Only 391 such transplants were performed in Canada in 2002, representing 30% of all kidney transplants.[3] In contrast, the United Network for Organ Sharing in the United States reported 6236 live-donor kidney transplants in 2002, which accounted for 42% of all US kidney transplants in that year.[4]

In a climate where health care resources are scarce, NHBDs should certainly be considered, but there are clearly other areas that require attention and investment if we are to meet the needs of patients with end-stage organ failure.

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[The authors respond:]

We agree with both Sam Shemie and colleagues and Dana Baran that there is a need to improve the rate of brain-dead organ donation in Canada through better identification and management of potential donors. We therefore encourage physicians, organizers of local organ donation programs and provincial agencies to participate in reviewing and improving guidelines on the management of severely brain-injured patients developed by the Canadian Council for Donation and Transplantation.

However, even if every potential brain-dead donor were identified and became an actual donor, the supply would be insufficient to meet demand.[1] Yet it has been estimated that if the number of living and brain-dead donors were increased and NHBDs were used, the waiting list could be eliminated within 5 to 10 years.[1,2]

Baran states that the "use of NHBDs is fraught with ethical and logistic problems." However, similar difficulties were overcome when heart-beating, brain-dead donors were first used in transplantation.[3] Despite the challenges, the concept of brain death has now become accepted both clinically and legally,[4,5] allowing transplantation to occur today. The Canadian medical community cannot ignore a real opportunity to improve organ donation just because of ethical and logistic problems. We[6] and others[7] have identified the important issues surrounding non-heart-beating donation. It is now time to move forward. We hope that all Canadians, not just those who experience brain death, can have the option of organ donation as a part of standard end-of-life care.

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Surgery in palliative care

As a surgical oncologist engaged in research that explores the relation between surgery and palliative care, I was very interested in Graeme Rocker and Daren Heyland's call for new research initiatives in palliative care in Canada.[1]

However, I was disappointed that the authors did not mention any surgical specialties. Surgeons frequently find themselves looking after dying patients, in both acute and chronic care settings, and interest in palliative care within the surgical specialties has been growing.

A permanent Taskforce on Palliative Care is now in place within the American College of Surgeons, with membership from a broad spectrum of surgical specialties, including trauma, critical care and oncology. The general surgical residency program at the University of Toronto has participated in a North American program designed to develop a curriculum in palliative care for residents. Questions on palliative care are part of the Royal College of Physicians and Surgeons of Canada qualifying examinations for general surgery. My colleagues and I have presented a variety

of educational seminars about issues related to palliative care at local and national surgical meetings. Over the past 18 months, a series of articles on palliative care relevant to surgeons has been published in the *Journal of the American College of Surgeons*, including one on clinical research.[2]

Canadians have long been leaders in palliative care research, and there is a tremendous opportunity to continue this tradition. I would simply ask that the surgical specialties be considered as contributors to this effort.

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[The authors respond:]

Alexandra Easson correctly points out that many initiatives in end-of-life and palliative care are in progress across Canada. We are delighted that physicians in the surgical specialties are addressing the needs of their dying patients and hope that the leaders in this field will remain significant contributors to the future of end-of-life and palliative care in Canada for all patients.

One theme of the recent multidisciplinary meeting to assess research into palliative and end-of-life care in Canada, sponsored by the Canadian Institutes of Health Research and described in our recent commentary,[1] concerned the needs of noncancer patients. These patients face the prospect of a protracted but unpredictable course in the last stages of their illness. Since the publication of our commentary, we have been contacted by rural general practitioners, generalists, palliative care physicians and specialists from many backgrounds, a clear reflection of their involvement in the care of these patients, and we sincerely thank them for their interest.

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Stereotactic radiation for pituitary adenoma

We are writing to provide information to supplement Usman Chaudry's[1] reference to the option of "stereotactic gamma-knife radiosurgery" for follow-up of residual tumour in a patient with a nonfunctioning pituitary macroadenoma.

The term "radiosurgery" implies delivery of a single large fraction of stereotactic radiation. Gamma-knife therapy does typically involve single-fraction treatment, because the patient must be positioned in a stereotactic head frame, and patient discomfort becomes a factor if more than one dose is required. However, for tumours such as pituitary adenomas, with proximity to the optic chiasm or tracts, medial temporal lobe or other important functional brain structures, it may be advantageous to use a fractionated technique (multiple treatments), with a smaller dose per fraction, to minimize injury to the adjacent normal tissues. Such treatment is properly referred to as "stereotactic radiotherapy."

The geometric advantage of the multiple beams or arc radiation used in stereotactic treatments declines with increasing tumour volume. Therefore, this treatment is generally considered only if the tumour is less than 3 to 4 cm in maximum dimension.

As opposed to the gamma-knife, linear accelerator (LINAC) radiation delivery systems have the versatility to be used for both radiosurgery and fractionated stereotactic radiotherapy. In addition, LINAC systems have a micro-multileaf collimator, which can produce complex beam shapes, and therefore can be used to deliver treatment with a single complex isocentre. This feature can achieve superior conformity and homogeneity of the radiation dose over the multiple-isocentre approach of the gamma-knife.

The Stereotactic Radiotherapy Program at Dalhousie University is the referral centre for Atlantic Canadian patients requiring such treatment. We usually treat residual or recurrent pituitary adenomas with a fractionated LINAC-based technique, as do all other Canadian centres offering this treatment modality. Others have identified the advantage of this fractionated approach.[2]

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Competing interests: None declared.

Correction

An error was made in the spelling of Dr. Paul Varughese's name in a recent article on the threat of measles (*CMAJ* 2003;169[11]:1200).