

UPDATE OF “ — — —, — — — AND STATISTICS!”

The appended postscript is a self-contained response to the helpful comments on the original piece, that the Chief Executive of North West London Strategic Health Authority addressed to the chairman of Community Voice.

A reference to Disraeli is more than enough to supply the five missing words in that all too frequently asserted cliché. For three decades, I fought the saying with reassurances such as “Figures can’t lie, but liars can figure”, and that all we needed is goodwill & understanding so that all those liars would be exposed — in such numbers as would be needed to explain the prevalence of misleading public statistics. I now believe that deliberate deception accounts for a relatively minor fraction of misleading statistics — but also that the ordinary measures of goodwill and understanding are no protection against the self and mutual deception that combines with a social acceptance of lazy thinking to put paid to truth.

English needs a new word to express that devastating combination. I suggest *dis-realism* which is no more than “Disraelism” as heard and written down by a Northern Irish schoolboy in a dictation exercise. It has two variants — the disrealism that simplifies things for *producers & conveyors* of statistics and the disrealism that spares *consumers* the effort needed for their critical appreciation.

Public trust questioned

Last November, I attended a joint meeting of the Social Statistics section of the Royal Statistical Society and the Social Research Association. The topic was a plat du jour — “Public confidence in official statistics”. Under the skilful chairmanship of David Rhind, head of the Statistics Commission, we heard speakers from the Office of National Statistics (ONS) and the market research organisation MORI worrying about how to build and measure public trust. After which, Simon Briscoe (the Financial Times Statistics Editor and author of *Britain in Numbers: The Essential Statistics*) entertained/embarrassed his audience with ten increasingly scandalous stories from his mistrust repertoire. The emphasis was on the so-called “official” statistics, in which the scandals are bad enough. So we did not hear much about the kind of statistical activity that is under the tight control, without any ONS oversight, of individual government departments. Next door to this Statistics Corner piece are two other pieces that illustrate the seriousness of the kind of statistical scandal that such largely concealed activity can so easily generate.

One piece examines the Department for Transport claims about the effectiveness of speed cameras in reducing road casualty numbers — the other exposes the entrails of the National Health Service (NHS) formula that now divides 60 billions among the 303 primary care trusts (PCTs) of England according to a faith-based formula devised in Scotland for England.

The audience at the Royal Statistical Society meeting were mainly civil servants and their clients, with only a sprinkling of outsiders. My own ‘question’ at the meeting was to ask them to look at a forthcoming paper¹ about the PCT funding formula and to consider what it said about public trust, before suggesting that England could do with an Institute for Statistical Standards. For that, I was savaged by one of the audience who expressed total confidence in the stamp of approval he was able to get for his work from gurus in The Treasury. Over tea, I got another drubbing from someone who was completely satisfied with the formula she was involved with, and who clearly rejected the right of an outsider to question any governmental formula.

I would have left the meeting downcast, if it had not been for a call by the chairman for a broadening of the definition of “official statistics” and thereby the ONS remit — a call that he repeated in January in his comment on Gordon Brown’s promise to set ONS free from Treasury control:

“The Statistics Commission hopes the promised legislation will include an extension of the National Statistician’s authority in relation to *all official figures—including those for which she currently has little direct responsibility.*” [My italics]

Public trust abused

England may not have an Institute for Statistical Standards but it does have a Flag Institute — which plays a walk-on part in the following story of statistical abuse.

The Chief Executive (CE) of the North West London Strategic Health Authority (SHA) had been invited to address a meeting of Community Voice (an umbrella group representing local people’s views on health services in NW London and SW Hertfordshire). Trafalgar Day intervened and vexillologist Donald Edwards had been drawn into the Today Programme’s amplification of Gordon Brown’s fresh favour towards “flying the flag” for Britain. Edwards mentioned the forthcoming meeting to his BBC minder, who happened to be interested in the current £30M deficit in the books of Hillingdon PCT and who expressed a

wish to attend the meeting. For whatever reason, the CE declined to come if the BBC were there. (I would have done the same had my purpose been to communicate in any depth with the audience: the Today Programme has an influential attention deficit syndrome.)

I am not a member of Community Voice and am therefore free to divulge, as an intruder, something of what the CE told the meeting in the course of his PowerPoint presentation. The CE's overall message was that NW London SHA does well out of the NHS compared with other SHAs and would continue to do so even when Mount Vernon Cancer Centre is moved to Hatfield. As a medical man, he argued strongly that cancer services should be organised on a "hub and spoke" principle but was far from convincing his audience, whose concern related not so much to the SHA as to the services for those living in the two outermost PCTs of the eight in the SHA. The CE's sixth 'slide', reproduced here, bears heavily on this question.

I do hope that, in presenting it, the CE was merely a "conveyor" and not a "producer", since the slide is a wondrous example of statistical abuse and therefore an abuse of the trust that the Community Voice audience ought to be able to have in what it hears from a senior NHS executive. That the CE was himself placing trust in others is suggested by his aside that these statistics, and the statistical modelling that generated them, had received some sort of Quality Assurance.

The slide, with its bold message that "NWL SPENDS MORE ON HEALTH CARE THAN OTHER SHAs", was introduced with little explanation of the figures other than giving them as "£m per 100k unified weighted population". The figures climb from a 97.5 for NE London to a 114.9 for NW London. Each figure is a ratio R of the form $R = \text{Num}/\text{Den}$ where Num is an unspecified £m and Den is an unexplained "unified weighted population" measured in convenient units of 100,000. The values of R were said to have been adjusted for "area costs" (high for London, low for areas like Northumberland) and "disease profile".

NWL SPENDS MORE ON HEALTHCARE THAN OTHER SHAs

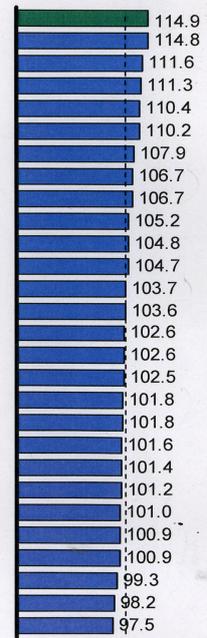
£m per 100k unified weighted population

- **SHAs 2003-04**

- **North West London**

- South West London
- South East London
- Avon, Gloucestershire & Wiltshire
- Surrey & Sussex
- North Central London
- Thames valley
- Hampshire & isle of Wight
- Norfolk, Suffolk & Cambridgeshire
- North & East Yorkshire & Northern Lincolnshire
- West Yorkshire
- South West peninsula
- Bedford & Hertfordshire
- Northumberland, Tyne & Wear
- Somerset & Dorset
- Greater Manchester
- Kent & Medway
- South Yorkshire
- West Midlands South
- Trent
- Leicestershire, Northamptonshire & Rutland
- Shropshire & Staffordshire
- Essex
- Cheshire & Merseyside
- Cumbria & Lancashire
- County Durham & Tees Valley
- Birmingham & The Black Country
- North East London

- **England Average 2003-04**



North West London **NHS**
Strategic Health Authority

The CE must have known that most of his audience would not be able to take away from the meeting more than his bold message and a sense of guilt for their Yimby (*Yes in my back-yard!*) selfishness. However a few, alerted by the talk of “adjustment” and “disease profile”, will have had doubts about what the CE was claiming — doubts not effaced by the passing reference to some “quality assurance”. This Civitas Statistics Corner has a readable piece entitled “Eye of Newt, Toe of Frog: A Good Formula for Health?” that will confirm their doubts. It explains the politically dubious and academically disreputable character of the denominator Den, which is nothing other than the formula that the Department of Health (DoH) uses to guide and eventually to determine the funding of PCTs.

In an attempt to reproduce the figures on the slide, I used the data in the DoH Exposition Book². For each SHA in turn, I took Num to be the total of the “2003/2004 allocation” (Table 4.1², column F) of funds to the PCTs in the SHA — and Den to be as the CE defined it (Table 4.3², column G). The results were well short of the figures on the slide, but when increased by 14% came very close (half of the 28 were within 1%, and the ratio of NW London to NE London was 1.16 instead of the CE’s 1.18). I conclude that those who devised the slide were using other figures than the PCT totals for the money that was spent in SHAs in 2003/4. But that is a small side-issue: the statistical abuse in which the CE was perhaps an unwitting contributor lies in that denominator, and in the baggage on its conveyor belt that the audience was not told about.

“Abuse” would be too strong a word for another side-issue in the CE’s talk to Community Voice but “irrelevance” would be too weak. Most of the audience came from Hillingdon and Harrow, the two NW London PCTs that are 10 miles out from innermost Westminster. An SHA has no direct control over PCT revenue budgets. The ratio R is easily calculated for individual PCTs just as I did for SHAs. For NE London, R varies by 23% from Barking & Dagenham to Redbridge. For NW London, it varies by 35% from Brent to Westminster. Both variations are the variations of interest to those who use the NHS. By a good margin, they exceed the 18% in the CE’s storyline.

Conclusion

The NHS is having a problem with the “quality assurance” of its statistical work, which should therefore be opened to external scrutiny of the sort envisaged by the head of the Statistics Commission.

References

1. Stone, M. and Galbraith, Jane (2006) How not to fund hospital and community health services in England. *Journal of the Royal Statistical Society. Series A (Statistics in Society)* **169**, 143-164. *Research Report 242*, www.ucl.ac.uk/stats/research.
2. Department of Health (2003) Resource Allocation Exposition Book, www.doh.gov.uk/allocations/2003-2006.index.htm.

Postscript

I was not the only one at the Community Voice meeting to be impressed by the CE's colourful slide. On their behalf, the chairman wrote to the CE for background information about the documentation that would explain, more precisely, what the slide showed. Meanwhile, this Civitas article was written largely to clarify that problem and then copied by the chairman to the CE for his comment. She has let me see the CE's response, which can be fairly summarised as follows:

1. A claim that my article has an

“unfortunate tone implying that the SHA is being deceptive”.

2. A claim that it makes

“a fundamental mistake in the numerator [\pounds m]. As the chart clearly states, this is actual 2003-4 spend not allocation. As it is well known NWLSHA is overspending, it is not really surprising that these figures exceed the Exposition Book allocations.”

3. A listing of the factors that determine each SHA's “unified weighted population” denominator, and the claim that

“because the resources received are, appropriately, weighted for population need factors shown to affect healthcare utilisation, it is entirely appropriate to use this weighting to compare actual spending as well.”

4. A statement that the PCT funding formula was

“devised by the internationally respected Health Economics Research Unit at York University”.

5. A suggestion that, if I have “any ideas for further improvement” of the formula, I should contact the Finance Directorate at the Department of Health.

The CE’s response is most welcome. It conveys an honest attempt by someone in the NHS to expose to public gaze the technicalities that underlie the CE’s slide. Unfortunately, the attempt misleads rather more than it informs and therefore calls for yet another round of comments — all in the same public interest:

Re 1. : Abuse of statistics can be either deliberate or unwitting, and so can ”deception” — as I had tried to make clear right at the start. I am sorry that what I wrote can be misinterpreted.

Re 2. : The “ $\mathcal{L}m$ ” on the CE’s slide does not specify “actual”. We still do not know the source used for the numerator. Moreover, NWLSHA’s is just one of the 28 SHA figures and so does not explain the (hardly fundamental) discrepancy I was able to patch up.

Re 3. : The “entirely appropriate” is no more than a comfort blanket. The real issue (addressed in the next door Civitas “Eye of Newt and Toe of Frog” piece) is whether the weights in a faith-based formula should be used to carve up billions.

Re 4. : Not so! Building blocks for the PCT funding formula were manufactured by IDS Scotland and cemented together by the DoH Finance Directorate. Incidentally, all academic groups are regarded as “internationally respected” by those who find reason to use their contracted research.

Re 5. : Over the years, there has been no shortage of contact or dearth of suggestions for improvement. The latter would require a root-and-branch rethink that DoH is clearly reluctant to initiate but that only DoH now has the power to do. In the recent adjournment debate on West London health services, the MP for Ruislip-Northwood dared to place a Teutonic cynicism in the pages of Hansard:

“whichever interpretation prevails at a given time is a function of power and not truth”.

Replace “interpretation” by “funding formula” and you turn an idea into a missile that may one day reach its thereby specified target, especially if the Statistics Commission takes an interest in the matter.

Mervyn Stone

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