Supporting Controlled Non-Heart-Beating Donation

An Ethical Justification

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Introduction

In their thought-provoking contribution to a previous issue of this journal, Gardiner and Sparrow throw considerable doubt over the legal and ethical acceptability of premortem activities that underpin controlled non-heart-beating donation (NHBD) programs.[1] This challenge is significant because donation following death diagnosed according to circulatory criteria accounts for around one-third of all deceased organ donation in the UK.[2] It is an organ donation "route," mainly for kidneys, that has been deliberately pursued as a matter of policy and necessity at a time of generally declining rates of donation following brain stem death (heart-beating donation).[3] Gardiner and Sparrow reserve their criticisms for one central aspect of the process pertaining to NHBD, namely the assertion that medical interventions on living patients designed to facilitate organ donation after death will usually violate the dead donor rule (DDR), a hitherto fundamental tenet of organ donation policy. They state, "We argue that these procedures, which 'treat' one patient for the benefit of another, represent a significant departure from the ethical practice of medicine."[4] Such procedures include the (continued) provision of life-prolonging treatment to patients after the decision has been made that such procedures offer no (further) medical benefit to them and should be withdrawn. In particular, in order to ensure that the relevant surgical teams are available to implement the retrieval and transplantation process, artificial ventilation of the potential donor may need to be continued beyond the point of "medical futility" to avoid irreparable damage to otherwise viable organs caused by warm ischemia time. These authors assert that "the timing of the withdrawal of treatment is chosen to maximize organ viability and not for the benefit of the donor,"[5] and although they concede the possibility of ethically permitting such practices by other means such as abandoning the DDR, they consider this a significant step and one only to be preceded by open debate and consensus.

We challenge these contentions and allege that such a conception of patient treatment and best interests is inconsistent with holistic contemporary norms and principles. The central thesis that such patients, as potential donors, are treated instrumentally and merely as a means to the ends of potential recipients is implausible as a general proposition. Although we take heed of the cautionary words to clearly

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circumscribe the parameters of premortem practices to avoid compromise of patients' interests, we not only contend that such deontological objections fail but further reject the supposition that only a utilitarian approach can justify such premortem arrangements. We argue contrariwise that such procedures may in many instances *realize* the overall interests of such individuals. We focus our central attention on continued life-supporting treatment by way of artificial ventilation, while recognizing that other specific procedures may raise additional ethical and legal issues.[6]

The Dead Donor Rule

Gardiner and Sparrow contend that controlled NHBD will generally violate the DDR because of the tendency to treat the living as "though they were dead."[7] They are averse to the idea of permanently insensate patients who will not survive being treated principally as potential organ donors rather than as unconscious patients. They take Youngner and Arnold's perspective of the DDR in arguing that the crux of the rule extends beyond merely requiring that vital organs not be removed until after a person's death[8] and quote Caplan, who states: "The dead donor rule says that we take organs, vital organs, only from those who've been clearly, unequivocally pronounced dead. So nothing will happen in terms of procurement, requests, anything, until you've got a team that establishes death."[9] This perspective might therefore preclude not only the initiation or continuation of life-sustaining medical treatment for some finite period but even interrogation of the Organ Donor Register and contact with transplant personnel and the patient's family prior to death. Gardiner and Sparrow contend that controlled NHBD amounts to using living patients as a means to an end,[10] thereby violating the Kantian categorical imperative to "act as to treat humanity, whether in my own self or in that of another, always as an end, and never as a means only."[11] To so treat an individual is to deny her the proper respect to which she is entitled and is connected to the distinguishing of *persons* from *things*, which is the foundation of rights.

Deontological objections against instrumental use also formed the crux of the negative reaction to the practice of elective ventilation (in the context of heart-beating donation) in the nineties in the United Kingdom.[12] Indeed, societies typically proscribe interventional procedures that would cause, or even risk, significant harm to patients even if the consequences were of untold social benefit, unless these were preceded by valid consent properly obtained and in accordance with public policy. We agree that individuals may be harmed even without their awareness of the harm that is caused.[13] However, where such procedures also further the interests of these very same individuals, there is no such harm, and they evidence respect for, rather than indignity to, persons. To allege that such persons are treated as though they are already dead is to essentially deny the possibility of patient benefit in respect of nontherapeutic procedures not preceded by appropriate consent.[14] Although we accept the importance of dignity for all, this begs the very question—namely, to what extent, if any, can medical procedures not designed to further the therapeutic ends of individuals nonetheless potentially serve *their* overall interests? If a positive answer can be found, then there is no instrumental use, and therefore no infringement of the DDR, even if we were to concede the broader formulation of that rule.[15]

What Constitutes Interests?

Assuming the continued relevance of the DDR, Gardiner and Sparrow assert that premortem supporting measures can be justified where the patient, or appropriate surrogate, has consented specifically to such measures, but not otherwise. This argument appears to have two limbs. The first is whether the wish to be an organ donor following death is a sufficient interest capable of justifying the continuance or modification of that patient's care at the end of life. The second is whether the wish to be a donor, expressed by way of communication with relatives, by entry into the organ donor register, or by the carrying of a donor card, is adequate to reflect a sufficiently strong desire to justify premortem procedures intended to enhance the likelihood that organs can be successfully used. A degree of inferential thinking is certainly required here, as would-be donors will typically not have considered the necessity for premortem support before death when deciding whether to be a deceased organ donor. However, there is also a need to consider the specific circumstances of the moribund patient in making these assessments.

With regard to the first issue, the conclusion that the wish to be an organ donor following death is not an interest capable of outweighing the burdens of treatment of patients at the end of life seemingly stems from the view that such premortem strategies treat dying patients purely for the benefit of others. This is argued to be a significant departure from the ethical practice of medicine. Although these authors concede the possibility of medical care that serves the interests of *both* patients and organ recipients, they are skeptical about the reality of the former. Nevertheless, this argument ignores contemporary norms of clinical practice that conceive the interests of patients as encompassing more than mere "clinical benefit." These interests are in no way contrived or unreal. In fact, to abide by the wishes of patients with respect to the postmortem uses of their bodies in determining appropriate end-of-life care represents a proper part of the assessment of their ongoing care and treatment.[16] This is consistent with practices such as the continuation of life-supporting care of a pregnant woman to the point of fetal viability to enhance the possibility of a successful delivery of a live born child in conformity with the actual or inferred prior wishes of the pregnant woman. Although she cannot experience this outcome, this is not to deny that it can be of benefit to her. Although this comparator might not seem analogous on account of factors such as fetal, and possibly paternal, moral interests, similarities nonetheless exist. Moreover, it is unlikely that a pregnant woman will have applied her mind to the continuation of the pregnancy following the point of medical futility in relation to her own treatment (bearing in mind, for example, the absence of a mother to raise the child). The situation for prospective donors is different. The carrying of an organ donor card or registration on the register at the very least provides evidence that the possibility of donation has been considered. In a similar vein, persons may have previously expressed willingness, prior to loss of capacity, to participate in harmless nontherapeutic research, perhaps in connection with the very disease entity (e.g., stroke) that ultimately threatens their own lives. Finally, it may be seen that although there are other moral factors supporting respecting individuals' right to *refuse* life-prolonging medical treatment, another compelling aspect is their right to avoid a particular life state generated by medical intervention causing distress or possibly loss of dignity. To fulfill someone's wishes, and most especially those pertaining to personal core values, is to properly give respect to that individual's (prior) autonomy. It closes the person's book of life

in a way consistent with their values and critical interests.[17] The fact that in our situation an individual did not envisage the prior circumstances that they are now placed in does not require us to deny the relevance of presumed wishes based on premortem choices and values, which may be effectuated following loss of capacity.

The legal test of best interests in the United Kingdom encompasses a range of factors. This is a key strength of the legislative provisions and permits a flexible and responsive approach to individualized patient care. For adults in England and Wales, the best-interests standard is enshrined in section 4(6) of the Mental Capacity Act 2005. The statutory provisions and the code of practice accompanying the act stress the need to ascertain the person's past and present wishes, and the beliefs and values that would have been likely to have influenced her, to the extent that these are reasonably ascertainable. Accurate deduction of such views and values in order to inform the best-interests determination will likely require discussion with relatives and others close to the patient. Section 4(7) of the Mental Capacity Act 2005 imposes a statutory duty on decisionmakers to consult a range of persons in order to determine the patient's best interests. Ascertaining the previous views of a patient in circumstances in which continuation of life-preserving treatment is considered futile, or in which there is no prospect of recovery, would seem to be an essential aspect of ethical clinical care.

The statutory determination of best interests aligns with previous common law and encompasses interests of a medical *and* nonmedical nature. English law ostensibly recognizes a plurality of interests for those who lack capacity to decide by means of the best-interests test, in that treatment may only be given in the absence of consent where this is in the best interests of that patient.[18] As stated in *Re A (Medical Treatment: Male Sterilisation)* [2000], "best interests encompasses medical, emotional and all other welfare issues."[19] Such broader interests, for instance, formed the basis of the judicial authorization of a bone marrow transplant from an adult who lacked decisionmaking capacity to her ailing sibling.[20] Moreover, these include interests that lack any future experiential aspect. In *Ahsan v. University Hospitals of Leicester NHS Trust*, for example, it was held to be in the best interests of a devout Muslim patient in a persistent vegetative state (PVS) to be cared for at home, where her spiritual beliefs could be best respected, rather than in a nursing home, where her physical needs could be better taken care of, even though she could never be aware of her circumstances or environment.[21] This resulted in her end-of-life care being informed by her own life values. Thus, the interests of the patient need to be weighed and balanced in each and every case, as a matter of both law and ethics. In the present context this evaluation requires weighing the harms and distress potentially caused by the continuation of artificial ventilation, after the decision that this is no longer in the patient's "medical" best interests, against that patient's overall, all-things-considered interests in receiving such care and treatment.[22]

Although the extent to which the pragmatic computation of whether benefits outweigh the possible risks is difficult, if not impossible, to determine,[23] since it is only the interests of the patient that are under consideration, utilitarian arguments do not engage. This reflects the observation that therapeutic care is not an end in itself and that medical professionals are obliged to consider patients' interests in totality. Continuation of treatment, initiated in the patient's best interests, will not suddenly convert into a clinical insult immediately following a determination that further treatment is futile from a medical standpoint. Although efforts should be made to circumscribe any delay, withdrawal is often postponed in other non–organ donation situations, and therefore the patient cannot be said to have been

treated qua potential organ donor per se, albeit that organ recipients potentially stand to benefit. The withdrawal of life-supporting treatment will even typically be delayed by the need to confirm a diagnosis of clinical futility that continuation of life-sustaining treatment is no longer in the medical interests of the patient. Although contemporary guidance requires confirmation only in circumstances of clinical doubt,[24] the UK Donation Ethics Committee (UKDEC) recommends confirmation with two doctors in all such cases.[25] Typical reasons for delay include the possible requirements for confirmatory investigations, as well as discussion and consultation with relatives and the wider clinical team. A further reason to delay withdrawal of care is to permit the patient's next of kin to be present at the time of death. Although it has been said that a "man's dying is more the survivors' affair than his own,"[26] this practice is upheld not merely to benefit the relatives but because the patient would presumably have wanted this. Thus, once more, there is no need to resort to a utilitarian rationale to justify such practices. The UKDEC asserted that "when planning end-of-life care for a patient for whom life-sustaining treatment is no longer appropriate, if the patient wished to be an organ donor, then care that facilitates successful donation is likely to be highly compatible with their best interests."[27]

There are hints in Gardiner and Sparrow's article that, because the individual will be dead at the time of donation, no benefit can be achieved before death by facilitating such a wish. This attitude is to misinterpret and fail to respect the previously competent *living* person's wish that will be thwarted if such measures are not implemented, to the same extent that ignoring a person's advance medical decision frustrates their expression of autonomous desire, even though the individual lacks awareness that such harm has occurred—that is, these are not *posthumous interests* as such. Feinberg draws an important distinction between preference satisfaction (the feeling of satisfaction) and preference fulfillment.[28] To the extent that such practices do not influence the physical or psychological welfare of the patient, care is required not to overrate the significance of such a wish, although altruistic intent should not be deemed to be of lesser significance merely because it is other-regarding, lest an unacceptable ethical egoism take hold.

Gardiner and Sparrow contend that only a person's *strong* or *considered* preferences will be determinative. They offer no supporting argument for this assertion, although it seems to stem from their perspective that such procedures carry no promise of medical benefit. They maintain that inclusion in the Organ Donation Register, or the signing of a donor card, would not be sufficient to permit continued artificial ventilation in this context. As regards the standard of the evidence required to establish sufficient reason to believe that the patient would have wanted ventilation to continue in such circumstances, Browne, Gillett, and Tweedale have previously remarked, in like vein,

> Given that EV [elective ventilation] is carried out in the interests of others, and given that it carries with it a risk of falling into a PVS, one has to be confident that the patient would want it before it can be administered. How confident? It is not implausible to insist on evidence "beyond reasonable doubt," or at least evidence that is "clear and convincing." Our claim is that, without previous explicit discussion of the issue, others cannot even know this "on the balance of probabilities."[29]

It is unclear to us as to why there is a need for more than a plausible view ''on balance'' of what the person wished or what could be expected to further her interests to the greatest extent, as the law suggests, unless one starts from the standpoint, as all of the preceding authors seemingly do, that such procedures cannot be in the patient's own (best) interests at all; a perspective we firmly dispute. The insistence on compelling evidence of an individual's strong preference to permit premortem interventions to facilitate donation, in order to ground a reasonable belief and evaluation that such procedures are in the patient's best interests, does not align with contemporary law and ethical practice. The notion that a strong preference, rather than a preference *simpliciter*, is required for such procedures to be permissible perhaps also implies that the desire to be an organ donor after death is not a sufficiently substantial desire of the person. In fact, inertia and an unwillingness to reflect on one's own mortality is surely evidence that those who make known their positive wishes display an unequivocal desire. To deny the significance of a person's considered preference to donate, expressed by discussing it with others, carrying a card, or being on the organ donation register, reflects paternalism reminiscent of a bygone age.

An analogous issue arises with regard to the persuasiveness of evidence that a substituted judgment decisionmaker has to have when he or she is deciding on procedures that are not for the medical benefit of the patient, in jurisdictions that accept such decisionmaking strategies (i.e., outside the United Kingdom). Some commentators have argued that there would need to be sound evidence either that the person was willing to accept such interventions, regardless of the risk entailed, or that the individual would not have regarded any of the inherent risks of proceeding as being more than minimal, and they have claimed that such evidence is simply lacking in the situations under consideration.[30] Once more though, when viewed through the lens of overall patient benefit, such a heightened standard of evidential cogency constitutes an inappropriate threat to the promotion of patient interests.

We would argue that consent to organ donation, by way of previous communications, entry on the organ donor register, or the signing of a donor card, is clear and unequivocal evidence of a considered preference to facilitate donation by nonharmful means, even if the informational evidence falls short of what would typically be considered sufficient to justify an intervention on a competent person. Indeed, we concede that evidence of registration on the Organ Donor Register is insufficient to generate an implied informed *consent* to such measures.[31] As guidelines issued in New South Wales assert, ''implied donor consent to such procedures is theoretically applicable, but such consent can only be presumed when the person has consented to organ donation while alive, in the context of adequate awareness of procedures involved in [NHBD]. This understanding does not presently exist in the community.''[32] This remark has equal force in the United Kingdom.

This is not to say that evidence gleaned from an entry into the organ donor register or the signing of an organ donor card is to be seen as clear evidence of a person's wish both to donate after death *and* to accept all necessary or desirable steps before death to facilitate such an end. Caution is advised. But where the potential for harm is either absent or minimal, facilitating the person's wish to donate following his or her death may clearly swing the balance in favor of such measures and will likely reflect the individual's own will, had he or she been capable of specifically formulating it.

Of course, some interventions can be expected to tip the balance in terms of the individual's interests in an alternative direction. It must be recognized, however, that the insensate patient who has sustained a catastrophic injury from which she will not survive will be beyond physical pain, discomfort, or psychological distress. Thus, assuming premortem arrangements do not accelerate death, we should principally have regard to whether there are risks of inducing conditions such as a PVS and potential suffering of relatives. For some cases, in addition, we should also take account of the dignity of the individual where the measures concerned are notably invasive or interventional. Recent advice of the Department of Health and the Welsh Assembly stresses that each case needs to be decided on its merits and exhorts clinicians to assess whether any potential actions may cause the patient any harm, distress, or loss of dignity.[33] It suggests that, inter alia, resuscitation measures and the insertion of femoral cannulas would rarely, if ever, be properly viewed as being in a patient's best interests.

Consent or Individual Preferences?

Gardiner and Sparrow seemingly place too much emphasis on the need for informed consent from the patient (they doubt the ability of surrogates to consent to procedures that are not for the medical benefit of patients when there have been no strong preferences expressed previously by the now-incapacitated patient). This requirement runs counter to common wisdom as well as the law and professional practice that pertain to this and other situations. Although direct expressed evidence of the person's wishes in respect of premortem procedures may be sometimes helpful in finding consent to such measures, or at least may provide convincing evidence of the person's wishes in this regard, it is not essential that such evidence always exist.[34] Although the dissemination of information is a positive practice that supports decisionmaking, Gardiner and Sparrow seemingly require that patients are (previously) informed of all aspects of premortem activities, a standard not required for other areas of clinical practice or law.

Non Nocere

From an ethical perspective one can assess healthcare situations according to the potential for *harm*. If the patient's interests are damaged by premortem interventions, then the patient will have been harmed. This concern should rightly include concerns and possibilities about untoward outcomes such as entering a PVS.[35] By the same token, patients' self-determined preferences regarding the postmortem use of their bodies are equally entitled to respect and should be taken into account in decisions to be made. If the possibility of a PVS is negligible, or nonexistent, and other harms such as pain, distress, or loss of dignity are absent, then previous positive wishes assume considerable moral significance. If these wishes are not respected, harm will have occurred to patients' interests through failure to satisfy and respect previous autonomous wishes. The tendency is to envisage that there is no potential for harm if premortem arrangements are *not* initiated, or continued. But if wishing to be an organ donor after death is plausibly viewed as an interest of the patient (and consider that it has already been argued that the inability to experience an event or its sequelae is not an argument against the possibility for harm), then the patient's interests are at least potentially thwarted by failure to initiate measures to enhance

the likelihood of successful donation. The invasiveness of the intervention per se, let alone the risks attached to it, is properly viewed in the round from the vantage of patient benefit.

Gardiner and Sparrow are skeptical about the potential of premortem procedures for promoting the well-being of patients, stating, ''However, the strong interests of other parties in the donation process lend weight to the suspicion that the account of well-being supposed here has been chosen for the support it lends to NHBD rather than on its own merits.''[36] To the extent that it suggests an absence of potential benefit to the patient, we have already responded, although on a hedonistic or objective view of well-being we might indeed perhaps reasonably doubt such a conclusion. An objective view of the good (life) is, however, an elusive and contentious notion, and in any event Gardiner and Sparrow accept at least the plausibility of a preference satisfaction account of individual well-being.[37] This perspective seems all the more compelling when the intention is soundly and reasonably based, and centrally concerned with how a person's life goes.[38]

Proper Sphere of Medical Practice

Following a decision of medical futility, healthcare professionals have no further obligation to provide therapeutic (as opposed to palliative) care and treatment.[39] In accordance with deontological objectives, and good clinical care, this decision is independent of organ donation considerations yet nonetheless represents a significant point of reference in that the patient's death is considered to be inevitable, sooner or later, following treatment withdrawal.

Several outcomes may follow a decision to withdraw treatment. First, the patient dies following withdrawal and as a result of her own critical ill health. No enquiries are made regarding the patient's interest in donation, and no organs or tissues are harvested. Seemingly, in this instance, there would be little controversy as far as Gardiner and Sparrow are concerned. Second, the patient's death follows treatment withdrawal, and a decision is then made to harvest tissues following postmortem confirmation that this aligns with the patient's previous wishes. Presumably, in this situation Gardiner and Sparrow would not object on deontological principles. The difficulty here, however, is that despite clear evidence of the person's wish to donate, the possibility of organ retrieval will be remote, due to damage caused by warm ischemia following death. Although it is envisaged that Gardiner and Sparrow would not object to the latter, both scenarios fail to respect the would-be donor's interests, because the patient's preferences will be determined only after her death. In the third situation, a determination of futility is reached by the clinical team. Prior to treatment withdrawal, enquiries are made to ascertain the patient's expressed interest in postmortem donation. Depending on the outcome of these enquiries, efforts are made to act in accordance with premortem views. When there is evidence of factors that militate against donation (such as relatives' dissent, religious objections, and value-based grounds), then donation ought not to take place. Alternatively, when there is evidence that the person wished to donate following death, subsequent care could be geared toward respecting, and facilitating, that decision.

The implication of Gardiner and Sparrow's article is that the proper sphere of medical practice is, absent the appropriate consent of the patient to the specific intervention, confined to procedures that are of potential medical benefit to the

patient. But even the notion of medical benefit admits a wide range of factors and perspectives, including those that relate to the values of the individual. Whether medical treatment (such as chemotherapy) that permits a short prolongation of life but is accompanied by significant burdens on quality of life represents a benefit is for the competent patient to decide in consideration of her personal views and values. In the absence of capacity, patient values remain pertinent as to whether or not a clinician should initiate such treatment. Yet, this evaluation has now strayed well beyond the objective medical factors attaching to the therapy. Moreover, although still probably considered exceptional, medical and research procedures, such as bone marrow donation to a sibling, are often administered to minors or adults who lack decisionmaking capacity when this is deemed to be in their best interests, despite this not being principally intended as a ''therapy'' for them.[40] As Pellegrino rightly observes, ''benefit'' can be considered at several levels. It is the duty of beneficence that is the central obligation of clinicians, and the patient's good must be seen more broadly than simply as her medical good.[41] He argues that there are other, higher levels of good for a person. These include the person's subjective view, the good of the individual's community, and the spiritual good. After all, medical treatment itself is essentially a means to an end and not an end in itself.

Conclusion

In this and other contexts, there is a need for a more nuanced and flexible interpretation of the patient's best interests than Gardiner and Sparrow maintain. This is required to properly promote patients' interests and respect for the individual and not simply to promote organ transplantation. The Department of Health guidance rightly endorses individually tailored decisionmaking in the crucially important context of organ donation. The express altruistic desires of individuals to donate their organs and tissues should not easily and routinely be frustrated even if there should be no automatic presumption of the legitimacy of continued treatment to this end. This principle is equally as pertinent to heart-beating (brainstem death) donation as NHBD. The proper sphere of medical practice evolves and is shaped by responsive and changing ethical perceptions that include recognition and respect for patients' rights, and it is not merely interpreted according to historical traditions and professional paradigms and norms. Beneficent interpretations of a patient's interests should not be constrained to considering only the medical interests of patients. Just as competent patients will inevitably take factors other than those that are purely clinical into consideration in reaching a self-determined choice, so decisionmakers must do likewise when considering the interests of those who lack capacity. Although the avoidance of actual or perceived conflicts of interest is vital, to seek to weigh the patient's interests in the round is not to prioritize the interests of others or of society as a whole, nor to foster a utilitarian rationale.

This is not to deny that others may legitimately seek to justify such practices according to a separate, utilitarian philosophy. Healthcare decisionmaking is frequently characterized by ethical pluralism in that the values legitimately pursued by individuals are often incompatible and cannot be realized simultaneously in most situations,[42] and they instead represent ''an amorphous, incoherent and fragmented collection of discourse rather than a 'structured conscience' for the medical

profession."[43] Deontological views represent merely one perspective and must be translated into the realities of clinical care and on the basis of distributive justice in the context of a publicly funded health service. Even if utilitarian approaches are to be rejected on the basis that rights cannot be discharged on grounds of utility, communitarian principles might well engage. Individuals share common obligations to the societies in which they live, because a good society is key to a good life. For this reason, societal interests may, at times, legitimately override individual interests in certain circumstances. However, we agree with Gardiner and Sparrow that such a policy would be problematic in its implications and a much less appropriate response.

Notes

1. Gardiner D, Sparrow R. Not dead yet: Controlled non-heart-beating organ donation, consent, and the dead donor rule. *Cambridge Quarterly of Healthcare Ethics* 2010;19:17–26. We prefer the terminology of "non-heart-beating donation," but "donation following circulatory death" is now becoming the more common usage.
2. This figure comprises 336 out of a total of 959 deceased donors in 2009–2010, a 17 percent increase over the previous year; see National Health Service (NHS) blood and transplant statistics at http://www.organdonation.nhs.uk (last accessed 4 Apr 2011). Results from kidneys have been shown to compare favorably with those of transplants using heart-beating donors; see Summers DM, Johnson RJ, Allen J, Fuggle SV, Collett D, Watson CJ, et al. Analysis of factors that affect outcome after transplantation of kidneys donated after cardiac death in the UK: A cohort study. *The Lancet* 2010;376(9749):1303–11.
3. There was a 9 percent reduction in the number of heart-beating donors between 2001 and 2008, although there was a slight (2%) upturn in the period 2009–2010 as compared to the previous 12-month period.
4. See note 1, Gardiner, Sparrow 2010, at 17.
5. See note 1, Gardiner, Sparrow 2010, at 20.
6. See Price D. End-of-life treatment of potential organ donors: Paradigm shifts in intensive and emergency care. *Medical Law Review* 2011;19(1):86–116.
7. See note 1, Gardiner, Sparrow 2010, at 17.
8. Youngner SJ, Arnold RM. Ethical, psychological and public policy implications of procuring organs from non-heart-beating cadaver donors. *JAMA* 1993;269(21):2769–74. In fact, these authors are intending to extend the DDR only to those situations in which organs are actually removed prior to death, even if this does not result in the death of the patient.
9. Perspective roundtable on organ donation after cardiac death. *New England Journal of Medicine*; available at http://www.nejm.org/doi/suppl/10.1056/NEJMp0804161/suppl_file/nejmp0804161_transcript.pdf (last accessed 4 Apr 2011).
10. See note 1, Gardiner, Sparrow 2010, at 20. Do they mean *solely* as a means?
11. Kant I. *Grounding for the Metaphysics of Morals. On a Supposed Right to Lie Because of Philanthropic Concerns*. 3rd ed. Ellington JW, trans. Indianapolis: Hackett; 1993 [1785], at 30.
12. King's Fund Institute report, a question of give and take: Improving the supply of donor organs for transplantation. London: King's Fund Institute; 1994. Research Report 18.
13. Feinberg J. *Harm to Others*. Oxford: Oxford University Press; 1985.
14. See Schulman A. *Staff Working Paper, Bioethics and Human Dignity*, President's Council for Bioethics; 2005; available at http://bioethics.georgetown.edu/pcbe/background/human_dignity.html (last accessed 4 Apr 2011). Moreover, seeking to further the prior intentions of would-be donors would seem to promote their previous self-determined choice and to serve dignity as empowerment rather than dignity as constraint. See Beyleveld D, Brownsword R. *Human Dignity in Bioethics and Biolaw.* Oxford: Oxford University Press; 2001.
15. There is in any event doubt as to the extent to which the Kantian concept of dignity is applicable to permanently insensate individuals insofar as this notion is grounded in respect for those who possess rational will and autonomy, being the basis for moral status.

16. General Medical Council (GMC). *Treatment and Care Towards the End of Life: Good Practice in Decision Making*. GMC; 2010; available at http://www.gmc-uk.org/End_of_life.pdf_32486688.pdf (last accessed 25 Aug 2012).
17. Dworkin R. *Life's Dominion*. New York: Alfred A. Knopf; 1993.
18. Coggon J, Murphy P. Ante-mortem issues affecting deceased donation: An ethico-legal perspective. In: Farrell A-M, Price D, Quigley M, eds. *Organ Shortage: Ethics, Law and Pragmatism*. Cambridge: Cambridge University Press; 2011:136–48.
19. Dame Butler-Sloss LJ in *In re A (Medical Treatment: Male Sterilisation)* [2000] 1 FCR 193, at 200.
20. *Re Y (Mental Patient: Bone Marrow Donation)* [1997] 2 WLR 556.
21. *Ahsan v. University Hospitals of Leicester NHS Trust* [2007] P.I.Q.R. P19.
22. See note 16, GMC 2010.
23. Rajczi A. Making risk-benefit assessments of medical research protocols. *Journal of Law, Medicine and Ethics* 2004;32:338–48.
24. See note 16, GMC 2010.
25. United Kingdom Donation Ethics Committee (UKDEC). *An Ethical Framework for Controlled Donation after Circulatory Death*. Academy of Medical Royal Colleges; 2011 Dec; available at http://www.aomrc.org.uk/publications/statements/doc_view/9322-an-ethical-framework-for-controlled-donation-after-circulatory-death.html (last accessed 25 Aug 2012).
26. Mann T. *The Magic Mountain*. Woods JE, trans. Everyman's Library. New York: Random House; 2005 [1924].
27. See note 25, UKDEC 2011, at para. 13.
28. Feinberg J. *Harm to Others*. Oxford: Oxford University Press; 1985.
29. Browne A, Gillett G, Tweedale M. Elective ventilation: Reply to Kluge. *Bioethics* 2000;4(3):248–253, at 251.
30. Browne A, Gillett G, Tweedale M. The ethics of elective ventilation. *Bioethics* 2000;14(1):42–57, at 54.
31. See note 1, Gardiner, Sparrow 2010, at 22.
32. Department of Health NSW. *Organ Donation After Cardiac Death: New South Wales Guidelines*; 2007, at 6; available at http://www.health.nsw.gov.au/archive/policies/g1/2007/pdf/GL2007_012.pdf (last accessed 25 Aug 2012).
33. Department of Health. *Legal Issues Relevant to Non-Heart-Beating Organ Donation*; 2009, at para. 6.12; available at http://www.ics.ac.uk/intensive_care_professional/legal_issues (last accessed 25 Aug 2012).
34. The UK Donation Ethics Committee recommends carrying out research to ascertain the potential of the Organ Donor Register to include patients' views about interventions during the dying moments to support donation, research, and related issues. See note 25, UKDEC 2011, recommendation 31 at 55.
35. See note 29, Browne et al. 2000, at 53.
36. See note 1, Gardiner, Sparrow 2010, at 22.
37. See note 1, Gardiner, Sparrow 2010, at 22.
38. Well-being. *Stanford Encyclopedia of Philosophy*; available at http://plato.stanford.edu/entries/well-being (last accessed 25 Aug 2012).
39. Although a discussion on futility lies outside the remit of this response, it is relevant in that the fundamental aims of patient care will shift in focus once it is determined that further life-sustaining treatment is no longer in the medical interests of a patient.
40. See, for example, *Re Y (Mental Patient: Bone Marrow Donation)* [1997] 2 WLR 556.
41. Pellegrino ED. The President's Council of Bioethics. Session 2: Living organ donation: Outcomes and ethics; dicussion of staff working paper by Ginger Gruters 2006; available at http://biothics.georgetown.edu/pcbe/transcripts/sept06/session2.html (last accessed 25 Aug 2012).
42. Kovács J. The transformation of (bio)ethics expertise in a world of ethical pluralism. *Journal of Medical Ethics* 2010;36:767–70.
43. Miola J. *Medical Ethics and Medical Law. A Symbiotic Relationship*. Oxford: Hart; 2007, at 54.