

## Cooperation in Unethical Actions of Others

*Without attempting to be comprehensive, this article explains the ethics of some forms of cooperation by Catholic healthcare institutions and their staff with the unethical actions of others. The use of technical terms used by moralists is avoided as far as possible.*

**F**ollowing criticism of certain unethical practices performed in St John and Elizabeth, a large London Catholic Private Hospital, Cardinal Cormac Murphy O'Connor asked Lord Brennan, a Catholic Lawyer, to chair an inquiry into these allegations. Among other things, he recommended, 'that GPs at the hospital (who are required to sign the code) should be prevented from referring women for abortions or prescribing the morning-after pill'.<sup>1</sup> This inquiry provides an opportunity to reflect on the ethics of cooperating in the evil others do.

Sometimes a good act has the *unwanted, but foreseen side-effect* of helping another to do something that is morally wrong. This does not mean that such good actions should be omitted. Still, we are bound not to do unethical actions and to take reasonable steps to prevent others doing them. Giving guidance to Catholic hospitals and their staff on avoiding the likely pitfalls is a difficult task.

### Formal cooperation

It is imperative to refuse to do anything with the purpose of helping another succeed in performing an immoral act. This is what moral theologians call *formal* cooperation, i.e. 'if the intended "object" or "end" (including the chosen means) of one's action is precisely to contribute to the other's wrongful conduct, or if one otherwise shares in the other party's "bad will".'<sup>2</sup> Reflecting on how to answer the following questions may help in making a right judgement: 'Is it one's intention to assist in the other's wrongdoing, or is this assistance merely a side effect of one's action? Does one's cooperation amount to an endorsement of the other's wrongdoing?'<sup>3</sup>

Formal cooperation may be *explicit* by giving support to another's immoral action, even if one does not physically take part in it, e.g. by advising or referring a pregnant woman to have an abortion. In such cases doctors should explain in an honest, sensitive, non-judgemental discus-

sion without the need for confrontation why a referral cannot be given. Respect should be shown to the dignity of the woman and her conscientious views.

Formal cooperation is implicit if one's action is morally implied in the unethical action. If the scheduled anaesthetist for legal surgical abortions in a hospital is absent, a substitute anaesthetist, even if opposed to abortion, would be implicitly cooperating in the abortion: this assistance would be morally indistinguishable from abortion. Likewise, voluntarily handing the required instruments to the surgeon for abortion would be implicit cooperation. Voluntary cooperation by a nurse in carrying out a doctor's unethical directive to give a patient a lethal dose of drugs to cause death would be unethical. More than a case of cooperation, the nurse would be choosing to perform a lethal act that is inherently immoral, i.e. homicide.

### Material cooperation

Cooperation is said to be *material* if one provides assis-

### IN THIS ISSUE

Cooperation in Unethical Actions of Others	1
Strengthening Professional Practice	4
Emerging Transplantation Ethics	7
Stem Cell Technology Update	10

tance by an innocent external action without sharing in the immoral object of another. The evil object is foreseen but not willed nor intended. As the *Code of Ethical Standards for Catholic Health and Aged Care Services in Australia*, hereafter the *Code*, says: 'A well-informed and prudent agent will only choose to provide material cooperation when the legitimate benefits and prospective harms of cooperation are to be preferred to the legitimate benefits and harms of non-cooperation.'<sup>4</sup>

It is not always easy to determine if one has sufficient reason to justify cooperation. Greater reasons for material cooperation are required in the case of a serious evil or if the good name and values of a Catholic institution are at stake. The more one's freely given material cooperation helps another perform an immoral deed the more serious one's justifying reasons need to be. If an immoral action cannot be done without the help of another person, greater reasons would be required for ethical material cooperation on account of their indispensability.

Material cooperation is said to be *remote* when one's co-operative action makes little impact on whether another performs a bad action. Less serious reasons could justify *remote* material cooperation in another's unethical action. Hardship or justice may be a relevant factors in making judgements if non-cooperation could result in some harm or losing one's job. It would be legitimate material cooperation for an employee to sterilise instruments for surgery in a hospital, even if some instruments may occasionally be used for abortion. A hospital employee whose duties include cleaning the floors of operating theatres where abortions are sometimes performed would be justified to continue working there. On the other hand, material cooperation may be so remote as to have no practical moral significance: one would not be justified in refusing to pay taxes on the grounds that public revenue is used to fund abortions.

The *Code* gives good advice on decision making: 'In reaching a judgment on this question, one should consider carefully and objectively how important is the good one is pursuing and whether there are other ways of pursuing it; how serious are the evils to which one's cooperation would contribute, and the necessity and proximity of one's contribution to the success of the other's action; the foreseeable benefits and harms that would result from co-operating and from not cooperating, including any injustice one's cooperation would occasion.'<sup>5</sup> In practice, Catholic hospital staff should follow the *Code*.

## Scandal

Scandal is to be understood as moral harm resulting from an action that could reasonably be interpreted as approval by a Catholic individual or facility of an objectively unethical practice. It is no light matter to lead others to believe something unethical may be viewed as morally per-

missible. Genuine scandal does not refer to shock or hypocritical fault finding. In all cases scandal is always to be avoided: everything possible must be done to avoid or lessen the risk of moral harm being caused. Clear explanations of the reasons for cooperation go a long way towards dissipating scandal.

## Catholic hospitals and cooperation issues

The above principles for cooperation apply to institutions as well as to individuals since a Catholic hospital's health professionals are agents of the hospital whose policies staff are obliged to follow. Executives of a Catholic hospital should not approve a policy that permits or regulates cooperation in unethical practices, eg direct sterilisation, as this would involve formal cooperation and would be contrary to Catholic hospitals' mission to proclaim and defend Catholic Christian morals.<sup>6</sup> In cases of breaches of the *Code*, hospital executives should consider the general criteria of the Holy See's teaching on cooperation given in *Sterilization in Catholic Hospitals* before deciding on what action should be taken:

'The traditional teaching on material cooperation, with its appropriate distinctions between necessary and freely given co-operation, proximate and remote co-operation, remains valid, to be applied very prudently when the case demands it. When applying the principle of material co-operation, as the case warrants it, scandal and the danger of creating misunderstanding must be carefully avoided with the help of suitable explanation of what is going on.'<sup>7</sup>

Consider a hypothetical one-off situation of a woman with a complicated medical history and an uncooperative husband and who requests sterilisation because she must not have another pregnancy to avoid risks to her life and for the wellbeing of her family. If her doctor, after a careful evaluation of the case believes in good faith that cooperation is ethical and performs the sterilisation, the hospital executives have to decide on what appropriate action is required. It seems they should caution the doctor but would not be obliged to take further action in this exceptional case unless there were compelling reasons to do so. It would be similar in another case where a woman is in hospital to undergo emergency abdominal surgery and requests sterilisation and it is impossible for her to go elsewhere. Suppose her doctor in good faith complies and does the sterilisation to spare her another operation, more anaesthesia and extra costs. It seems, after cautioning the doctor, the hospital executives may ethically decide to take no further action against the doctor. But it would be a different matter if a doctor, after a warning, continued to do direct sterilisations routinely without regard for the hospital's policy. This would warrant prompt action by the hospital authorities to uphold their policy. However, respect due to doctors' professional integrity and good faith when making decisions in exceptional cases of moral conflict should not be to the detriment of upholding

the hospital's moral principles. Choosing to perform direct sterilisation is not justified by good motives or intentions.

Cases of remote material cooperation by an employee in a minor matter may be tolerated by Catholic hospital provided harm or injustice is not done to a third party.<sup>12</sup>

It would be ethically permissible for a Catholic facility to collaborate with a non-Catholic hospital to compare methods and outcomes of neonatal care for mutual benefit even though in another section of the same hospital abortions may be performed. In this case, there would be no risk of material cooperation with abortion: neonatologists are loath to participate in abortions. But 'if a Catholic institution entered into a contractual arrangement with another party, with the intention of providing some services prohibited by Catholic teaching, such a contract would involve formal cooperation in those prohibited services.'<sup>8</sup>

## Cooperation in leased premises

Unlike staff employed in a Catholic hospital, doctors who lease rooms for private practice in a Catholic hospital are not its agents. In this situation signed written agreements need to be prepared specifying that procedures contrary to Catholic teachings and the *Code* are not permitted, e.g. conducting an IVF clinic. Appropriate sanctions would need to be included in lease agreements. Failure on the part of executives of a Catholic hospital to take feasible appropriate action against a clinic's lessee when serious moral infringements come to light would at least involve unjustified material, and possibly implicit formal, cooperation, especially if human life is at risk. If warnings are not heeded, and no provision exists obligating doctors to work within Catholic ethical guidelines and no sanctions are in place, legal advice should be sought on terminating the lease.

## Prenatal diagnosis and cooperation in abortion

Pope John Paul II taught that prenatal diagnostic tests are ethically permissible: 'When they do not involve disproportionate risks for the child and the mother, and are meant to make possible early therapy or even to favour a serene and informed acceptance of the child not yet born, these techniques are morally licit.'<sup>9</sup> Unless a woman intends to abort a fetus detected with an abnormality, prenatal diagnosis is ethically distinct from any subsequent decision to have an abortion.<sup>10</sup> Attending clinicians would be free from co-operation in her decision to abort, provided there are no reasonable grounds to believe she wants the test with an intention to have an abortion depending on the results. Usually 'an intention to terminate a wanted pregnancy would not be formed before it was confirmed the fetus was abnormal'.<sup>11</sup> Although it is known that about 4.4% of cases of prenatal diagnosis end

in abortion, the results of about 95.6% of cases indicate that the abnormalities for which they are tested are not detected. Hence the remote material cooperation given by Catholic hospitals to a small percentage of mothers who abuse the service is proportionately justified by benefits offered to the vast majority of mothers who should not be denied this valuable service.<sup>12</sup>

## Contraception

Catholic teaching on contraception refers to married acts as clearly stated by Pope Paul VI: 'any marriage act must remain *per se* destined to procreation'.<sup>13</sup> Without prejudice to the objective truth of this teaching the Church admits that 'particular circumstances surrounding an objectively evil human act, while they cannot make it objectively virtuous, can make it inculpable ...'.<sup>14</sup> A doctor may respect the good faith of a married woman who requests a prescription for contraceptive pills, but this alone would not objectively justify such material cooperation. It would be necessary that

- i. 'the doctor does not subscribe to nor approve the wrong intention or action of the couple;
- ii. that the action by which the doctor gives co-operation be not in itself an immoral act;
- iii. that a proportionately grave cause constrains him to co-operate;
- iv. that he does everything possible so that his co-operation is not interpreted as approval, and that there is not public scandal; or should there be such, that it is opportunely removed, in particular the scandal of the Church's doctrine on contraception being obscured before the eyes of society.'

A proportionately grave cause could be a doctor's belief that he/she should not jeopardise a long-term beneficial professional relationship with a patient trying to keep her family and marriage intact. In this way the general policy forbidding the prescribing of contraceptives would be upheld provided steps are taken to minimise any potential scandal, e.g., by not stocking contraceptive pills in the hospital's pharmacy. Doctors should not prescribe abortifacient pills.

It needs to be noted that in professional practices privacy and the avoidance of gossip are paramount. An atmosphere of trust should exist where doctors, instructed in the relevant Catholic moral principles, carry out their professional work in a morally responsible way in harmony with Catholic teaching. Obviously the prescription of contraceptive pills to treat a pathological condition such as endometriosis or acne is morally permissible.

Catholic teaching is morally opposed to sexual intercourse outside of marriage, with or without the use of contraceptives. Whilst women usually go to their GPs for prescriptions for contraceptive pills, some unmarried women could consult specialists in Catholic hospitals.

The prescribing of contraceptives to facilitate extramarital or premarital sex would be immoral. Where it is known that extramarital or premarital sex will take place regardless, doctors need to exercise prudential discernment in each case.

## Conclusion

The Second Vatican Council gave this advice to lay people for discharging their duties: ‘It is their task to cultivate a properly informed conscience and to impress the divine law on the affairs of the earthly city. For guidance and spiritual strength let them turn to the clergy; but let them realize that their pastors will not always be so expert as to have a ready answer to every problem, even every grave problem, that arises; this is not the role of the clergy: it is rather the task of lay people to shoulder their responsibilities under the guidance of Christian wisdom and with careful attention to the teaching authority of the Church.’<sup>16</sup>

Making decisions on whether Catholic clinicians or hospitals may ethically cooperate with others who perform unethical procedures requires prudent Christian discernment on a case by case basis in keeping with Catholic teaching and the directives of the local bishop. The opinion of a hospital’s select group of staff, an ethicist and/or moral theologian would help discern when a proportionately grave cause justifies cooperation and thereby collusion with evil would be avoided. Much can be learnt from the Gospels when Jesus determined the right thing to do according to the circumstances. Once He drove traders out of the temple, and another time He told the

woman about to be stoned for adultery to go and sin no more. Again, in one of Jesus’ parables the servants are told to allow the wheat and weeds to grow together until the harvest time ‘for in gathering the weeds you would uproot the wheat along with them.’ (Matthew, 13:29).

## ENDNOTES

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- <sup>3</sup> Ibid. 63
- <sup>4</sup> Ibid. 64.
- <sup>5</sup> Ibid. 64.
- <sup>6</sup> Congregation for the Doctrine of the Faith, ‘Sterilization in Catholic Hospitals’, Vatican Council II- More Conciliar Documents, ed. Austin Flannery OP, Dublin: Dominican Publications, 1982, 444-45.
- <sup>7</sup> Ibid. 455.
- <sup>8</sup> Code, 63.
- <sup>9</sup> Pope John Paul II, *The Gospel of Life* n. 63:
- <sup>10</sup> Ford, N M, *The Prenatal Person. Ethics from Conception to Birth*, Oxford: Blackwell Publishing, 2002, 137.
- <sup>11</sup> Ibid. 137
- <sup>12</sup> Ibid. 137-38.
- <sup>13</sup> Pope Paul VI, *Humanae Vitae*, N. 11; also Nos. 8-12.
- <sup>14</sup> Congregation for the Clergy, ‘The Washington Case’, Austin Flannery, 420.
- <sup>15</sup> Replies to Questions Submitted to the Congregation of the Doctrine of the Faith with Respect to Conscience and Family Planning’ 1974. Response 4.
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Norman M Ford SDB



# Strengthening Professional Practice

*Ultimately, organisational culture can be a source of support to facilitate the nurses reach for optimal performance outcomes, or it can be source of pressure, intensifying the complexity of patient care.*

## Introduction

Entrusted with the integration of patient care, the nursing profession make up over 50% of the health care workforce in Australia.<sup>1</sup> The shortage of registered nurses necessitates that management move their attention towards those organisational dynamics which improve the retention of nurses, reducing the potential for high turnover from hospital to hospital. Synthesis of the available literature suggests that inhibitive organisational culture (low levels of structural empowerment) can make the work of nurses more difficult.<sup>2</sup> Additionally, role dissonance and conflict (diminished autonomy), burnout, and job dissatisfaction can precipitate intent to leave the nursing profession.<sup>3,4,5,6</sup> Aiken et al found that ‘43% of nurses who report high burnout and are dissatisfied with their jobs intend to leave their current job within the next 12 months...’<sup>7</sup> A tertiary teaching hospital has publicly shared in two *journal articles* how it addressed retention

issues, and how the accompanying transformation of organisational culture secured their differentiation in the health care industry<sup>8,9</sup> With a growing awareness of organisational dimensions that make the work of nurses more effective, a lot can be gained from investing in strategies that are proven to enhance job satisfaction.

## Organisational culture

Nurses are an invaluable resource whose expertise in critical thinking, assessment, care planning and patient monitoring, contribute to the safety, comfort and wellbeing of the hospitalised patient. Aiken suggests that ‘Registered nurses constitute an around the clock surveillance system in hospitals for early detection and prompt intervention when patients’ conditions deteriorate.’<sup>10</sup> Careful attention to the dynamics of such a surveillance system reveals that nursing care outcomes are sensitive to organisational culture and workplace dynamics.

Far from a static influence, organisational culture affects the quality and standards of nursing care practice. It embodies the values, priorities and goals of the organisation that are endorsed by management. Organisational culture authenticates organisational identity and socialises employees into particular patterns of behaviour, thought and practice. It will influence, for instance, the likely course of action taken in response to mistakes and error. For example, whether the emphasis is placed on the performance of individuals where a culture of blame is the tendency, or alternatively, whether there are systemic procedures and checks in place, in which all staff partake in a framework that supports a culture of learning. A vigorous and robust emphasis on evidenced based practice is optimised in a culture of learning, where information sharing is valued. Organisational culture can be a source of support to facilitate professional nursing practice, or it can work to intensify the complexity of patient care, placing more stress on the surrounding hospital staff.

Nursing care outcomes are strengthened when the organisation builds systemic responses to support and guide members of the profession. This is of increasing importance to nursing care in the management of patient treatment complications and high risk patient care, such as neonatal intensive care. The significance of systemic support lies in the utility of structural empowerment. Structural empowerment is built from systemic processes that facilitate organisational outcomes and enhance the professional domains of an employee's work. Manojlovich explains that 'Structural empowerment is a concept that refers to four social structure factors in the environment that, when available, promote employee effectiveness and satisfaction. These factors are opportunity, information, resources and support (Kanter, 1993).'<sup>11</sup> Put in simpler terms, in a broadcast on *Radio National* James asks 'How do we create an environment in which it's easier to do it right, and hard to fail?'.<sup>12</sup>

## **When autonomy & teamwork break down**

Autonomous practice governs the independent and interdependent judgement of nurses and centres on the whole patient in the context of the patient's care needs.<sup>13</sup> Autonomous nursing practice better equips the nurse to meet the required standards of nursing care. Organisational dynamics which undermine professional autonomy, and that increasingly distance nurses from the support of a team structure, are central to the kinds of work tensions that are problematic.

In a discussion on values dissonance, Kilstoff et al highlights that role conflict and feelings of inadequacy may be particularly problematic for new graduates. Kilstoff remarks the six new graduates:

...had believed they would be able to organise and plan their work autonomously around patient needs

and their work could be more individually organised (Chang and Hancock 2003; Duchscher 2001; Chang and Daly 2001). However, the reality was that they had to complete most aspects of their work within a predetermined routine and little time was left for providing the level of nursing care they thought was important (Kelly 1998).<sup>14</sup>

One of the main difficulties highlighted in this excerpt is the difficulty in reconciling that autonomous practice is often substituted by a style of patient care that is decreasingly patient centred and more task based, due to significant time pressure associated with a heavy workload. A particularly damaging outcome for nursing staff in this predicament is the feeling of a lack of control over patient outcomes, nursing process and intervention. Krogstad et al state 'Aiken and others found that nurses experience frustration and burnout because of lack of control over work conditions that determine the job for which they are responsible'.<sup>15</sup>

Where nurses experience a lack of control over outcomes it is also more likely that the quality of the relationship between the nurse and patient is also weaker. This compromise could be dangerous as Hagbaghery illuminates, that 'competent decision making' requires 'a close relationship to the patients to make a "deep understanding of the clinical picture"'.<sup>16</sup> This should be carefully considered as the hospital is morally responsible for all such aspects of care, and would be legally liable if harm comes to patients through any compromise with the required standards.

Whilst increasing years of experience may ameliorate some of the intensity of such forms of role complexity, the outcomes of more extensive workforce reviews alternatively indicate that these, and similar problems affect the workforce in general, not just new nursing graduates. This is consistent with the study undertaken by Takase et al, who report that 'length of clinical experience did not moderate the difference between perceived ideal and actual nursing roles'.<sup>17</sup> In Australia the 2005 Productivity Commission Research Report into the Australian Health care Workforce said:

Many participants commented on a range of factors that adversely affect the job satisfaction of workers and thus their productivity and ultimately, their willingness to remain in or re enter the health workforce...In addition, a high proportion of new graduates either choose not to practise nursing or to leave the profession after just a few years of employment. The significance of this issue, however, varies considerably across jurisdictions and even across hospitals within the same jurisdiction.<sup>18</sup>

This sobering message is not isolated to Australia. The

Canadian Health Services Research Foundation suggests that 'Canada's nursing shortage is at least in part due to a work environment that burns out the experienced and discourages new recruits. But that environment can be changed.'<sup>19</sup> Similarly, Laschinger et al refer to the 2004 Washington Institute of Medicine finding that there were 'serious concerns about the impact of hospital restructuring in the 1990's on nursing work environments and patient safety outcomes.'<sup>20</sup> Laschinger refers to the report's findings that 'these conditions are caused by organizational management practices, work design issues, organizational culture, and the ways nurses are deployed in current inpatient settings.'<sup>21</sup>

## How team work strengthens autonomy

A range of strategies have well documented success in enriching the organisation, particularly in optimising the conditions which enhance the professional practice of nurses. Attention will be given to the importance of effective team work. The duality of team work and autonomous professional practice is just one of the important features underpinning the effective surveillance of patient safety. This is particularly relevant to the nursing profession as Rafferty et al state: 'the analysis showed that team work and autonomy were significantly correlated with each other ( $0.6, p<0.01$ ). Nurses with higher levels of teamwork also had higher levels of autonomy and were more involved in decision making.'<sup>22</sup>

The increased latitude for decision making associated with professional autonomy is enhanced with effective team work because trust and collaboration become a potential support structure and resource for staff to draw on. MacDonald affirms this idea and suggests:

the autonomy of both the profession as a collective and individual nurses in their work – is relational in nature. That is, I contend that professional autonomy finds its sources in supportive social relations and is threatened when those relations are either weak or absent.<sup>23</sup>

In response to important organisational issues, collegiality, shared focus and meaningful participation in strategy development may buffer the effects of difficult and demanding situations. This may prove instrumental in assisting employees to successfully address complex problems. Carlopio et al illuminates how participation in teamwork helps people: It may 'improve understanding and acceptance among individuals involved in problem solving and decision making due to team members' participation in the process.'<sup>24</sup> This posturing enhances the healthy interdependence of team members and better positions them to make effective decisions regarding patient care. Team work can also decrease the stress caused by feelings of isolation, which may evolve when people individually struggle to cope with the demands of a complex problem.

The salience of team work is found in the sense of belonging that comes from working together and in sharing goals. Rafferty found that 'Nurses who reported higher levels of teamwork were also significantly more likely to be satisfied with their jobs and planned to stay in them, and were more likely to have lower burnout scores...'<sup>25</sup> The positive effects of team work are cited across different industry sectors. Carlopio writes 'In Australia there are well-documented cases of greater participation in decision making leading to reduced stress and greater job satisfaction.'<sup>26</sup> Carlopio presents the case of Ford Motors, in Victoria, Australia, illustrating how an effort to build a culture that valued teamwork remedied their problem of absenteeism.<sup>27</sup> However here, an example is provided from within the health industry by the Mercy Hospital for Women. The following excerpt from Collette reveals how a team based approach to problem solving enriches the organisation. Collette says:

A project to improve recruitment and retention, which invested strongly in open participation and in developing the capacities of the team members, was successful in reducing the numbers of nursing staff intending to leave, and in improving nurses' perceptions of the organisational culture.<sup>28</sup>

Whilst this is good testament to the benefits of effective team work it is important that the considerable effort invested to produce effective teamwork is not overlooked. The following are just some of the basic dimensions that should be given consideration.

Effective team work needs to be supported by a structure through:

*1. A leader who is committed and endorsed to:*

- Foster the diffusion of a sense of shared purpose;
- Guide transparent and strategic direction;
- Respect the autonomy of the individual team members<sup>29</sup>;
- Secure the teams commitment to agreed performance measures<sup>30</sup>; and
- Ensure adequate training and resources are provided<sup>31</sup>.

*2. Team members who are committed to:*

- Set clear goals to achieve their vision<sup>32</sup>;
- Respect the values of the team;
- Maintain open communication; and
- Seek continuous improvement.

Effective team work that is endorsed by management is shaped by the fabric of the organisation's culture, management structure and performance management systems. It stands to reason that some organisational cultures do not promote team work and not all groups of people who work together form effective teams. People need to be able to share goals, commitment, trust and accountability

if team work is to have any real legitimacy.

## Conclusion

The model of acute care service provision used by hospitals today means that registered nurses are the professional body entrusted to provide around the clock and continuous patient care. The health and wellbeing of this workforce is needed to support good patient care. In paving the way forward there is value in pausing to examine the dynamics governing the interaction of the workforce and the effects of this on individual patients.

### ENDNOTES

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- <sup>27</sup> Ibid.
- <sup>28</sup> Collette JE, 'Retention of Nursing Staff' 349.
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- <sup>30,31,32</sup> Ibid.

Kate Jones



## Emerging Transplantation Ethics

According to Kidney Health Australia, there are about 2000 Australians waiting for an organ transplant. The waiting list is about one year for a liver and four years for a kidney. At least one person on the waiting list dies every week. Organ donation is only possible in less than 1% of all deaths. This is because the donor must die in a hospital whilst on a ventilator. Since 1965, 30,000 transplants have been done. Survival rates exceed 90% in the first year.<sup>1</sup>

### Organ donation

In Australia, organ donation is considered a gift. Trade in human organs and tissues is illegal. Australians can confidentially record their intentions about organ donation with the *Australian Organ Donor Registry*. In Australia the

choice to become an organ donor is currently an 'opt-in' process and inclusion on the Donor Register is voluntary.<sup>2</sup> Australians can also use the same process to declare if they do not wish to donate organs, which may help clarify the issue for some families. If no formal declaration has been made and potential donor's wishes are unknown, then the usual practice is to approach the next-of-kin to

discuss the issue before seeking consent.

At the moment, the demand for viable tissue far exceeds supply. Organ donation is almost the ultimate gift a person can make to benefit humanity. Even so, any person seeking to donate an organ, or consent on behalf of a loved one, needs to be fully informed about risks as well as benefits. Significant factors associated with denial of consent for organ donation include misunderstanding of brain death, cultural beliefs, the specific timing of the request, the setting in which the request is made, the approach of the individual making the request, and the characteristics of the deceased.<sup>3</sup> Transplant ethics can include issues such as coercion, solicitation, discrimination and exploitation.<sup>4</sup>

## **Death and donation**

Most solid organs that are suitable for transplantation must come from someone who is certified as brain-dead, but still has a beating heart. These organs must be transplanted within a few hours. John Paul II stated that 'the criterion adopted in more recent times for ascertaining the fact of death, namely the complete and irreversible cessation of all brain activity, if rigorously applied, does not seem to conflict with the essential elements of a sound anthropology'. And 'Only where such certainty exists, and where informed consent has already been given by the donor or the donor's legitimate representative, is it morally right to initiate the technical procedures required for the removal of organs for transplant'.<sup>5</sup>

Despite several decades of transplant procedures using donated organs from people who are certified as 'brain-dead beating-heart' cadavers there are a number of people who are not comfortable about the concept of 'brain death' without the cessation of a heart-beat as a true death and argue that removing vital organs from living patients is immoral and contrary to the nature of medical practice.<sup>6</sup> The general public continue to be confused about what constitutes a brain-death and at what stage organs can be harvested for donation.<sup>7</sup>

## **Organ and tissue donation from donors following cardiac death**

Some tissue suitable for transplantation, such as bone, cardiac and skin tissue can be retrieved from a donor up to 24 hours after death following cardiac arrest. Ocular tissue, however, must be transplanted soon after retrieval.<sup>8</sup> The use of donated pancreatic islet-cells from cadavers has been used successfully to manage diabetes. This may have a future benefit beyond merely helping with their condition. People who develop renal failure as a consequence of their diabetes may ultimately require a kidney transplant. If diabetes can be 'cured' or put into remission for a number of years through the use of islet-cell transplantation, then the waiting list for a kidney

transplant may shorten.

Whilst reiterating that donating an organ for transplant is the ultimate gift, a word of caution is warranted. It would be reprehensible if the giving or taking of organs or tissue in any way 'objectified' the human body. Gregory Snell and colleagues state that there are two fundamental rules that will and must always apply to cadaveric organ donation: 'vital organs must only be removed from dead patients and living patients must not have death hastened for the purpose of organ retrieval'.<sup>9</sup> Regrettably, calls to 'conscript' cadaveric organs for transplantation in an effort to reduce waiting lists have also been made.<sup>10</sup>

## **Organs and tissues from live donors**

Living persons can also donate organs. This type of donation is usually to a family member and is called a *directed* donation. In Australia, live donor donation is restricted to kidneys for family members. A donation to a general pool is called a non-directed donation and in this context people cannot choose who will receive their donated kidney. As Robert Truog suggests, 'organ donation by living donors presents a unique ethical dilemma, in that physicians must risk the life of a healthy person to save or improve the life of a patient'.<sup>11</sup> People who choose to make this gift should be competent to do so and not compromise their own health to such an extent that they cannot meet their own commitments and responsibilities.<sup>12</sup> Whilst not current practice in Australia, some countries have established procedures for live donor transplants of lobes of the liver, parts of the lung, and portions of the intestine.<sup>13</sup>

Tissue such as bone marrow and blood can only be collected from living donors. Fortunately these types of tissue are regenerable. Ethical issues around bone marrow tissue are about the scarcity of donors, commodification of 'saviour siblings', and health risks since the procedure to obtain the marrow is more complicated and riskier than giving blood. In Australia, blood donors are not paid for their donation. Blood, blood components and plasma derivatives are regulated under the *Therapeutic Goods Act* 1989. These products cannot be administered without a prescription.<sup>14</sup> The ethical problems associated with blood products in the last few decades have mostly involved the transmission of infectious diseases such as HIV and Hepatitis to recipients.

## **Non-human tissue**

The use of non-living substances and tissue derived from animals for therapeutic purposes in humans is not new. Products, such as heart valves and insulin derived from pigs, have been used for many years without major risks. What distinguishes these products from solid organs such as hearts and kidneys is that these products do not require a blood supply. Animal organs that do require a blood supply are, at present, likely to be rejected by the human

immune system. Other risks are likely from pathogens, particularly viruses, crossing the species barrier and proving deadly to humans.

Transplanting solid animal organs (genetically engineered or not) into humans, is known as xenotransplantation. It is currently only experimental, but it has been suggested that the ethical questions and potential legal implications of xenotransplantation are so great as to outweigh any potential benefits.<sup>15</sup> There are a number of controversial and ethical issues that need to be addressed long before human trials can begin. These include not only the issues around humanity, but also animal rights, the potential for commercialisation of the products, religious and cultural barriers, legal consent, and mandatory life-long monitoring of the recipient of animal derived organs.<sup>16</sup> Public perceptions and attitude about the possible future use of animal to human organ transplantation should be vigorously determined.

Pope Pius XII made a statement about xenotransplants in 1965 ... 'to be licit, the transplanted organ must not impair the integrity of the psychological or genetic identity of the person receiving it; and there must also be a proven biological possibility that the transplant will be successful and will not expose the recipient to inordinate risk'.<sup>17</sup> In December 2004, the NHMRC determined that there should be no clinical trials in Australia using animal cellular therapies or animal external therapies for five years. This followed an earlier decision to ban clinical trials of whole organ transplants from animals to humans.<sup>18</sup>

## Emerging dilemmas in transplant ethics

The issue of whether some sort of financial recompense be made in exchange for viable transplantable human organs is contentious.<sup>19</sup> An overseas study indicated that indirect commodification (eg a funeral voucher) will increase the supply of donor organs. That is, people will be more willing to have life support withdrawn from their relatives if the incentive to do so is directly related to the death.<sup>20</sup> Unscrupulous, illegal and dangerous practices are sometimes used to obtain organs or tissue. It was recently reported that a tissue supply company may have illegally taken bone, skin or tendons from corpses at funeral homes – exposing recipients of this tissue to risks of developing HIV and hepatitis.<sup>21</sup> As Pope John Paul stated, ... 'any procedure which tends to commercialize human organs or to consider them as items of exchange or trade must be considered morally unacceptable, because to use the body as an "object" is to violate the dignity of the human person'.<sup>22</sup>

In recent years with the advance of artificial reproductive technologies it has been possible to screen embryos for certain genetic conditions and select those free of defects for implantation. This process is called pre-implantation genetic diagnosis (PGD) and raises numerous ethical

questions ranging from eugenics through to commodification of life. This technology has implications in the context of transplantable tissue. PGD technology has been used to screen for suitable 'saviour' siblings, whose cord blood stem cells can be transplanted into the sibling who may have a life-threatening genetic condition. There is no guarantee of success. Not all agree that having a PGD selected baby primarily to provide tissue for transplantation is beneficial, not only because it leads to destruction of unselected embryos, but because it may cause psychological harm to the future child, the 'saved' child and other siblings whose tissue didn't match.<sup>23</sup>

## Experimental transplantation ethics

In October 2005, the *Food and Drug Administration* of America gave permission for doctors at Stanford University Medical Center to transplant brain stem cells, derived from immature neural cells, (not embryonic stem cells), into six children afflicted with Batten disease (a rare, degenerative genetic disorder which causes paralysis prior to death). Final approval has not yet been given. This procedure is experimental with animal studies so far only showing 'promising' results.<sup>24</sup> The ethical and legal implications of experimenting on vulnerable children are enormous. It is also considered unethical to risk 'personality transfer' so the amount of neuronal tissue transplanted should be minimal.<sup>25</sup>

Japanese doctors recently reported successfully pioneering the world's first transplant of pancreatic cells from a living donor.<sup>26</sup> Another area of transplant medicine that is about to emerge in Australia is intestinal transplantation, which has had a slowly improving outcome rate overseas. This is encouraging, since this procedure is about to be performed for the first time in Australia as a treatment for persons who have intestinal failure.<sup>27</sup> Amniotic membrane, donated by consenting women who have given birth to live infants, is being used in the management of some burns, ophthalmic procedures, and reconstructive surgery.<sup>28</sup>

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Anne Moates



## Stem Cell Technology Update

*Recent advances in adult stem cell technology demonstrate that it may be possible to generate stem cells for therapeutic uses without the creation or destruction of human embryos.*

Ford and Herbert give a good description of stem cells which can be defined by four features.<sup>1</sup> Firstly they are capable of long term self-renewal: continually producing stem cells often for the life of the organism. Secondly, they undergo specialised cell division. Thirdly, they give rise to differentiated cells which carry out a specific process e.g. liver cell. And lastly they must possess at least multipotential developmental capacity. There are three levels of stem cell potency: totipotent, multipotent and pluripotent. The cell that is produced when a sperm fertilises an egg is totipotent because it has the ability to form an entire organism. During the first 24 hours of development this cell gives rise to identical totipotent cells. Following on from this stage of development a blastocyst is formed. This is a fluid filled ball of cells that contains a cluster of cells called the inner cell mass (ICM) which produces almost all of the cells of the organism. These cells are pluripotent: capable of producing practically all cell types of the body, but unlike totipotent cells, cannot produce an entire organism. Multipo-

tent cells are stem cells which give rise to different cell types within one organ or region of the body. Stem cells not only exist at the embryonic stage but also reside in children and adults. These adult stem cells are capable of self renewal and are responsible for replenishing cells throughout an individual's lifetime.

Currently adult stem cells and stem cells derived from umbilical cord blood are being used to treat a range of diseases including leukaemia, lymphoma and autoimmune diseases.<sup>2</sup> Other diseases that researchers believe could be treated by stem cell therapies include Parkinson's disease, diabetes, cardiac disease, etc.<sup>3</sup> It was believed for some time that adult stem cells were only multipotent, not pluripotent, and therefore they would not be useful for the development of other stem cell therapies.<sup>4</sup> Research was geared towards utilising pluripotent stem cells from embryos. However this generated controversies regarding the ethics of using and/or destroying embryos for research and treatment of diseases.

## Therapeutic Cloning

It is thought that if stem cells could be ‘coaxed’ into forming a particular cell type e.g. liver cell, then these cells could be used to repair damaged tissue. It is hoped that therapeutic cloning could be used to generate patient specific tissues. Therapeutic cloning involves a process called somatic cell nuclear transfer (SCNT) in which the nucleus from a somatic cell or body is inserted into an enucleated oocyte (egg cell with its nucleus removed). The resultant cell is treated to start development. If the process is carried out successfully the cells are taken and cultured to generate a stem cell line, which would be genetically identical to the patient from whom the somatic cell nucleus was taken and therefore would not be rejected by the patient. Theoretically the reprogrammed cell, if implanted into a woman’s womb, could continue to grow and form a whole organism which would be a clone of the individual from which the somatic cell nucleus was obtained. So far this process has been successfully carried out in multiple animal species e.g. sheep (Dolly), pigs, mouse, monkeys and dogs.

## Deriving embryonic stem cells ethically

Embryonic stem cells are typically taken from an embryo at 6-7 days and result in the destruction of the embryo. Many view the destruction of an embryo as morally reprehensible even if it is being done for research into life saving cures. In a recent study Robert Lanza’s research group from Advanced Cell Technology in Massachusetts reported the successful derivation of human embryonic stem cells (hES) from blastomeres of embryos at the 8-10 cell stage without affecting the embryo’s development.<sup>5</sup> The technique that was used is similar to that used for preimplantation genetic diagnosis (PGD), where one cell is removed from a developing embryo at the 8-cell stage. This technique has been reported not to interfere with the embryo’s development, although some remain sceptical of this. Unused embryos produced by *in vitro* fertilization were used in these experiments. Sixteen embryos were utilised. The embryos were thawed and cultured to the 8-10 cell stage. Stem cell lines were successfully generated from two out of the six high grade embryos. It was found that the stem cells were able to differentiate into cells from all three of the primitive cell layers formed in a developing embryo, suggesting that they are pluripotent. Additionally the cells when placed under specific conditions were able to differentiate into cells that could be useful for therapeutic applications. All of the study’s results suggest that the stem cells generated are pluripotent. However the authors have suggested that further studies need to be carried out to determine if the stem cells derived in this study have the same potential to differentiate into multiple cell types as the hES cells that are currently in use.

Some individuals argue that a single blastomere may in fact be totipotent and therefore the single cell may give rise to an entire organism. If this were true then utilising a blastomere to generate stem cells would be highly unethical. The authors argue against concerns that the blastomeres used are totipotent. Also, many are opposed to this procedure as they are unsure of the consequences of this procedure on the embryo and the resulting child. While the authors cite numerous reports that there is no affect on the viability of an embryo they state that “until remaining doubts about safety are resolved, we do not recommend this procedure be applied outside the context of PGD.”<sup>6</sup>

## Nanog

Some scientific researchers have acknowledged the need to obtain stem cells ethically and have proposed that cellular factors that are required for the maintenance of pluripotency could be used to enable somatic cells to be adjusted so that upon nuclear transfer a pluripotent cell would be generated without the production of an embryo.<sup>7</sup> These cells would not be embryos and would not undergo any form of embryonic development. Mitsui et al and Chambers et al. independently identified a gene which was named Nanog from the Gaelic ‘Tir Na Nog - land of the ever young’.<sup>8,9</sup> Its expression is required for the maintenance of pluripotency i.e. it is required to keep stem cells in a state in which they may differentiate into multiple cell types. Mitsui identified this gene as being potentially useful for the production of pluripotent stem cells without the creation or destruction of embryos.

Based on the findings of the studies described above in June 2005 a group of Catholic academics and scientists proposed the ethical production of pluripotent stem cells using a technique called Altered Nuclear Transfer-Oocyte Assisted Reprogramming -ANT-OAR.<sup>10</sup> This technique utilizes somatic cell transfer but before the nucleus of the body cell is inserted into the enucleated egg cell the somatic cell nucleus is treated so that it acquires a high level of Nanog expression. It is hypothesized that this “would immediately produce a cell with positive characteristics and a type of organization that from the beginning would be clearly and unambiguously distinct from, and incompatible with, those of an embryo. Incapable of being or becoming an embryo, the cell produced would itself be a pluripotent cell that could be cultured to establish a pluripotent stem cell line. Significantly, this cell would not be totipotent, as a zygote is.”<sup>11</sup> The research would initially be carried out in animal models until it is proven beyond reasonable doubt to produce pluripotent cells and not result in the production of an embryo. Then studies would be carried out using human cells. This research proposal has been signed by 35 individuals comprising of ethicists, physicians, moral theologians and scientists.

## Recent developments in adult stem cell technology

In another recent development in adult stem cell technology Takahashi and Yamanaka have found a method to convert differentiated adult cells to pluripotent stem cells.<sup>12</sup> This was achieved by introducing four factors into adult fibroblast cells. Interestingly the researchers found that Nanog was not essential for this process. The study examined 24 genes which the researchers believed may be involved in the process of reprogramming somatic cell nuclei upon insertion into an enucleated oocyte. They found that only four of these factors were essential to the formation of the ES-like stem cells. The four factors were introduced into adult mice fibroblast cells resulting in the formation of pluripotent cells - induced pluripotent stem (iPS) cells. Examination of these cells indicated that they were morphologically indistinguishable from ES cells. The iPS cells were shown to be pluripotent as after they were injected into mice they formed teratomas consisting of all three germ layers. They were also found to contribute to the formation of embryos when they were injected into blastocysts. Further studies will have to be carried out to determine more precisely how these pluripotent stem cells were formed. It may be that other factors are important for inducing pluripotency as the stem cells were not identical to ES cells. Also, concerns have been expressed about the safety of the therapeutic use of such cells as one of the four factors is known to contribute to cancer.

## Ethical Considerations

People who hold that the human formative process and embryo should be given absolute moral respect cannot approve any utilitarian compromise. What is immoral in itself cannot be justified by good consequences: *the end does not justify the means*. Human embryos, whether conceived naturally, by IVF or by cloning, should not be created in order to be destroyed or put at risk of harm for any reason.

Utilitarian arguments in favour of using hES cells collapse once alternative ethical sources of pluripotent stem cells are found. Legalising the creation of IVF or cloned human embryos destined to be destroyed for medical research would be an awesome responsibility for law makers to assume. Instead, public funds should be provided for research on adult and non-embryonic pluripotent stem cells.

The ethical alternative approaches outlined above are the way forward for scientific and medical research on stem cells which would be socially advantageous and less divisive for the whole community.

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Mariam Ghosn and Norman Ford SDB



### **Caroline Chisholm Centre for Health Ethics**

7th fl., 166 Gipps Street East Melbourne Vic 3002

Tel (03) 9928 6681 Fax (03) 9928 6682 email: ccche@mercy.com.au

[www.chisholm.healthethics.com.au](http://www.chisholm.healthethics.com.au)

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**Director/Editor:**

*Rev. Norman Ford SDB STL PhD, Adjunct Professor, Australian Catholic University; Lecturer, Catholic Theological College / Melbourne College of Divinity; Senior Honorary Research Fellow, Monash University.*

**Research Officers:**

*Mariam Ghosn BSc (Hons)  
Kate Jones BN, MBA  
Anne Moates B. App. Sc (Nursing); Grad Dip Adv Nurs; MPH*

**Administrative Assistant/Layout/Sub-editor:** Alice Stinear BEcon