

Editorial

Cost-effective roles for nurse practitioners in secondary prevention

Who pays and who saves may stymie implementation in the US

In this issue (p 211), Raftery et al report on a cost-effectiveness analysis of a now 10 year-old randomized controlled trial of nurse-led secondary prevention for coronary heart disease. This analysis is timely for the UK because up to 20% of physician income is now tied to performance measures.¹ It is similarly relevant in the US, given our current interest in pay-for-performance, disease management, and the development of health care teams. It offers cost-effectiveness evidence for an enhanced nursing role in primary care, but the differing locations of the cost and the savings may make implementation difficult in the US.

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The investigators have previously reported on the successes of this intervention for improved secondary prevention and for health-related quality of life. The study, done in Scotland, randomized patients within general practice clinics to receive the intervention or standard care, and followed non-housebound patients with coronary heart disease but without a terminal illness or dementia for nearly five years. The investigators used an intention-to-treat analysis, meaning patients' outcomes were analyzed as if they had remained within their assigned groups—a very conservative assessment given that some control patients also received the intervention after the trial year.

The nurse-led clinics showed improvement in all preventive measures except smoking, at one year, and exercise at four years. There was also a significantly lower mortality rate in the intervention group (14.5% v 19.1%, $P = 0.038$). The direct cost of the intervention was \$256 per person, per year (1998 dollars), which was offset by savings in hospital costs. Considering only the outpatient side of the accounting ledger, the cost of one quality adjusted life year (QALY) was \$2050—a very reasonable expense compared to many other interventions. The authors also calculated that the intervention was still likely to be cost-effective even if expenses for the clinic were higher than they were in the research trial.

Although this is not a study about disease management or pay-for-performance, it is central to the need to find ways to improve secondary preventive care and the cost-effectiveness of having nurses lead the effort. It therefore also relates to an increased focus on team-based care that is patient-centered and breaks free from physician visits as the locus of care.^{2,3} The district and practice nurses who made up the majority of nurses in the study function much like nurse practitioners or experienced registered nurses in the US; given their training, NPs may be ideally suited for this role.⁴

We have evidence that NPs already improve patients' receipt of prevention education in some settings in the US, and that NP-physician teams also realize improvements of preventive and chronic care.⁵ We also know that NP-physician teams can improve both the cost and quality of care in a variety of settings.^{6,7} The workforce is not lacking; some

80,000 NPs currently work in primary care settings, most often with physicians, where they provide 6% of all office-based visits.⁸ Nurse practitioners and physicians are already working together; and while some lack of understanding about how to most effectively use their combined talents and train them to work together remains, the financing of the collaboration to achieve specific outcomes is a substantial hurdle.^{2,9}

Financing interventions like this in the US may prove to be more difficult than in the UK, because in our "system" costs and savings from a given intervention often accrue to different stakeholders. Raftery and his colleagues contribute to the business case for team-based care, in this case specifically for the role of NPs in secondary prevention. This new evidence is critical to efforts to redesign practice and offer patients and payers a model that can guarantee high-quality, cost effective care by identifying a specific function and its cost-effectiveness. This intervention makes financial sense for the overall system, since the costs in primary care are offset by cost reductions in hospitals, and makes this intervention a real possibility in the UK. In the US, there are proven labor cost savings for primary care practices that hire "midlevel practitioners," and these benefits compete with alternative uses of NPs.¹⁰ But as long as alternative uses like secondary prevention clinics represent uncompensated costs to primary care practice, they are unlikely to take hold, even if savings are realized elsewhere in the system. This is one of the fundamental problems with many quality initiatives in the US.

Raftery's study and others like it in the UK are broadly cost-effective interventions that improve patient outcomes. We need to find ways to implement them in the US despite our complicated system for financing health care. Nurse-led secondary prevention clinics are an innovation we cannot afford to pass up.

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Paper p 211

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References

1. Roland M. Linking physicians' pay to the quality of care—a major experiment in the United Kingdom. *N Engl J Med*. 2004;351(14): 1448-54.[\[Free Full Text\]](#)

2. Greiner AC, Knebel E, eds. *Health professions education: A bridge to quality on health care services*. Washington, DC: National Academy Press; 2003.
3. Institute of Medicine. *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC: National Academy Press; 2001.
4. Glanville IK. Moving towards health oriented patient education (HOPE). *Holist Nurs Pract*. 2000;14(2): 57-66.[\[Medline\]](#)
5. Lin SX, Gebbie KM, Fullilove RE, Arons RR. Do nurse practitioners make a difference in provision of health counseling in hospital outpatient departments? *J Am Acad Nurse Pract*. 2004;6(10): 462-6.
6. Spisso J, O'Callaghan C, McKennan M, Holcroft JW. Improved quality of care and reduction of housestaff workload using trauma nurse practitioners. *J Trauma-Inj Infect Crit Care*. 1990;30(6): 660-3.
7. Burl JB, Bonner A, Rao M, Khan AM. Geriatric nurse practitioners in long-term care: demonstration of effectiveness in managed care. *J Am Geriatr Soc*. 1998;46(4): 506-10.[\[ISI\]](#)[\[Medline\]](#)
8. Green LA, Dadoo MS, Ruddy G, Fryer GE, Phillips RL, McCann JL, et al. *The physician workforce of the United States: A family medicine perspective*. Washington, DC; The Robert Graham Center; 2004: 10-1.
9. Phillips RL Jr, Harper DC, Wakefield M, Green LA, Fryer GE Jr. Can nurse practitioners and physicians beat parochialism into plowshares? *Health Aff*. 2002;21(5): 133-42.
10. Roblin DW, Howard DH, Becker ER, Kathleen AE, Roberts MH. Use of midlevel practitioners to achieve labor cost savings in the primary care practice of an MCO. *Health Serv Res*. 2004;39(3): 607-26.[\[CrossRef\]](#)[\[Medline\]](#)