Increased kidney donation rates in the Scottish NHS: a historical problem being successfully addressed

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On April 11, 2013, NHS Blood and Transplant (NHSBT) announced a ‘ground breaking 50% increase in deceased organ donors’.1 The UK had reached the target set after the Organ Donation Task Force (ODTF) 2008 report and this...
achievement was described as ‘an outstanding achievement that few thought possible’. The associated press release quoted Dr Paul Murphy, NHSBT’s national lead for organ donation as saying: ‘Delivering the 50% increase is a landmark event in donation and transplantation for the UK. It is testament to the changes we have made at every level in hospitals to deliver this’. The press release also gave an exact breakdown of donation rates for the four nations of the UK. The NHSBT figures presented described an increase in donation between the financial year before the ODTF (2007/8) and 2012/2013. In Wales, this equated to an increase of 15.6%, in England 49.1%, in Scotland 74.1%, and in Northern Ireland 81.8%.

Subsequently, Summers and colleagues3 presented an analysis of UK kidney donation, as published in this issue of the BJA, and concluded that regional variation in donation was present within the UK, with some regions being significant outliers. Their analysis used data from April 2010 to December 2011, which were obtained from the UK Potential Donor Audit (PDA). This short historical period, ending 2 yr before publication, did not include 2012–2013 PDA data—data which would have been available to NHSBT. Including the 2012–2013 data would have tracked the rapid increase in deceased donation and transplantation rates observed in the UK over these 2 yr—widely publicized by NHSBT earlier this year—and allowed trends in regional donation to be observed in more detail. A longer period of study would also have helped exclude common cause variation as an explanation for any regional differences observed. The analysis by Summers and colleagues could have avoided presenting conclusions—that could be interpreted by some as conclusions on the current UK pattern of organ donation rather than based on historical information.

The article standardizes donation rates by the number of critical care deaths per region. These data are conveniently derived from the UK PDA returns, but this standardization is of limited accuracy. The authors recognize some confounding factors in the study, but these are broader than those stated. Other potential confounding factors are lack of standardization for total critical care and neurointensive care capacity, intensive care unit (ICU) admission practices, ICU mortality rates, case mix, background co-morbidity, and retrieval stand-down practices. Furthermore, the UK PDA methodology is associated with significant limitations, which are not discussed and may be of relevance to the results observed.

Summers and colleagues compared donation rates in different geographical kidney donation zones which they describe as being ‘linked’ to individual transplant units. They noted a substantial variation between the zones in donation rates. The authors specifically identify ‘Glasgow’ as exhibiting a significantly reduced donation rate, more than 3 standard deviations below the UK regional mean. In reality, the authors are referring to a much larger geographical area in which donor kidneys [donation after circulatory death (DCD) and some donation after brain stem death (DBD) kidneys] are principally allocated to the West of Scotland Renal Transplant Unit, based in Glasgow. This geographical region, which reflects a very diverse range of critical care services, encompasses more than half of Scotland’s population and territorial health boards and ranges from Fort William in the Highlands to Dumfries in the Borders. The higher incidence of background co-morbidity and the lower life expectancy exhibited by sections of the general population in multiple geographical areas within the West of Scotland is well established, and these population differences are not explored in the study.

The nominal attribution of donation activity to zones named after the relevant transplant centre, such as ‘Glasgow’, is established within NHSBT’s data collection processes and is likely to continue. However, the use of regional zones in the context of organ donation rather than organ allocation/transplantation is confusing to those outside the transplant community. The presentation of organ donation data in this format in the Summers and colleagues study—where donation was attributed to the transplant unit and solely to ‘Glasgow’ rather than to the entire West of Scotland—is misleading and perhaps predictably has been associated with media reports describing ‘Glasgow’ as having the lowest rates of kidney donations in the UK.

The donation rates presented in the study must be and are entirely separate from the transplant units to which the figures are related. They largely relate to the practice of critical care units and Specialist Nurses in Organ Donation. This distinction requires clarification. In personnel terms, the separation of organ donation activity from organ retrieval forms an ethically essential structure through which any potential conflict of interest between potential donors and patients needing transplant is avoided.

Only those transplant units with National Organ Retrieval Service (NORS) programmes have any direct clinical links to the process of organ donation. A potential for these links in themselves to have a differential effect on donation rates is not explored. The West of Scotland transplant unit has performed no clinical activity in the deceased donation field since the establishment of the Edinburgh-based, Scottish national retrieval service (SORT) in 2009 in advance of the UK-wide commissioning of NORS in 2010.

As NHSBT’s April 2013 press release confirmed, in the time period since the study there has been a substantial increase in Scottish donation rates. This has continued through 2013, translating to a 60% increase in renal transplants performed in the West of Scotland Renal Transplant Unit (based in Glasgow), far outstripping the UK average increase. For those critical care units termed ‘Glasgow’ by Summers and colleagues, the increase in total deceased donor numbers between 2009/2010 and 2012/2013 has been 340% (Fig. 1). This has been, in keeping with the authors’ observations of UK trends, substantially due to an increase in locally allocated DCD kidney donors. However, this region has also delivered an increase in DCD donation of 189% since April 2010. We would therefore suggest that the authors’ observation that ‘Glasgow’ is an extreme low outlier in donation rate terms is almost certainly not reflective of the current situation in the West of Scotland, given a proportional increase in organ donation ~13 times larger than that observed in England and Wales during the same time period. Given the substantial increases in Scottish
organ donation and renal transplantation since the period analysed by Summers and colleagues, it is unclear that the reported variation in deceased kidney donation rates would remain if current data were analysed with a revised methodology.

It would have been fair to conclude that organ donation in the West of Scotland was at a rate lower than the national average in 2009/2010 (the year before Summers and colleagues' study) (Fig. 1a and 1b). However, this time period reflected an extremely hard-pressed period for critical care in terms of total critical care capacity and resourcing. 2009/2010 was also the time period over which many of the ODTF's 2008 recommendations (designed to increase donation rates) were implemented, resulting in extensive efforts across the NHS and beyond to make organ donation more 'usual' than 'unusual', as expressed by the 2008 report.

It would seem more accurate to observe that a substantial part of the potential for increasing kidney donation has already been achieved by the staff of the multiple critical care units in the West of Scotland DCD kidney donation zone. This magnitude of improvement can only be achieved through the buy-in of multiple staff groups putting in additional effort in a healthcare system that has a plethora of competing priorities. The criticism and negative publicity that has followed the article by Summers and colleagues risks a detrimental effect on a system already exhibiting positive change.

All NHS staff involved in organ donation and clinical transplantation in the West of Scotland recognize the importance of avoiding complacency and of continuing to identify further potential for organ donation. The observed increase in donors and transplants followed the appointment of Clinical Leads for Organ Donation, central employment of Specialist Nurses in Organ Donation, and the institution of Organ Donation Committees throughout the region. These steps, in line with the ODTF recommendations, have increased transplantation and increased awareness of organ donation across the wider NHS and community by using local innovative campaigns in social media such as ‘Respect MY Dying Wish’. This positive approach to organ donation contrasts with what has been perceived as negative publicity, after the recent BJA article.

All areas of the NHS are committed to improving donation rates and feedback and comparison are invaluable tools in improvement. It is unfortunate therefore that the study by Summers and colleagues used historical, no longer representative data with methodological flaws. In an article with several senior NHSBT authors, with access to the up-to-date form of this privileged national data, it is disappointing that more recent data were not used. We feel certain that NHSBT would not judge a ‘naming and shaming’ policy as the appropriate approach to improving organ donation, but the presentation of these data has been widely received as such. On-going efforts to improve organ donation rates may be better focused on the type of positive measures which have proven effective. It is also disappointing that this situation and its potential effects were not foreseen and avoided. Therefore, a more judicious and scientifically rigorous approach to the manner of publication of variations in donation rates—temporal or geographic—would have better served the morale of a strained critical care system. Similarly, the positive acknowledgement of excellent donation practices in the most successful regions around the UK should be very clearly attributed to the variety of critical care units, which have delivered them rather than presented in relation to subtending kidney transplant units.

**Declaration of interest**

None declared.

**References**


5 Glasgow’s donor data out of date. 2013. The Times December 17