

## Could the organ shortage ever be met?

A commonly expressed view is that increasing the number of donors will solve the organ shortage and in the UK there has been a 58 per cent increase in deceased organ donations from 2007-8 to 2014-15. The emphasis on encouraging donations is shown by the simple process for joining the organ donation register in UK that does not require informed consent in the way that term is normally understood in medicine. The consent form has a tick box 'I want to donate the following for transplantation after my death' (NHS Blood and Transplant). Children can join with parental permission – and around 30 per cent join age 16 to 25. There is no process for re-consent.

However, even Spain, taken to be the gold standard for deceased organ donation and with a system of presumed consent, has around 5,500 on the organ transplant waiting list. Given the smaller population this is a similar proportion to the UK's 7000 people. Even Singapore, which adopted a hard presumed consent system in 1987 in which organs are removed unless the deceased has opted out prior to death, has a reported waiting list of 500 in a population of 5 million.

Supply has increased in UK but demand is also rising. The numbers suffering from diseases that may lead to the need for a transplant is rising, particularly the incidence of type 2 diabetes and liver disease both of which are linked to lifestyle factors.. One third of those with diabetes will develop a kidney disorder. Not all the risk factors for type 2 diabetes can be controlled but according to Diabetes UK 80-85 per cent of the overall risk is from being obese or overweight. The numbers with alcohol-related liver disease is also rising and such patients received over a quarter of the liver transplants performed in the UK (Mail on-line 2013). . It is clear that demand has not yet been met by increased donations, even with the hard consent model used in Singapore

At the same time the numbers of usable organs per donor are reduced because UK donors are increasingly older, more obese, and less likely to have suffered a trauma-related death. More donations are made after cardiac death and, on average, fewer organs are retrieved than from donations after brain death. Finally the success of kidney transplants, the most commonly transplanted organ, increases the demand for re-transplants. Only half the kidneys transplanted last ten years or more.

Building new roads to reduce queues does not have the desired effect for long. With shorter journey times more people travel and the new roads are soon clogged up again (Dept. of Transport, 1996; Goodwin, 1996, Naess et al, 2012). In a similar way, increasing the organ supply and maintaining it at higher levels will not solve the shortage, because the number of organs required is not static. Demand is increasing. If the organ supply was unlimited, through xenotransplantation or tissue engineering, then attention would switch from supply to resourcing and whether organs should be offered to any patient who would benefit. This is not say that organ supply should be neglected but that demand and supply should be tackled together. If demand is to be stabilised then education needs to focus on preventable health conditions that lead both to organ failure and to a reduction in the usability of organs that are donated.

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## **Publication**

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