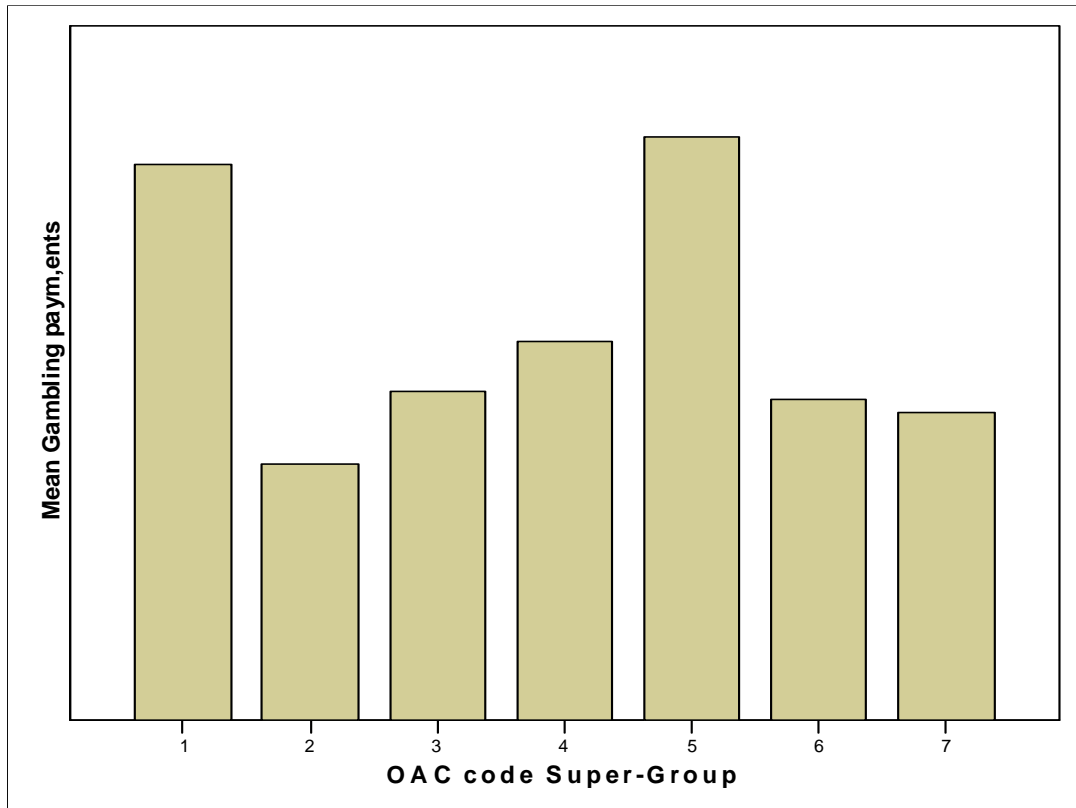
So to begin with this is a high level overview of actual expenditure across the Super Groups. Expenditure was not one of the variables used in clustering the groups, but income was – nonetheless it is interesting to see the differences between the different Super-Groups.

You can see that the groups differ considerably in overall expenditure, in particular for example the City Living Super-Group spends the most on Housing, Water and Electricity and the Constrained by Circumstances Super-Group spends less on Clothing and Footwear.

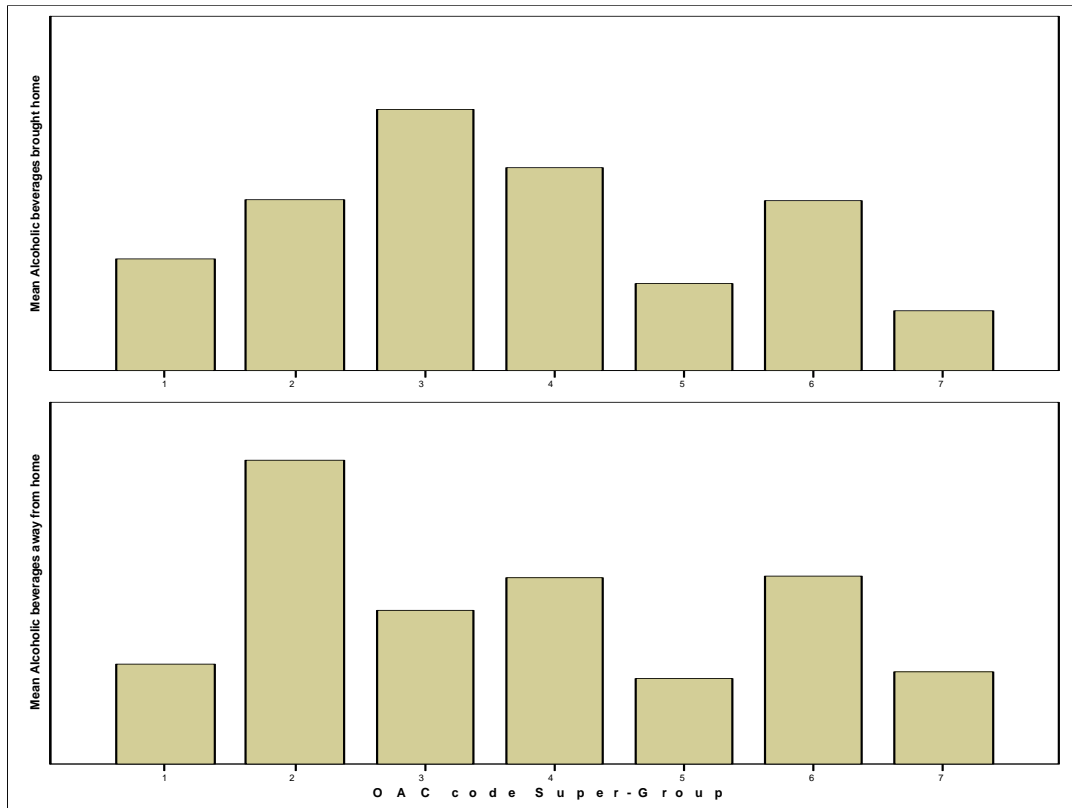
This graph uses the broadest groupings of expenditure we produce, so let's have a look at some more specific categories.



Given that we've seen that overall expenditure is low for the Blue Collar and Constrained by Circumstances groups, I thought it'd be interesting to show an item that completely bucks this trend, so here is tobacco. In particular you can see that there seem to be 2 different levels of expenditure. Tobacco is, of course, often linked to other items such as gambling...

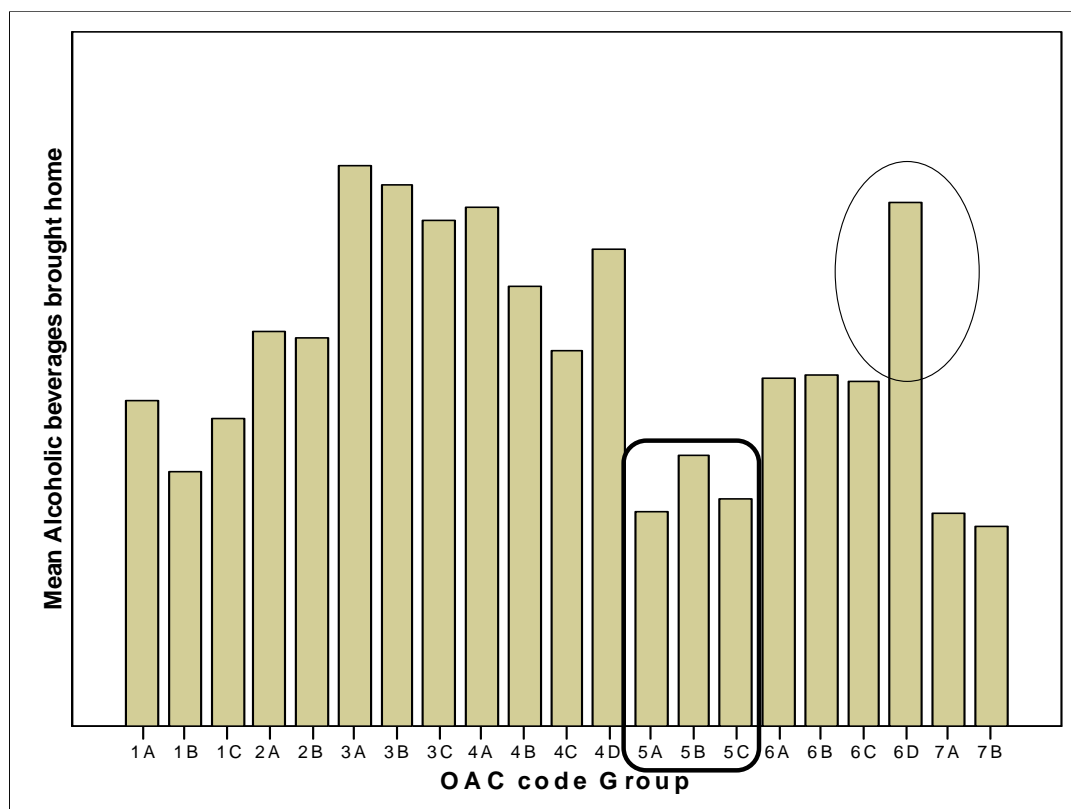


...and indeed we can see a similar trend here, though the Prospering Suburbs seem more likely to have a flutter than to smoke. Particularly interesting however is expenditure on alcohol...



...because it seems to be almost the inverse of gambling and smoking!

You can see from these graphs that people in Constrained by Circumstances areas seem to spend less on alcohol, both brought home (top) and away from home (bottom). The City Living and Countryside groups swap between the two, which seems to make sense, and multicultural areas seem to do most of their drinking away from home.



Of course any trends that you notice can be examined in more detail, either by using other variables or by using lower level OAC groups. Looking at Alcohol Brought Home we can see that all three groups are of a similar level. We can also see differences which aren't apparent at higher levels, for example Aspiring Households have higher expenditure on alcohol brought home than the other groups within the Typical Traits Super-Group.

6D Description

Although the members of this group can be found across the UK there is a higher concentration around the outskirts of London. There is one ward, Bicester South in the South-East, that has 73% of its output areas classified in this group. There are a further 6 wards that have 55% or more including Baldock East, Chafford and North Stifford and Leigh in the East of England, Castle and Rooksdown in the South-East and Bradley Stoke Bowsland in the South-West. Within this group:

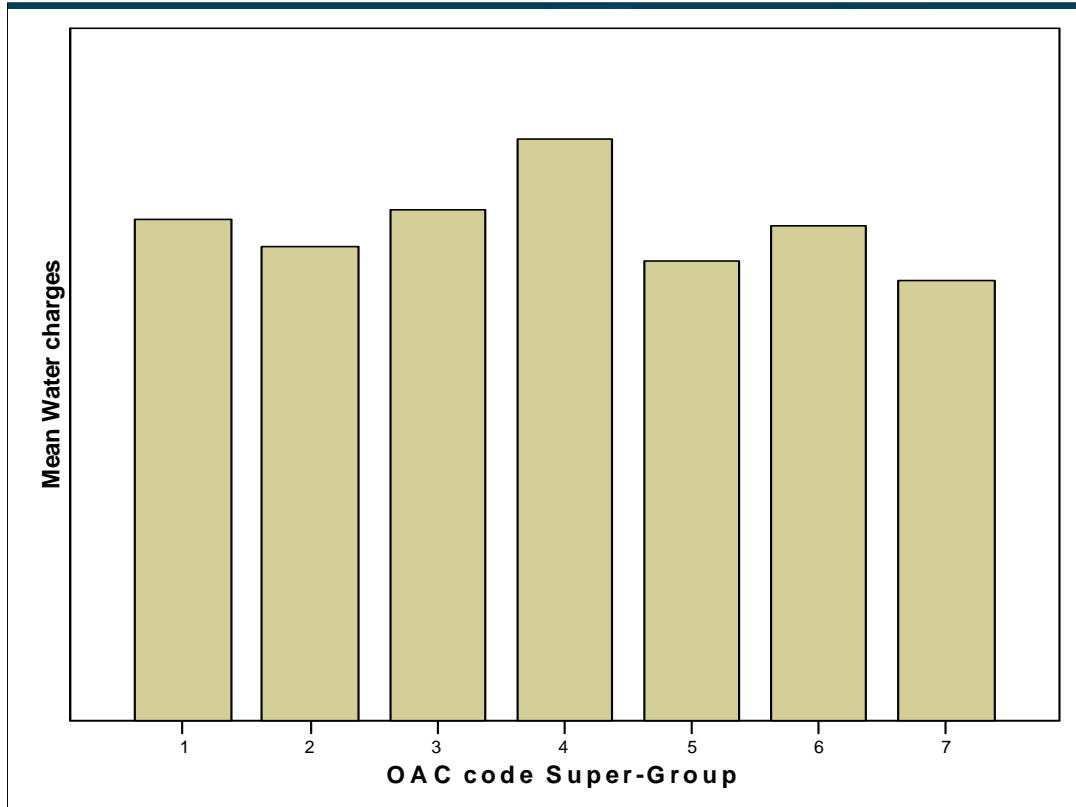
The variable with proportions far below the national average is:

- Rent (Public)

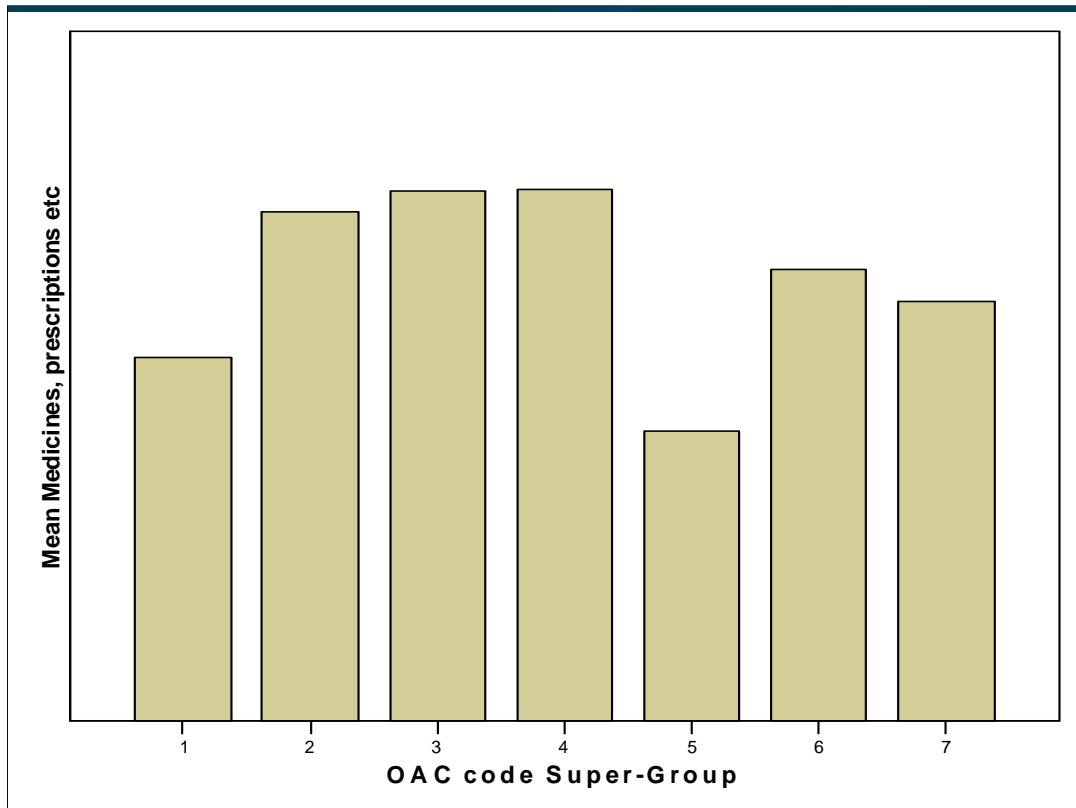
The variables with proportions close to the national average are:

Black African, Black Caribbean or Other Black, Age 45-64, Health and Social work employment, Age 5-14, Divorced, Students (full-time), Working part-time

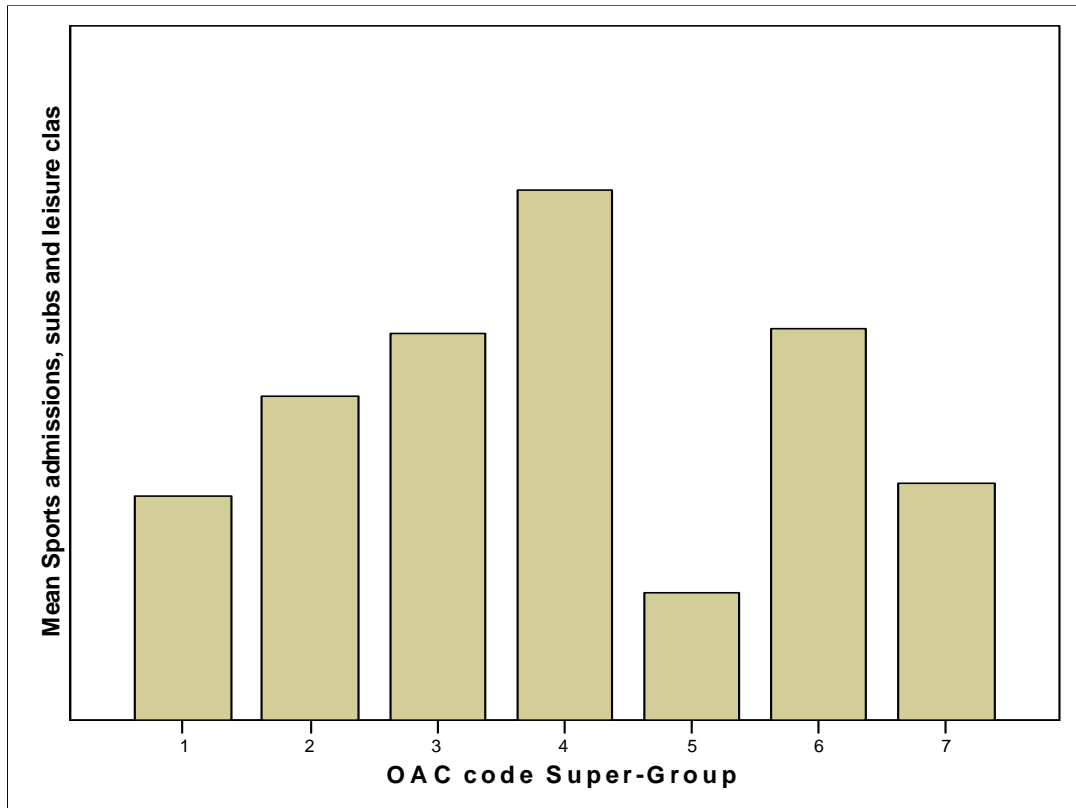
There are no variables with proportions far above the national average.



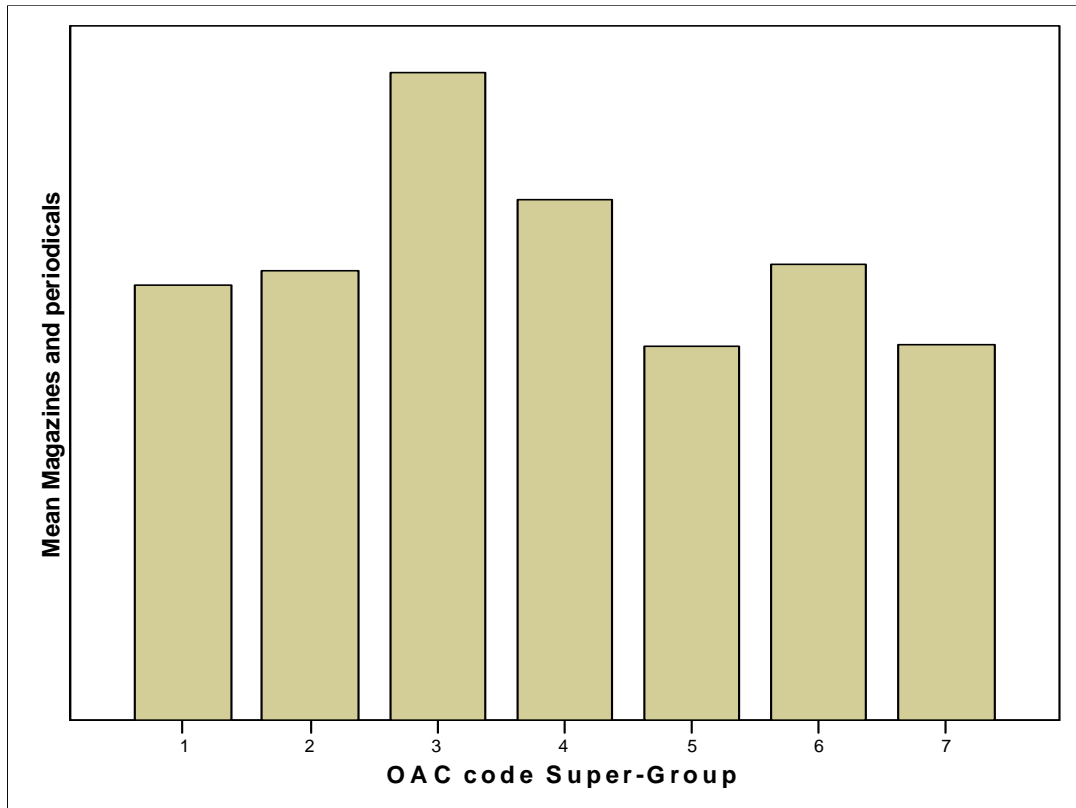
Next I thought it would be interesting to look at a couple of items where expenditure would not be expected to vary much – this chart shows Water charges for example, and seems pretty constant across the groups.



But with medicine and prescription expenditure you can see much lower expenditure in groups 1 and 5. This could be because of free medication or perhaps because people in these groups spend less on healthcare in general. This, and the drinking/smoking information, could be interesting for healthcare providers – perhaps certain areas need more health provision or awareness education?



Similarly, you could compare this with expenditure on sporting subscriptions, which has an even greater, though similar, differential.



Moving on from policy interests to commercial ones, we can see that expenditure on magazines and periodicals appears to be highest in the Countryside Super-Group. I don't know enough about magazine sales to say if that's unexpected, but I thought it was an interesting example. You could use similar charts to look at, say, subscription TV or bread sales.

Summary

- The ONS is starting to attach OAC to its social surveys
- These surveys can be used to look at various topics using rich datasets
- Where OAC is not available we will look to add it where there is customer demand

Questions?

Gareth.Powell@ONS.GSI.GOV.UK

liam.murray@ons.gsi.gov.uk (GHS)
marilyn.thomas@ons.gsi.gov.uk (LFS)
jayne.olney@ons.gsi.gov.uk (OMN)
catherine.williams@ons.gsi.gov.uk (HAS)
giles.horsfield@ons.gsi.gov.uk (EHS)
fiona.dawe@ons.gsi.gov.uk (FRS)
ian.o'sullivan@ons.gsi.gov.uk (IHS)