



No.30

'Body Crime': Human Organ Procurement and Alternatives to the International Black Market

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At present, approximately 2,000 Australians are waiting for a kidney transplant, though only about 500 transplants are performed each year. Those who still wait at least have the alternative of enduring the inconvenience of dialysis treatment until an organ is available. However, in many other countries, dialysis treatment is not an option. Nor is there a well developed cadaver organ retrieval program. The only choices are death or obtaining an organ from a live donor. Resort to exploitative and/or criminal practices may be seen as the only way out. Not surprisingly, a black market in organs has developed, in which organs fetch high prices.

This Trends and Issues examines the criminal consequences of the international organ shortage, and looks at alternative public policy strategies for boosting supply. All countries are faced with an organ shortage and it is increasingly possible for patients to travel to agencies around the world to acquire a transplant. Policy developments in this area will require the collaboration of both health officials and law enforcement agencies.

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Developments in human tissue transplantation over the past 15 years have generated much controversy about the ownership of the body, the relationship of the individual to the state, the role of governments and markets, and the legal definition of death. The success of human tissue transplantation has thrust what was previously considered as the realm of science fiction into the 'here and now', bringing with it the potential for macabre commercial exploitation of uninformed poorer citizens in the Third World.

In this report human organ procurement policies will be reviewed to assess the latent potential for criminal solutions to the problems of acute shortage in organ supply to meet the desperate demand. Shortage of kidneys for transplant, for example, presents the choice of life encumbered by dialysis treatment in developed countries, or death where no dialysis treatment is available. In these circumstances, people may be prepared to take extraordinary and sometimes criminal measures

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to obtain an organ for transplant, particularly where death is the only alternative. A variety of strategies to increase the supply of organs for transplant will also be assessed.

Of particular interest are the global consequences of decisions which curtail or limit the supply of organs in developed countries in the face of inelastic demand in those countries. Such policies may have the unintended effect of contributing to the proliferation of black markets in human organs.

Human Organ Procurement for Transplant

While considering organ procurement and distribution policies in general, this report will focus on kidney procurement in particular. Kidney procurement is of special interest in examining the potential for criminal or unethical procurement because kidneys may be obtained from living or dead donors. Moreover, they are one of the most commonly used organs in transplantation surgery. Current technology also permits the transplantation of corneas, skin, blood, bone cartilage, blood vessels, intestines, hormone producing glands (pituitary, thyroid, parathyroid, adrenal, testes, ovary), ear, liver, heart, lung and pancreatic tissue.

Recent improvements in immunosuppression and techniques for the preservation of organs have increased the success rate for organ transplants, resulting in greatly increased demand for human organs, particularly kidneys. As technology improves, it is likely that demand will increase rapidly, placing ever greater strains on an inadequate supply. Other organs, such as livers, hearts and lungs are also likely to be increasingly in demand as transplants of these organs become more routine. At present, supply of organs is the limiting factor in determining the total number of transplants of any sort.

Kidney Transplants

For people with end-stage renal disease, successful kidney transplantation offers the best chance for full rehabilitation and long-term survival. Transplantation is also the most cost-effective form of renal replacement therapy. It costs approximately \$A30,000 for kidney transplantation, plus ongoing costs of up to \$A10,000 per annum for drugs to counteract organ rejection. This compares favourably with \$A28,000 per annum for hospital dialysis treatment (Gordon 1990, personal communication). However, costs may vary considerably depending on many factors, including the health of the patient.

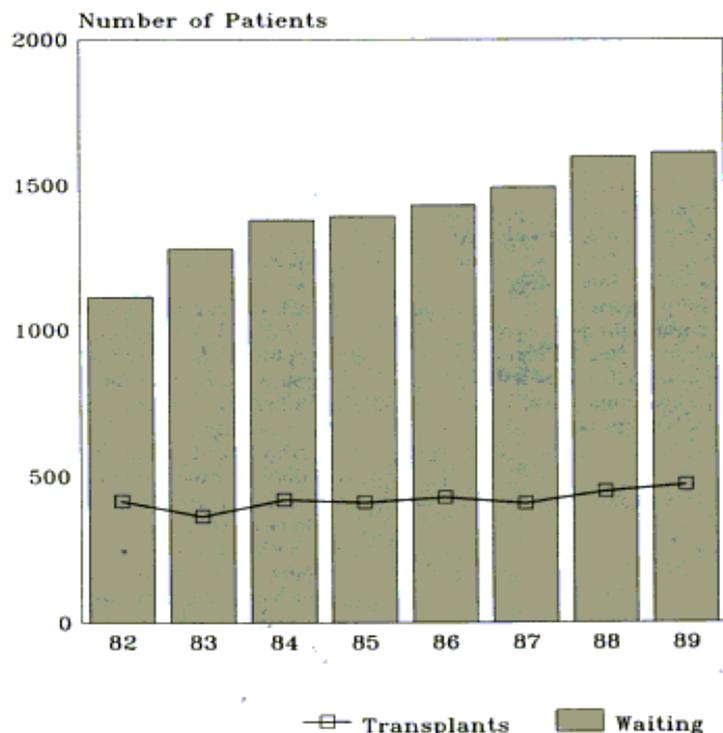
The immediate and short-term risks of complications from living donor nephrectomy (removal of a kidney) are those of any major operation. The quality of life and life expectancy of healthy kidney donors is not impaired as the appropriate functions can be performed by one kidney alone, though the donor loses the renal safety net he or she was born with.

Strategies for Organ Procurement

A number of methods for developing an increased supply of organs for transplant from cadaver or living donors are summarised below:

- Encourage altruistic cadaver donation of organs upon death; willing citizens would 'opt in' e.g. through a donor card system.
- Presume consent to cadaver donation of organs upon death unless otherwise declared; unwilling citizens would need to officially 'opt out' of donation.
- Encourage altruistic tissue donation from live unrelated or related donors.
- Encourage rewarded tissue donation from live unrelated donors e.g. offer compensation for inconvenience in the form of tax concessions.
- Allow market mechanisms to regulate the supply of organs through organ commerce.
- Use tissue from aborted fetuses - currently only used experimentally for the treatment of Parkinson's disease, Alzheimer's disease and diabetes. This issue has given rise

Figure 1: Patients awaiting Kidney Transplants, Australia, 1982-1989



Source: ANZDATA Registry, Adelaide

to acrimonious debate.

Organ Procurement in Australia

Following the publication of the Australian Law Reform Commission Report No. 7, *Human Tissue Transplants* in 1977, Australian states and territories enacted legislation based on the recommendations contained therein. The supply of organs in Australia is largely dependent upon the voluntary altruistic donation of cadaver organs, or 'opting in'. No financial inducements may be offered to donors except to defray expenses. Cadaver donation of organs is encouraged through community education campaigns. The supply from this source is vulnerable to shifts in public opinion due to adverse publicity and other factors, such as reductions in the road toll or the incidence of head injuries.

The present donor card/drivers licence system is not totally effective in implementing the potential donor's wishes, as next-of-kin may object to the extraction of organs. Although not legally required, consent of next-of-kin is sought to avert adverse publicity of the donor process.

Campaigns to increase public awareness of the need for cadaveric organ donation have been conducted by agencies such as the Australian Kidney Foundation and the Australian Red Cross. Intensive care staff and doctors have also been targeted to increase their awareness and highlight ways in which they can assist. The success of these campaigns in increasing the rate of organ donation has not been proven, although it has been shown that an increase in community awareness of need has resulted (Thomson 1990, personal communication).

Australia's current cadaver retrieval rate of 14 per million population may be compared with the retrieval rate of 24 per million population for Oxford in England, which also has an 'opting in' or presumed non-consent policy, though

this difference may be partly explained by the more localised and well-informed population in Oxford (Gordon 1990, personal communication). In Australia, at present, less than 3 per cent of road accident victims become organ donors. Potentially, at least 8 per cent would be suitable organ donors. Many more would be suitable corneal donors. The annual road toll is around 3,000.

People over 18 years of age may donate regenerative and non-regenerative tissue, providing informed consent is obtained. Persons under the age of 18 years may also donate regenerative tissue but in more restrictive circumstances. However, of the 470 kidney transplants performed in 1989, only 39 were from live donors, two of whom were unrelated live donors. Of course, some tissue is not obtainable from live donors, such as hearts and lungs, except from patients with lung disease who are concurrently undergoing heart/lung transplant, whose own heart may be quite healthy and available for transplant.

Shortage of Organs in Australia

The number of people requiring kidney transplants in Australia is about 2,000 at the present time, with about 400 transplants performed each year (*see* Figure 1). The average waiting time for a kidney transplant is three years. Fifty patients with liver disease, which is potentially treatable by transplants, die each year. Some 20 per cent of patients awaiting heart/lung transplants die because organs are not available. In New South Wales alone, 300 people are waiting for corneal transplants.

The Australian Red Cross knows of only two or three cases in which Australian patients have travelled overseas for kidney transplants. Because of the need for follow-up treatment, such cases would become known to transplant service providers. No cases of organs being brought into the country from anywhere apart from

New Zealand are known of. Some patients from the Asian-Pacific region have undergone transplants from living related donors in Australia.

Factors limiting the supply of organs, given the current organ procurement policy, include the hesitancy of hospital staff to burden grieving relatives with a request for organ donation from a dead loved-one. In many such cases death is unexpected, due to road trauma or cerebral haemorrhage. Relatives may be so shocked and overwhelmed that they are simply incapable of making any reasoned decision. There is limited public understanding of recent changes in the legal definition of death to include brain death. Because cardio-pulmonary function can be maintained artificially after brain death, the decision is made more difficult for relatives when the body of the deceased remains warm and breathing. Additionally, families may not have discussed their preferences about organ donation beforehand.

International Organ Shortage

At present no country is able to meet the demand for organs adequately, and waiting lists are growing at a faster rate than the supply of organs. The United States, Britain, and Canada all depend on voluntary, altruistic donation of organs for transplants. Most developed countries have cadaver organ procurement programs which require high cost intensive care facilities to maintain brain-dead patients until arrangements can be made for transplantation. These must be surplus to the needs of living patients. It costs approximately \$A2,500 per day to provide life support for a donor body (Health Issues Centre 1990, p. 19). In addition, an efficient centralised means of distributing and matching organs with recipients is essential to ensure equitable organ allocation.

Some developed countries have not developed an extensive cadaver organ procurement network for cultural reasons. For example, in Japan Shinto

religion does not permit mutilation of the body after death and it is believed that the dead body is impure and polluted. From 1964 to 1988, three-quarters of kidneys donated came from live donors, mostly parents of the recipient. Consequently, many Japanese patients seek kidney transplants on the international market.

Third World, wealthy patients seeking organs have fewer options than patients in the developed world, due to the lack of a cadaver organ procurement program and dialysis treatment facilities. This means the search for a suitable live donor becomes a matter of life and death. This situation would provide the most ethical surgeon with a great dilemma. 'Either I buy, or they die,' said Indian surgeon, K.C. Reddy paraphrasing the dilemma (Bailey 1990, p. 367).

As a consequence of bans on the sale of organs in Britain, North America, Canada and most European countries, Bombay, Hong Kong, Cairo and Manila have become the capitals of the kidney transplant trade. Here business can flourish unencumbered by restrictions applying elsewhere, although the standard of care of recipients and donors may not be ideal. Some of these centres employ surgeons who have been trained in the elite medical schools of Europe and North America, however.

The viability of organ trade will be enhanced by improvements in organ preservation techniques which have increased the length of time organs can remain fresh outside the body. Kidneys up to 72-hours-old may now be transplanted (Bowcott 1990, p. 4).

The international shortage has led to the proliferation of the unethical and criminal activities of the black market. Already transplant agencies speak of victim donors, referring to the practice of obtaining organs in Third World countries from impoverished citizens without informed and freely given consent.

Unscrupulous Organ Procurement

From time to time organisations such as Interpol investigate allegations that children from the Third World are murdered for illicit organ transplants. A recent instance referred to allegations of baby trade in the Brazilian province of Bahia, in which children sent to Europe, ostensibly for adoption, were later murdered, and their kidneys, testicles and hearts sold for between \$40,000 and \$100,000.' (Sydney Morning Herald, 26 September 1990 referring to an article from *The Guardian*.) The report also claimed that 'such a trade is known to exist in Mexico and Thailand.'

It was reported in the London *Daily Telegraph* that in Hong Kong one could purchase kidneys obtained from felons executed in Canton in the People's Republic of China for \$A11,000. Neither the prisoners nor their families were consulted. Two major Canton hospitals perform transplants of the kidneys. 'The transplants are not unethical as the criminals are making use of their last virtue,' Miss Ho Mei-sim of the Wei Kui Agency said (*The Herald*, 13 December 1988).

In the Philippines where organ commerce is permitted, it is possible for prisoners to have their sentences shortened in return for kidney donation (Health Issues Centre 1990, p. 15).

In 1989, four Turkish donors were paid \$A5000-\$A7000 each to let a kidney be removed and transplanted into wealthy patients at the private Humana Hospital in London. The donors were all healthy but impoverished: a peasant farmer finding it hard to feed his four young children; a twenty-dollar-a-week print worker who wanted to pay for a hip operation for his daughter; a part-time dressmaker left to raise two sons who wanted the money to pay rent arrears; a thirty-dollar-a-week driver wanting to finance treatment for his crippled father (Parry 1990, p. 4).

The Turkish brokers involved in the above case were alleged to have

received much larger sums, making a substantial profit. Subsequently the main broker in Turkey was found guilty of 'cheating people of their body organs', gaoled for two years and fined \$A300). The Harley Street physician involved was struck off the Medical Register and three surgeons had restrictions placed on their practice.

The defence in this case was that the foreign donors had all claimed to be related to the recipients, and thus met British live organ donation criteria. Several other cases of doctors being 'duped' by false claims about relationships between live donors and recipients have arisen. Legislation to outlaw organ sales was hastily introduced in Britain following the Turkish case.

The same Harley Street specialist was charged with professional misconduct over allegations of queue jumping: wealthy foreigners paid large sums of money to be treated before the other 3,600 National Health Scheme patients in line.

In another case just prior to the introduction of legislation prohibiting organ sales in England, a German count, Rainer Rene Adelman zu Adlemansfelden, styling himself as 'a specialist in legal loopholes', announced that he intended to set up a transplant kidney buying agency. His 'Organ Bureau' in Germany offered approximately \$A54,000 for a kidney to people with bad debts, identified through bankruptcy notices in newspapers. 'Selling a kidney is the way back into solvency,' he claimed. The transplants were to take place outside of Germany to avoid the law, his brochures said. He claimed to be able to sell more than 100 kidneys in a year, earning \$A10,000 per transaction. Such activity was within German law in 1989. Similar opportunities for blackmailing people into donating kidneys are imaginable.

It has been reported that private British hospitals accepted consignments of kidneys from the United States because they were too old for use by American surgeons fearful of litigation. Thus it is possible that international trade in

rejected organs could flourish. There is also the potential for fraudulent claims about the age of organs and the health of donors, in attempts to secure higher prices for organs.

Outright theft of organs has been reported. In an account in an Indian journal, a young man was taken to hospital by a middleman for a 'stomach ache' but had his kidney removed while undergoing surgery. He was later 'rewarded' with money from the Middle Eastern recipient (Abouna et al. 1990, p. 919).

Accounts of exploitation of organ recipients in the Third World are a further source of concern. Middle Eastern renal failure patients who acquired kidney grafts in India and elsewhere sometimes returned with mismatched kidneys, acute rejection, sepsis or other medical problems. Some patients are required to bring excessive amounts of immunosuppressive drugs with them to some transplant centres in India and the Philippines. The surplus is then sold by the centres to increase profits (Abouna et al. 1990, p. 918).

The Growth of a Black Market

The question arises whether the black market in human body parts is linked to strict regulations based on ethical principles in some countries in the First World. These regulations limit the supply of a scarce resource in the face of desperate demand, thereby generating the potential for supply to be met by unethical and criminal activity in less developed countries in which regulation is more difficult.

Already American nephrologists are anticipating that patients who face extensive waiting times in the United States because they have, say, a rare blood type and/or who may have a short life expectancy, will seek kidneys on the international market.

Consider the analogy proposed by Swan (1982, p. 12) in which he suggests replacing consideration of human 'spare parts' with automobile spare parts.

Suppose that by law the price of automobile parts were set at zero. For a while car repairers and panel beaters might rely on spares from scrapped cars (cadavers) and donations of non-vital parts from the owners of functioning cars to non-profit voluntary organisations like the 'Automobile Cross Society'. The supply of spares from General Motors and Ford, not being philanthropic organisations, would soon coagulate and congeal. At the regulated price of zero, an excess demand for spares would rapidly develop and the professional car strippers and spare parts thieves would conduct a profitable trade. A rapid growth in the black market for spares would be inevitable and no unattended vehicle would be safe from molestation (Swan 1982, p. 12).

While there are fundamental differences between the two products, it is obvious that apparent outcomes have disturbing similarities. As various means of increasing the rate of organ procurement are tried with limited success, second best options will inevitably be considered.

What is required is a successful strategy to overcome the inertia that inhibits potential donors from donating organs. This inertia arises out of distaste for considering the subject - doubts about their preferences, and fears of dismemberment after death. Various strategies have been proposed and some have been mentioned in this report. These range from attempts to modify prevailing social norms through publicity campaigns, so that it becomes the custom to donate rather than the converse; to providing financial incentives to compensate potential donors for the psychic cost of making a decision to donate.

Increasing the Supply of Organs

Market transactions involving human tissue have been prohibited in many countries because it is believed that the human body should not be allowed to become a commodity. It is believed that such transactions should be governed by norms of right or obligation, not market exchange. Similar non-market transactions include the acquisition and care of children.

Enhancing organ donation

It seems that the preferred option for organ procurement in the developed world is altruistic organ donation. Various means of enhancing this strategy have been tried, such as the Required Request legislation in the United States, which requires that the next-of-kin of all potential cadaver donors must be asked for consent to donate. This attempts to force hospital staff to overcome their reluctance to approach grieving relatives, and ensure that hospitals salvage organs from all potential altruistic donors. This strategy has not however, had a marked impact on increasing the rate of organ procurement. Donor consent rates actually declined following the introduction of this policy (Gaber et al. 1990, p. 319).

Presumed Consent or Routine Removal

Opinion polls consistently find that most people do not object to donating their organs upon death, though only a small percentage actually get around to declaring their consent officially. Routine removal policies attempt to exploit this implied consent.

In 14 European countries, including France, Austria, Czechoslovakia and Denmark, legislation has been enacted that allows organ procurement from cadavers of all citizens, unless they have specifically given an indication that they do not wish this to be so.

This policy is known as presumed consent or 'opting out', as opposed to the policy of 'opting in'. There is often no legal requirement to seek the consent of next-of-kin for organ retrieval.

Opportunities for French citizens to opt out are provided on each hospital admission, either to the family or the patient. In France, the presumed consent policy seems to have met with public acceptance. A considerable increase in the number of transplants able to be carried out has resulted. The lack of a central registry of non-consenting citizens presents difficulties in some cases (Benoit et al. 1990, p. 320). Presumably this obstacle may be overcome in the future.

The presumed consent alternative was raised in Australia by Dr Neal Blewett, then Minister for Health, for consideration by a working party set up by Australian Health Ministers.

I believe our country will be forced to move in a similar [presumed consent] direction unless our non-legislative efforts achieve a marked improvement to the current unacceptable shortage of available donor organs. (Blewett, Opening Address to International Congress of the Transplantation Society in Sydney, 14 August 1988)

Financial Incentives for Organ Donation

Organ commerce is seen as repugnant by most countries and was condemned by the World Health Organisation at its annual meeting in 1989. Organ commerce is also condemned by the Transplantation Society; the American Society of Transplant Surgeons; the European, the Canadian and the British Transplantation Societies. However, while organ commerce has been outlawed in the United States since 1984, the sale of frozen human sperm and bone has continued legally, with significantly little public outcry. It should also be acknowledged that already the medical/industrial

complex, including surgeons and drug companies, profit greatly from transplantation technology.

It has been claimed that decisions to outlaw organ commerce were made partly as a reaction to 'substantiated horror stories', requiring an urgent policy response (Sells 1990b, p. 935). Many of the lurid accounts which have been advanced as arguments against organ commerce are in reality the inevitable result of shortage of supply in the international context. They are the result of a flourishing black market which, not surprisingly, has no medical or business ethical standards, and no means of regulation.

However, a creative approach to a regulated market may well be able to accommodate ethical ideals. For example, it is possible for altruism to be designed into a market mechanism, or to design out any potential for exploitation of poorer citizens.

The crudest form of market transaction involves cash-in-hand payment to donors, sometimes involving brokers. There is obvious potential for exploitation here. For example, husbands have forced their wives to sell kidneys in some cases in India. Where broking agencies are involved, the donor may only receive a small part of the price the desperate recipient is prepared to pay, the broker pocketing the rest.

'Rewarded gifting' has been promoted as an alternative form of spot market, in which unrelated live donors could be fairly compensated with a non-transferable reward for the inconvenience and hospitalisation. Compensation could take the form of tuition subsidies for children, tax rebates, or payment of funeral expenses.

The development of some form of futures market in cadaver organs may offer the most palatable form of organ commerce. In an organised, publicly controlled future delivery market, an individual could contract to deliver body parts upon death, for financial consideration while alive and in good health. This would allow the decision to donate to be made rationally at a non-stressful time by the donor, who is also able to enjoy the reward. The

scheme could be entered into by potential donors for life, or on an annual basis with the option to contract out at renewal.

Payment to the donor could be in the form of a contribution to a charity of the supplier's choice to maintain altruistic organ donation. Alternatively, positive advantage could be taken of public inertia. If the reward was, say, a reduction in compulsory health insurance fees, individuals who chose not to be organ donors could pay a higher premium than people who participated. This would allay, to some extent, the fear that exploitation of the poor is inevitable in organ commerce. The potential practical application of futures markets is expanded upon in the work of Hansmann (1989), and Schwindt and Vining (1986).

Arguments Against Organ Commerce

Organ commerce has been outlawed in many countries, due to the potential for rich nations to benefit from the exploitation of poorer countries whose citizens are in such desperate poverty that they will sell parts of their bodies. Such citizens are unlikely to be able to take advantage of the technology themselves because health care priorities in Third World countries are dominated by the pressing issues of population control, communicable diseases, maternity and child care, and basic nutrition.

However, it has been argued that concern with the morality of the exploitation of the poor by the rich in trade in body parts is misplaced, as such exploitation goes on in so many other activities, reflecting the unequal distribution of wealth in the first place. It has been claimed that the 'increased risk of death to a healthy 35-year-old from giving up a single kidney is about the same as that involved in driving a car sixteen miles every workday' (Hansmann 1989, p. 72). Society already permits workers to undertake jobs with equal or greater risk, such as coal mining and construction work.

A commercial model of organ procurement from live donors may open doors to the exploitation of

individual recipients and donors alike. Informed consent of live donors may not always be obtained from donors with little education. The practice of organ commerce involving underinformed live donors may spread to removal of other organs such as the pancreas and liver which will have a fatal impact on the donor. If the price is high enough, buyers may ignore ethical and legal constraints.

In countries where organs may be bought or otherwise obtained from live unrelated donors, for example through a 'rewarded gift' program, the incentive to develop seriously a harvest program for local cadaveric organs for transplant is diminished. Ironically, the Middle East has the world's highest annual rate of traffic fatalities (about 250 per 1 million population) as well as one of the highest rates of renal failure, although cadaver procurement programs are not well established.

Organ Distribution

A desperately short supply of organs presents an onerous responsibility to transplant teams to ensure equitable distribution of a scarce resource. Perceptions of inequity in organ allocation will have adverse effects on the public's willingness to donate organs. Studies have revealed that access to high-technology medical care is often dependent on race, sex and income level. Kjellstrand claims that in the United States, 'woman and non-white patients had only two thirds the chance of men and white patients to receive a transplant' (Kjellstrand 1990, p. 964). Obvious potential for bribery and corruption exists. Close scrutiny to ensure that due process is universally observed is essential.

Society will increasingly be faced with 'second-best' options in trying to balance the needs of people requiring organ transplants with the development of a workable method of acquiring an adequate supply of organs. In public policy terms, does the provision of financial incentives to encourage organ donation provide more freedom for the individual than

presumed consent policies for cadaver organ procurement? Is the body priceless? Should society consider adopting both options? There is increasing pressure for society to make such choices, or continue to allow citizens to die for want of an adequate organ supply. There is also an international responsibility to increase and regulate organ supply to control the pressures which will lead to the exploitation of poorer citizens in an unregulated black market.

International agencies, such as the World Health Organisation through its WHO/CIOMS Project on Organ Transplantation, are acutely aware of the already drastic impact the world shortage of organs is having on tissue procurement practices in poorer countries. This project has resulted in the preparation of a draft international code of guiding principles on organ transplantation. Richer countries, like Australia, which is already participating in this project, will need to take into account the international consequences of their organ procurement policies.

Inevitably, the transplantation of human organs will emerge as an issue that will concern not only health officials but also law enforcement authorities. It is important that both groups begin to discuss the implications of policy developments in this area.

Select Bibliography

- Abouna, G.M. et al. 1990, 'Commercialisation in Human Organs: a Middle Eastern Perspective', *Transplantation Proceedings*, Vol. 22, No. 3 (June) pp. 918-21.
- Australian Law Reform Commission, 1977, *Human Tissue Transplants*, Report No. 7, Australian Government Publishing Service, Canberra.
- Australian Hospital*, January 1989, 'Broke? Get into the Organ Selling Business', p. 10.
- Bailey, R. 1990, 'Should I be Allowed to Buy Your Kidney?' *Forbes*, 28 May, pp. 365-71.
- Baker, M. 1988, 'Uproar over Kidney Sales', *The Herald*, 13 Dec., p. 12.
- Benoit, G. et al. 1990, 'Presumed Consent Law: Results of Its Application/ Outcome from an Epidemiologic Survey', *Transplantation Proceedings*, Vol. 22, No. 2 (April), pp. 320-2.
- Bowcott, O. 1990, 'World Scramble for Kidneys Exploits Poor', *The Guardian*, 5 April, p. 4.
- Brahams, D. 1989, 'Kidneys for Sale: Legislation is Needed,' *The Medico-Legal Journal*, Vol. 57, No. 2, pp. 73-5.
- 1990, 'Kidney Sales', *The Medico-Legal Journal*, Vol. 58, No. 2.
- Daar, A.S. et al. 1990, 'Ethics and Commerce in Live Donor Renal Transplantation: Classification of the Issues', *Transplantation Proceedings*, Vol. 22, No. 3 (June), pp. 922-4.
- 'Developments—Medical Technology and the Law', *Harvard Law Review*, Vol. 103, 1990, pp. 1519-79.
- Gaber, A.O., Hall, G. & Britt, L.G. 1990, 'An Assessment of the Impact of Required Request Legislation on the Availability of Cadaveric Organs for Transplantation', *Transplantation Proceedings*, Vol. 22, No. 2 (April), pp. 318-19.
- Hansmann, H. 1989, 'The Economics and Ethics of Markets for Human Organs', *Journal of Health Politics, Policy and Law*, Vol. 14, No. 1, Spring, pp. 57-85.
- Health Issues Centre and Association of District Health Councils of Victoria [1990], *Organ Transplants*, pp. 1-28.
- Hoyland, P. & Bosely, S. 1989, 'Dealer Offers £20,000 for Kidneys', *The Guardian*, 30 January.
- Iwasaki, Y., Fukao, K. & Iwasaki, H. 1990, 'Moral Principles of Kidney Donation in Japan', *Transplantation Proceedings*, Vol. 22, No. 3 (June), p. 963.
- Keyserlingk, E.W. 1990, 'Human Dignity and Donor — they Compatible with Efficiency in Cadaveric Human Organ Procurement?', *Transplantation Proceedings*, Vol. 22, No. 3, pp. 1005-6.
- Kjellstrand, C. 1990, 'The Distribution of Renal Transplants—Are Physicians Just?', *Transplantation Proceedings*, Vol. 22, No. 3 (June), pp. 964-5.
- Monaco, A.P. 1990, 'Transplantation: the State of the Art', *Transplantation Proceedings*, Vol. 22, No. 3 (June), pp. 896-901.
- Namihira, E. 1990, 'Shinto Concept Concerning the Dead Human Body', *Transplantation Proceedings*, Vol. 22, No. 3, pp. 940-1.
- Parry, G. 1990, 'Farmer fell Prey to Organ Harvesters', *The Guardian*, 5 April.
- Schwindt, R. & Vining, A.R. 1986, 'Proposal for a Future Delivery Market for Transplant Organs', *Journal of Health Politics, Policy and Law*, Vol. 11, No. 3, Fall, pp. 483-500.
- Sells, R.A. 1990a, 'Organ Commerce: Ethics and Expediency', *Transplantation Proceedings*, Vol. 22, No. 3, pp. 931-2.
- 1990b, in transcript of Discussion, *Transplantation Proceedings*, Vol. 22, No. 3, pp. 935-6.
- Swan, P. 1982, 'Is Law Reform Too Important to be Left to the Lawyers?: a Critique of Two Law Reform Commission Reports, Human Tissue Transplants and Insurance Agents and Brokers', in *Law and Economics*, eds R. Cranston & A. Schick, pp. 10-24.
- Sydney Morning Herald* 1990, "'Adopted" Children Killed for Transplants, Police Claim', 26 Sept.



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