

Health Care and Society

Organ Transplantation

Twelve years ago, with the diagnosis of end stage chronic renal failure, my Father's details were added to the kidney transplant waiting list. He endured seven months of peritoneal dialysis which proved to be a poor substitute for a functioning kidney. As kidneys are usually transplanted between the same blood group, and my Father is AB+, the chances of a transplant at that time were reduced due to a lower numbers of AB+ donors. Fortunately in 2000 my Father received the gift of a kidney donation from his younger brother, who was a perfect match. His graft was successful, and he is still leading a full and normal life working as a pharmacist.

My uncle made a quick and uneventful recovery post donation, which has not impeded on his health to date. It was his suggestion that he became the organ donator. He said that although he didn't believe in God, he did believe in family and wanted to help. Without his generosity, my father's outlook may not have been so good. This would also have had a detrimental effect on my life and other members of my family. It is important to note the wider implications on society, which is the benefit and improvement to many people's lives through his role as a community pharmacist.

Although I was too young at the time to fully understand what was happening, I do remember the vast change in my family life. I will never forget the day a huge delivery of equipment needed for his dialysis arrived at our house. Daily life revolved around his dialysis and although he managed to work when not in hospital, he had very little energy for anything else. Within weeks of his transplant our lives went back to normal.

Over recent years I've learnt more about factors that can cause kidney failure, the process of diagnosis and treatment, including dialysis and transplantation. Kidney failure can happen to anyone although some people are predisposed to it, due to genetic and other factors. Hypertension and diabetes are two such factors. Both of these are on the increase with obesity being a contributing factor. As a result kidney failure is set to increase creating longer transplant waiting lists. A solution to this problem needs to be found.

According to organdonation.nhs.uk over 10,000 people in the UK are currently waiting for an organ transplant, of these 1000 people will die each year waiting, due to a shortage of donated organs.

A recent proposal for Wales from the Welsh Assembly Government is the introduction of an 'opt out system' for organ donation. The first of its kind in the UK.

The Government is expected to publish an Organ Donation Bill in June 2012 to bring in a system of presumed consent for organ donation. It is hoped the system will be in place in 2015.

The Organ Donation Bill would create an opt out system of organ donation. This means that unless an individual makes an objection their organs and tissues will be available for donation

after their death, but their families would still be consulted at the time of death, prior to donation.

Although exact details are not clear, the white paper proposes that it will include residents of Wales that die in Wales with a minimum age of 18 years. Proposals for recording people's wishes include a specific register of those people who have either objected, or not objected and a GP held record stating any objection.

Although the proposed opt out system is for Wales, not all the organs would stay in Wales for transplant, they could be given to anyone within the United Kingdom.

The plans to introduce opt out organ donation are supported by almost two thirds of Welsh people, it found 63% of voters backed a system of presumed consent and 31% were against, of which 67% of women and 59% of men favoured presumed consent. According to a BBC Wales poll (2.3.12)

The benefits of having an opt out scheme in Wales will reduce the number of people waiting for an organ transplant; this will reduce the number of deaths of people waiting for an organ and will improve their quality of life and life expectancy.

They hope this scheme will reduce the incidence of organ trafficking, where vulnerable, poor people are exploited. Organ trafficking has become a huge problem in countries such as India and is damaging to the fundamental concept of donation which should be a gift without coercion, or monetary gain.

There has been opposition from the church about an opt out organ donation scheme in Wales. The Archbishop of Wales, Dr Barry Morgan, claimed it "would undermine trust in doctors and nurses". He also said people's organs should be donated as a gift to others and not as an "asset of the state". (BBC news online 21 September 2011)

This highlights concerns that society may lose confidence in the medical profession, as some may worry that their care will be jeopardised in pursuit of their organs. Obviously this would not happen but these concerns which arise from ignorance need to be swiftly addressed to maintain the confidence in the integrity of the medical profession and protect the organ donation scheme. It is possible that this concern may be used as scare mongering from opposition groups, to support their argument against an opt out system. I see this to be a potential problem in the success of this bill.

End stage renal failure has huge implications on daily life. You feel generally unwell and are constantly exhausted, due to the high levels of toxins in your body that your kidneys are unable to excrete. Multiple dietary restrictions exclude many foods.

Frequent hospital visits for haemodialysis every two to three days, governs your life. You become unable to work or are forced to reduce your hours, which has financial implications resulting in patients feeling a burden on society.

Many people suffer from depression due to these restrictions and poor quality of life which affects both them and their family.

Although peritoneal dialysis allows more independence, it is not as effective at removing the toxins as haemodialysis. There is a high risk of developing a hernia due to the pressure on the abdominal wall, as a result patients become less mobile and are unable to lift any heavy objects.

In the majority of cases, where there has been a successful transplant, quality of life is greatly improved. Most people are able to return to a normal life, with a reduced number of hospital visits, blood tests and medical intervention.

However organ transplantation is not a suitable option for everyone. Some patients choose not to have a transplant due to religious or moral beliefs. Unfortunately a percentage will not be medically fit to undergo the surgery successfully. The surgery itself carries its own risks, there potentially can be many problems, both during and post operative. For example haemorrhage, infection, deep vein thrombosis and pain. There is the risk of graft failure soon after transplantation and patients are required to have counselling prior to surgery. Rejection of the graft and subsequent disappointment is discussed.

An important factor in the success of the graft depends on the patients' compliance with taking regular medication including immunosuppressant's, which are carefully tailored to each individual depending on blood results.

However, there are downsides to anti-rejection medications, compliance is one, patients believe they are better so reduce or stop taking their medication which results in graft failure.

Secondly there are side effects of the actual medication; you become more susceptible to other illnesses, as they lower the bodies' immunity to disease, such as infections, and a higher incidence of developing cancer.

Dietary restrictions improve but levels of sodium and potassium need to be considered. Certain foods are to be avoided, e.g. soft cheeses and pate as your body is less able to defend against bacteria such as Listeria, due to immunosuppressant medication.

Kidney transplantation is highly cost effective, and is the treatment choice for patients with end stage renal failure. As we all know, there will never be enough money in the NHS, but with an increase of donated organs, the amount of money spent on treating kidney failure would decrease dramatically, leaving more money available to treat other conditions, thus benefiting other members of society, as explained by the following figures.

- A patient with end stage renal failure on peritoneal dialysis costs £17,500 per patient per year and a patient on haemodialysis costs £35,000 per patient per year.
- Of those on dialysis, 76% are on haemodialysis and 24% on peritoneal dialysis. The average cost of dialysis is £30,800 per patient per year.

- 3% of the NHS budget is spent on kidney failure services.
- The indicative cost of a kidney transplant is £17,000 per patient per year.
- The immune-suppression required by a patient with a transplant costs around £5,000 per patient per year.
- The cost benefit of a kidney transplant in the second and subsequent years is around £25,800 per annum until graft failure.
- The median transplant survival time is ten years.
- At the end of March 2009, the UK Transplant registry had records of over 23,000 people in the United Kingdom with a functioning kidney transplant. These patients will save the NHS over £512 million per year in dialysis costs that they would need if they did not have a functioning kidney transplant.
- On the 3 May 2012 there were 6,318 patients waiting for a kidney transplant of which the majority will be on dialysis.

For the United Kingdom (current at 3.5.12) (taken from organdonation.nhs.uk)

Active Transplant list

	Total	Paediatric <18 yrs
Kidney	6318	83
Pancreas	43	2
Kidney/Pancreas	189	0
Pancreas Islets	24	0
Heart	166	16
Lung	211	15
Heart/Lung	16	3
Liver	504	41
Other (multi organ)	51	8
Total	7522	168

From this table we can see that 84% of patients waiting for a transplant are waiting for a kidney transplant. That is a huge deficit of kidneys.

The average waiting time for a kidney transplant is 1153 days for an adult and 307 days for a paediatric patient. Blood groups and genetic type affects the length of time a patient waits due to the need to match the donor and recipient. Paediatric patients are given priority; this is in part because dialysis can be very difficult in children and in part because children are likely to need more than one transplant in their lifetime.

There are many options of kidney donation;

Living donors:

- Directed donation is when a kidney is donated to a specific recipient known to the donor, eg. A family member or friend.
- Altruistic donor transplants, when a kidney is donated to a recipient unknown to the donor

Paired living kidney donor transplants, when a potential donor and recipient are not biologically compatible by blood group or tissue type, they join a list of others in the same situation with the hope of an exchange of kidneys with another donor and recipient pair.

Heart beating donors; when a patient in hospital is brain dead and only being kept alive by a ventilator, which when switched off would lead to the patient dying. Once these patients have been certified dead they are taken to theatre for the retrieval of their organs whilst the heart is still beating to keep the organs functioning for as long as possible to create better chances of survival for those organs.

Non-heart beating donors are patients that have suffered a cardiac arrest and cannot be resuscitated, but it is possible to flush the kidneys and liver with a cold preserving solution and remove the organs quickly to minimise any damage to the organs.

A record number of 567 non-heart beating donor kidney transplants took place in the United Kingdom between 1 April 2010 and 31 March 2011 and accounted for one in five kidney transplants. (organdonation.nhs.uk)

Twenty four countries within the European Union have some form of an opt-out system; one of the most successful systems is Spain with 34 donors per million inhabitants in 2010. In 2011 Spain had the highest rate of organ donations in the world.

To conclude I believe that an opt out system would benefit not only patients waiting for organs but society as a whole, as many recipients return to useful, productive lives, and many feel the need to give something back to society in memory of the person who gave life back to them. Patients who have been lucky enough to receive this gift often feel enormous gratitude to the donor and their family. Typically the family of donors take comfort in the knowledge that their loved ones are able to help others and save lives.

Many people when asked, agree with organ donation in principle but have never joined the organ donor register as they just haven't got around to opting in as it isn't a main priority, whereas if we had an opt out scheme, and people felt strongly against become a donor, they are likely to opt out.

The organ donation website asks the question; would you take an organ if you needed one? Nearly everyone would but only 29% are registered. It would be disappointing to think that the other 71% would be willing to receive something that they weren't prepared to give.

Currently there is no cure for end stage kidney failure. Dialysis and transplantation are the two treatments, with transplantation being the treatment of choice.

If this opt out organ donation bill is successful it will be a huge step forward for organ donation and will set an example for the rest of the United Kingdom to follow.