

# Electronic data collection at source for a joint replacement registry

Michael Gross, MD\*

The subject covered in the paper by Bourne and colleagues in this issue (page 199) has important implications for all surgeons. The idea that data can be collected at source by surgeons and sent to a separate repository is new to Canada and needs wide debate. The implications are obvious: better information is supplied to allow us to do a better job and to get the resources that we need to do a better job. The devil is in the details, and some of those details need to be teased out from Bourne's paper.

Even with a small sample size some surgeons were not interested in responding or participating in this study. In Canada we operate on a reward-based system, fee for service. In Scandinavia, surgeons are on salary, and payment for services includes paperwork. Even in Sweden only 85% of all knee replacements are captured.<sup>1</sup>

A reward system of some sort will be needed if surgeons are to be willing participants in the long term. The most obvious and appealing reward would be for surgeons to have adequate resources to do joint arthroplasty. Unless this is part of the equation, support for this initiative may decrease over time.

Bourne and colleagues did not present data about surgeon or centre volume, and it is easy in a small sample size to have most of the patients entered from large centres, which would not allow adequate general-

izations to be made about community joint replacements.

Any analysis of joint revisions will need to be related to numerous factors relating to the effectiveness of the initial procedure, and gathering such data in a central registry may be impractical if the Swedish experience is to be repeated in Canada. The amount of data collected from surgeons in the Swedish experience is minimal, as repeated requests for large amounts of data resulted in a poor response rate.<sup>1,2</sup> If survival curves are to be constructed it is imperative that the denominator is 100% of all exposed patients. In Sweden the patients all have a social security number without which it is impossible to access the system. That is not the case in Canada, and there is no good method for tracking patients who move or who have further surgery elsewhere. As we extend joint arthroplasty to younger more mobile individuals this issue will become more important with respect to obtaining adequate data. If, at best, 66% of surgeons participate and 80% of their patients are traceable, then the denominator is not sufficient for reliable survival curves.

We must also consider who owns and who can access the data. If government pays some of the costs will government also have access to the data? Will hospitals be allowed to compare their surgeons to others? Can we rely on individual surgeons to improve themselves if they see that

their outcomes are worse than those of their colleagues? Will our governing professional bodies ask that data be presented on performance as measured by such a register? Will individual manufacturers be allowed to access data regarding the performance of their particular devices? Strict criteria must be agreed upon with respect to research and analysis so that the output from such a register is seen as clean and free of bias.

It must be understood that initiatives such as this need support, and the more discussion that takes place before implementation, the greater are its chances of success. As a profession we look for ways to improve our performance, but we must also recognize that we are also moving into the political arena when data from patient populations are gathered and used to support the allocation of resources to support those patients. Our representatives must be able to perform in the political arena to advance both our patients' and our profession's interests.

## References

1. Robertsson O, Dunbar MJ, Knutson K, Lewold S, Lidgren L. The Swedish Knee Arthroplasty Register. 25 years experience. *Bull Hosp Jt Dis* 1999;58:133-8.
2. Robertsson O, Dunbar M, Knutson K, Lewold S, Lidgren L. Validation of the Swedish Knee Arthroplasty Register: a postal survey regarding 30,376 knees operated on between 1975 and 1995. *Acta Orthop Scand* 1999;70:467-72.

\*Professor of Surgery, Dalhousie University, Halifax, NS. Member, Editorial Board, Canadian Journal of Surgery

Correspondence to: Dr. Michael Gross, Rm. 4879, Queen Elizabeth II Health Sciences Centre, 1796 Summer St., Halifax NS B3H 3A7; fax 902 473-2042

© 2001 Canadian Medical Association