

Monitoring Brief

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The Use Made of Official Statistics

1. Official statistics are a “tool used in decision making inside and outside...government. For that tool to be effective it must be designed to meet the needs of users. If a charity uses official figures about local areas to target its resources, it is doing more than managing its own business. It is contributing to the well being of society...”¹
2. This Brief has two main functions. First, it illustrates some of the many uses of official statistics that are made by a wide variety of people and organisations – the ways in which statistics serve the public good. Second, it is intended to bring coherence to work by producers of official statistics to identify, document and improve their and others’ knowledge of the ways in which the statistics are used. The Authority would be interested in views on the ‘framework of use’ (see paragraph 14), and will adapt it and present further examples of the use of statistics in a subsequent Brief.
3. Monitoring Brief 4/2010 *Findings from the First Fifty Assessment Reports*² identified the following among the priorities for action:
 - i. The need for more systematic engagement with those organisations and individuals whose decisions, or actions, are informed by official statistics. The aim must be to get the messages from the statistical data to the people who can use that information and support subsequent use. The greatest return on further improvement is likely to come from further supporting the wide range of uses of official statistics outside central government.
 - ii. Producers of official statistics need to do more to ‘investigate and document... the use made of official statistics and the types of decision they inform’ and publish alongside official statistics ‘information on the quality and reliability of statistics in relation to the range of potential uses...’. These requirements, taken from the Code of Practice, are fundamental to demonstrating the relevance and value of the statistics.
4. The first priority above was also the central theme of the report *Strengthening User Engagement*³ – which includes a full discussion of ways in which producers might engage more effectively with users. This Brief focuses on the second priority and how it might be addressed.
5. Pressure on public finances makes it all the more important for producers to have a clear understanding of the value of their statistics, to inform spending decisions and to get the best value from the raw product.
6. Users, and potential users, of statistics are not necessarily demanding ever more, or more detailed, data. They may want datasets in different formats, or to have them linked with other data, or presented at other geographic levels or with different classifications, or for longer time

¹ Statistics Commission, *The use made of official statistics*, March 2007

<http://www.statisticsauthority.gov.uk/reports---correspondence/archive/statistics-commission-archive/research/report-33--the-use-made-of-official-statistics--march-2007-.pdf>

² <http://www.statisticsauthority.gov.uk/assessment/monitoring-and-assessment-notes/monitoring---assessment-note-4-2010---findings-from-the-first-50-assessment-reports.pdf>

³ <http://www.statisticsauthority.gov.uk/reports---correspondence/reports/strengthening-user-engagement--final-report.pdf>

periods. These things need not necessarily involve significant additional burdens on resources, particularly if they are considered at the planning stage.

7. Statisticians might consider the use made of the statistics for which they are responsible in the context of a generic framework (such as that at paragraph 14) and, on the basis of this analysis, offer a short summary of the ways in which they think that the statistics are, or might be, used.⁴ In many cases it may be sufficient to document *assumptions* about the use that is made of the statistics and build on that base. Any invalid assumptions are likely to be challenged by users – which will help promote dialogue in itself.
8. Having established a statement about use in this way, statisticians might then invite feedback from users, and use that as the basis for improving and sharing understanding of the use made of statistics, and hence the value of the statistics, and for identifying how unmet needs might be addressed.

Uses of official statistics

9. The Statistics Authority recognises that the use of official statistics is diffuse, often at several removes from the original data, and for all practical purposes, impossible to fully trace and document. But the fact that it cannot be comprehensively researched does not lessen the value of finding out as much as possible.
10. We take the term ‘user’ of statistics to mean any organisation or person whose decisions or actions are influenced by official statistics; and similarly ‘potential user’ is anyone who might be so influenced. This need not mean that the user directly inspects statistics or performs calculations. It may be more a matter of being influenced by messages derived from the statistics – for example, if crime statistics suggest that thefts of mobile phones are increasingly common, steps to prevent such thefts are deemed to be a use of statistics, regardless of whether those taking the steps have ever looked at the figures. Such uses matter because they create additional demand for statistical data to be available in particular forms and levels of detail. And of course they deliver additional value from the use of the statistics too.
11. The use of statistics in relation to government policy is often mentioned but rarely analysed. In considering the various uses in this context, these can be grouped in terms of *policy making* - considering the rationale for intervention, framing objectives, and appraising the options; and *policy monitoring* – reviewing outcomes, evaluating the policy intervention and refining it as appropriate.
12. It may also be helpful to think about the policy use of statistics at different levels of decision-making – to policy formulation, programmes and projects. For example, central government has policies concerning the provision of affordable housing; these are delivered through housing programmes of expenditure; and programme money is spent on a wide range of individual interventions, for example, in subsidising new social housing developments. The way in which statistics are used to inform decisions at these different levels will be of interest to distinct user groups – including: government, Parliament, opposition parties, representative groups from the construction industry, tenant representational groups, researchers, campaign groups, local government, the National Audit Office, and housing associations.
13. Official statistics are of course also used extensively to support a wide range of other types of decisions taken by organisations and individuals. Statistics on subjects such as road casualties, cancer waiting times, producer price indices, unemployment, and earnings, to name just a few, are used by many organisations in all sectors of society. They are also important social indicators and in that capacity inform Parliament and the public about the work and performance of government.
14. We tentatively suggest the following generic classes of use:
 - i. Informing the general public’s choices:
 - a. about investment decisions
 - b. about service providers
 - c. about lifestyle choices

⁴ See Code of Practice, Principle 1 Practice 2: “Investigate and document the needs of users of official statistics, the use made of existing statistics, and the types of decisions they inform”

- d. about the state of the economy, society and the environment
- e. about the performance of government and public bodies
- ii. Government decision making about policies, and associated decisions about related programmes and projects:
 - a. policy making
 - b. policy monitoring
- iii. Resource allocation – typically by central and local government
- iv. Informing private sector commercial choices:
 - a. targeting local markets
 - b. targeting households and individuals
 - c. designing market research surveys
- v. Informing public marketing campaigns
- vi. Supporting third sector activity:
 - a. lobbying
 - b. funding applications
- vii. Facilitating academic research.

15. Annex A illustrates this typology of uses, and provides some examples which taken together demonstrate the number and range of ways that official statistics add value.

Annex A

Examples of generic uses of official statistics

1. Informing the general public's choices:

- A. About investment decisions – Economic statistics from a range of sources may help to inform individuals' decisions to invest in the financial or property markets. While individual sources may inform users about specific developments such as local property prices, statistics produced by bodies such as HM Land Registry provide wider information on average property prices (and percentage increase) by region and type of accommodation. Similarly, while information on financial markets is widely available, official statistics on topics such as the consumer prices index and retail prices index - as well as wider issues such as the effect of Budget measures - can provide valuable background information to inform investment decisions.
- B. About service providers – for example, individuals' decisions about which hospital to attend may be based on, or at least informed by, official statistics. The NHS website has a Choice in the NHS section where hospitals in England are compared by care quality rating, hospital standardised mortality ratio and results from the national survey of inpatients. The statistics are explained and compared to the national average to help individuals to make more informed decisions. And some parents and students use school attainment and achievement statistics to inform their choice of primary and secondary school. The statistics provide a benchmark against which parents can assess the quality of the service the school provides. The statistics are presented at school level, so that parents can easily identify which schools in their area have achieved the best results in teacher assessments, examinations or tests. Parents may also use the statistics to hold their school accountable if they feel the school is not providing a good enough service.
- C. About lifestyle choices – for example, individuals' decisions about health behaviour, such as diet, alcohol intake or smoking. Statistics from the NHS Information Centre on obesity, physical activity and diet are used in health campaigns which influence choices that affect individuals' long-term health and life expectancy. Statistics on alcohol-related deaths (produced by ONS) and smoking-related deaths (produced by the NHS Information Centre) help individuals to make informed choices about smoking and drinking. As another example, individuals' decisions to use different forms of motor vehicle could be influenced by statistics on road casualties, or by statistics on carbon emissions.
- D. About the state of the economy, society and the environment – in support of democratic accountability. For example, the National Statistician's annual articles on the Economy, and on Migration, provide objective and accessible summaries to help inform the public.
- E. About the performance of government and public bodies – official statistics have a use in this respect as informing the citizen's monitoring of government policy and operational effectiveness:
 - a. for example, the Office for National Statistics' Centre for the Measurement of Government Activity (UKCeMGA) contributes to the accountability of government by providing statistics and analysis about change over time in the inputs, output and productivity of government-funded services. This includes measuring change over time in the quality of public services
 - b. monitoring progress against targets - for example, the National Child Measurement Programme measures and weighs children to help monitor progress against targets to improve the health and well-being of children and young people (the former PSA 12);
 - c. statistics on work related injury, illness and fatalities are used by the Health and Safety Executive to monitor progress against targets set out in the Revitalising Health and Safety strategy, as well as to target health and safety guidance, campaigns and enforcement activity.

2. Decision making about policies, programmes and projects:

- A. Policy making - for example, housing policy needs to be framed in the context of a range of statistics that will include information on the total housing stock, tenure types, characteristics of social housing tenants, housing market statistics and various trends over time. This can provide a basis for justifying the need for government intervention on social/equity grounds, and for identifying national housing policy objectives concerning, say, the provision of affordable housing.

Housing spending programmes may take the rationale for intervention as given, but will need to have more specific objectives that will provide both something to aim to achieve and the means for judging how successful the programme has been. If a programme operates on a geographical basis, then more detailed statistics may be used to understand local conditions (the local housing market).

A housing programme will be made up of individual projects/schemes that will have very specific objectives. Information needs here may be more akin to management information than disaggregated sets of official statistics.

- B. Policy monitoring - Once a policy has been determined (and associated programmes and projects have been rolled out), implementation needs to be monitored. Information gathering is at the heart of this activity. Official statistics are likely to be essential inputs to the monitoring of national policies, and may also be relevant to monitoring the implementation of spending programmes, depending on their nature. For example, if it becomes government policy to decrease the use of custodial sentences, statistics on offender management would be used to monitor progress. There would probably be a corresponding increase in the use of community orders and suspended sentences. Those statistics would be examined to see how many have to be terminated early because of re-offending or failure to meet requirements, and how many are completed successfully. If there are pilot programmes to test the impact of new alternatives to prison, then as part of the monitoring process the statistics in the pilot areas would be compared with those from other parts of the country.
3. Resource allocation – for example, the allocation of some £100 billion of public funding to local authorities and NHS Primary Care Trusts on the basis of information about population size and various aspects of local need. At the European level, EU Structural Funds are allocated on the basis of comparable statistics provided by each Member State on an average over three years of GDP per head.
4. Informing private sector commercial choices⁵:
- A. Targeting local markets - The targeting of local areas takes several forms. One of the most obvious is the evaluation of alternative sites for new enterprises. The big supermarkets put much effort into assessing the potential for new out of town stores in the 1980's by analysing populations within 15 or 20 minutes' drive of possible locations. More recently, many retailers have focussed on the opportunities offered by smaller outlets in urban areas. As well as openings, businesses also have to consider whether they need to close existing uneconomic outlets – this has been particularly apparent in the case of the Post Office, and also the financial services sector.

Another element of targeting areas is the importance of tailoring services to particular local (resident or working) populations. This leads into a further aspect of local targeting: trade in local areas can be encouraged by local marketing campaigns. Door to door leafleting is a well-established approach, and there is increasing scope for more accurate targeting. Local advertising, using both newspapers and billboards may also be brought into play, again driven by analysis of the local market.

In each of these cases, Census information is used to measure the size of the local population, and to classify it in various ways, typically by age and measures of affluence, a geodemographic classification, but also perhaps by additional variables such as ethnicity or religion. A frequent further step is the integration of market research

⁵ drawn from "Meeting the needs of Census users in the UK's private sector", Keith Dugmore – presented to the UN-ECE Work Session on Population and Housing Censuses, October 2009.

or customer information to produce financial estimates of the local demand for particular products and services.

- B. Targeting households and individuals - As well as assessing and targeting areas, Census outputs are also used to help to classify and target individual households and people. The way in which the Census is often used in this context is to produce geodemographic classifications of Census Output Areas – the smallest neighbourhood level. (Of course no Census information about identifiable individuals is ever released).

Geodemographic classifications such as Acorn and Mosaic are made available in the form of directories, which comprise a list of each postcode in the country, together with its neighbourhood classification. It is therefore possible to add a geodemographic code to each customer or address, and then analyse customer behaviour according to the type of neighbourhood in which they live. Some customer segments will be far more likely than others to buy certain products and services, or indeed, reject others: media such as direct mail can be targeted accordingly.

- C. Designing market research surveys - Much use is made of the Census for targeting small geographical areas, but it also underpins most mainstream market research conducted in the UK. The Census provides the bedrock of information about the dispersion of populations and households, which is essential for planning, controlling and executing all types of consumer research. Some populations – such as ethnic minorities or very affluent people – are almost absent from many areas of the country, and targeting can ensure that survey resources are used to maximum effect. Market researchers use the Census to ensure that they achieve representative samples of particular populations. These may be used to plan interviews of predetermined quotas of people in particular age and sex categories.

5. Informing public marketing campaigns – for example, the Health Protection Agency (HPA) has developed an influenza surveillance system that it uses to inform the public on emerging flu epidemics. The HPA used it throughout the recent H1N1 ('swine flu') pandemic to monitor the incidence and impact of the disease, and to inform public health policy in dealing with the consequences. The Sunsmart campaign, advising on how to be safe in the sun, also uses official statistics to inform the public on the risk of developing skin cancer.

6. Supporting third sector activity:

A. Lobbying - Official statistics are used to support the interests of lobby groups wanting to influence the policy-making of government. For example, in 2006, the Chartered Society of Physiotherapy (CSP) combined statistics on the number of people waiting to see a physiotherapist (published by the Information Services Directorate (ISD) of NHSScotland) with its own estimates of unemployment amongst graduate physiotherapists, to make a case for the expansion of the profession.

B. Funding applications – for example, the Sandwell Women's Agency Network's Domestic Violence Project involved the creation of a national, regional and local statistical picture using indices of multiple deprivation, police statistics, and NHS budgets, and were awarded £500k from the Big Lottery Fund.

7. Facilitating academic research - for example the Survey of English Housing dataset is deposited at the UK Data Archive and is widely used by academics. Recent uses include assessing energy efficiency in the English residential housing market. This relates to work carried out by the Department of Energy and Climate Change to meet the statutory targets for the improvement of energy efficiency in households - which sits at the core of domestic energy efficiency policy making and evaluation.