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Quality of care in profit vs not-for-profit dialysis centers.

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sions of Devereaux et al do not reflect the merit in innovative public-private partnerships that have been used successfully for dialysis delivery in Britain, Australia, and Canada.^{3,4}

We also wish to emphasize that countries in which dialysis delivery is mainly for-profit consistently achieve higher rates of dialysis treatment than those of similar wealth in which delivery is mainly public. Thus the highest annual incidence rates for dialysis per million population are in the United States, Japan, and Taiwan (337, 252, and 311, respectively) while those in Canada, Britain, and Australia lag behind (143, 90, and 90, respectively).⁵ Any measure of the effectiveness of a dialysis delivery system must take into account numbers treated as well as patient outcomes. We believe that the presence of private capital and entrepreneurship in dialysis delivery systems increases accessibility.

Perhaps the key to both access to dialysis and good outcomes is proper public oversight and regulation and adequate funding. This funding might come from private sources, public sources, or both.

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1. Devereaux PJ, Schönemann HJ, Ravindran N, et al. Comparison of mortality between private for-profit and private not-for-profit hemodialysis centers: a systematic review and meta-analysis. *JAMA*. 2002;288:2449-2457.
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4. Blake PG. A look at dialysis in Australia. *Nephrol News Issues*. 2001;15:51-55, 58.
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To the Editor: Dr Devereaux and colleagues¹ hypothesized that understaffing and shorter dialysis treatment time in for-profit dialysis centers were among possible causes for their higher mortality rates. We think other interpretations are likely. First, 5 of 7 studies in their meta-analysis were published more than 10 years ago and the data analyzed in these studies were even older. It is possible that current practice patterns are significantly different. Second, although multivariate adjustment was carried out for such potential confounding factors as age, race, and underlying kidney disease, the authors did not assess the quality of care delivered by nephrologists.

Similarly, they did not account for affiliation of dialysis units with academic medical centers. We have previously reported that our non-hospital-based dialysis unit, which is owned by one the largest for-profit dialysis companies, has a significantly lower annual mortality rate² than is the overall average reported by the United States Renal Data System.³ Our patients are seen more frequently by nephrologists or nephrology trainees (4 to 5 times per month), dialysis treatment times

are longer, and dialysis doses are higher² than the national average.³ Nephrology trainees often are allocated substantial time for hemodialysis training, and thus they may offer more careful monitoring and treatment of such patients.

Because not-for-profit dialysis centers may use surplus revenues for research funding or other academic benefits, they are more likely to develop affiliations with academically related facilities.⁴ Even though for-profit dialysis facilities comprise 75% of all US dialysis units¹ the proportion of units affiliated with academic centers, where nephrology trainees participate in the care of patients, is probably substantially smaller among for-profit compared with not-for-profit units, particularly in the years examined in these studies.

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1. Devereaux PJ, Schönemann HJ, Ravindran N, et al. Comparison of mortality between private for-profit and private not-for-profit hemodialysis centers: a systematic review and meta-analysis. *JAMA*. 2002;288:2449-2457.
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In Reply: Dr Bosch and colleagues suggest that we have selected studies based on their results. As we clearly stated, however, we established explicit eligibility criteria and blacked out all study results prior to determining study eligibility so that we were unable to select or reject an article based on the study results. Articles for inclusion in a systematic review are selected on the basis of meeting prespecified methodological criteria, not on the basis of where they are published. Doctoral dissertations undergo peer review that is as rigorous, if not more rigorous, than that for articles published in medical journals.

Bosch et al also suggest that Irvin's study¹ found only a "small . . . higher probability of dying in a for-profit dialysis unit." Patients and many clinicians are likely to think that an increase of as much as 7% in their relative risk of dying, suggested by the data of Irvin, is unacceptable rather than small. Bosch et al do not mention that 6 of the 8 studies found statistically significant higher death rates in the private for-profit dialysis facilities and that the primary meta-analysis results demonstrated a higher risk of death in these facilities.

As in our previous systematic review² that found that patients treated in private for-profit hospitals were at higher risk of dying than those treated in private not-for-profit hospitals, we excluded studies that combined private not-for-profit and public facilities. Public hospitals that provide dialysis care differ in many ways from private hospitals and facilities that provide dialysis care, including in their revenues. The likelihood