

7. Gill JM, Mainous AG III, Diamond JJ, Lenhard MJ. Impact of provider continuity on quality of care for persons with diabetes mellitus. *Ann Fam Med* 2003;1:162-170.
8. De Maeseneer JM, De Prins L, Gosset C, Heyerick J. Provider continuity in family medicine: does it make a difference for total health care costs? *Ann Fam Med* 2003;1:144-148.
9. Franks P, Cameron C, Bertakis KD. On being new to an insurance plan: health care use associated with the first years in a health insurance plan. *Ann Fam Med* 2003;1:156-161.
10. Saultz JW. Defining and measuring interpersonal continuity of care. *Ann Fam Med* 2003;1:134-143.
11. Christakis DA. Continuity of care: process or outcome? *Ann Fam Med* 2003;1:131-133.
12. Sax L, Kautz KJ. Who first suggests the diagnosis of attention-deficit/hyperactivity disorder? *Ann Fam Med* 2003;1:171-174.
13. Frey JJ 3rd. A journey to someplace better. *Ann Fam Med* 2003;1:175-176.

EDITORIAL

Continuity of Care: Process or Outcome?

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Ann Fam Med 2003;1:131-133. DOI: 10.1370/afm.86.

Perhaps nothing has been deemed more central to the salubrious patient-physician relationship than continuity of care: it is a core component of the Institute of Medicine's definition of primary care.¹ Having a regular physician seems vital to the establishment of trust and is frequently lamented as belonging to a bygone era when solo practitioners predominated.² Given such strong face validity, as well as the endorsement of professional societies,³ one might ask why the value of continuity need be proved. Why subject something as fundamental as consistent contact with a clinician to the scrutiny of the evidence-based medicine movement? Why not simply take it as an unassailably desirable thing?

For true skeptics, of course, nothing is to be exempted from rigorous study.⁴ Even for those who believe that continuity is inherently good, there are reasons to assess its potential effects, as authors in this issue of *Annals of Family Medicine* have done. Previous studies of continuity of care have led to conflicting conclusions as to its value.⁵⁻¹² Furthermore, many

changes in care delivery arising in response to the increasingly competitive medical market place might potentially diminish continuity of care. The larger size of physician groups, the increasing use of physician extenders, and the shifting alliances of health plans with clinicians, all might hamper patients' or clinicians' attempts to establish and maintain consistent contact.^{2,13} Evaluating the effects of continuity of care might therefore be timely and necessary to countervail forces that could otherwise undermine it. So what more have we learned about continuity of care as a result of the studies in this issue?

Gill et al¹⁴ fail to find an association between continuity of care and some well-established process measures for high-quality care in diabetic patients. Although their findings appear to conflict with those of another similar study,¹⁵ there are some important distinctions. The general continuity of care achieved in their sample was quite good. A Continuity of Care index rating of .51 is considerably higher than what others have found in publically insured populations and even higher than was achieved in a randomized trial of continuity of care.^{5,6} Second, the overall quality of care, at least with respect to regular measurement of glycosylated hemoglobin levels, was quite good—an annual screening rate of 81% might rightly be envied by many medical directors. The high levels of general continuity of care and overall quality of care might combine to create a ceiling effect, which means that

Conflict of interest: none reported

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the null findings might not apply to other populations with lower continuity and poorer glycemic control. Their article, however, does raise a persistent and important point: the question might not be, "Does continuity of care make a difference at a population level?" but rather, "Are there specific subpopulations for which continuity of care is especially valuable?" For most healthy, wealthy, young individuals, contact with a physician is unlikely to have a measurable impact on their already good health.

Nutting et al¹⁶ address the important point that continuity of care might be differentially important for different types of patients during different types of visits. They show that, indeed, more vulnerable populations by dint of age or chronic disease or socioeconomic status value continuity of care more. Is valuing continuity of care an outcome in and of itself that validates its importance? Although patient satisfaction is considered by many as an outcome rather than a process measure, patients can be satisfied with care that is of poor quality and not evidence based.¹⁷ In fact, liking or trusting their physician might well be precisely what makes patients feel their care is of high quality even when it is not. Ironically, consistent contact with a suboptimal physician might be far from desirable.

The critical reality is that what is likely valued by a patient not simply continuity of care but rather a relationship with a clinician. As Saultz¹⁸ points out in his synthesis of a large and complex literature, what we are striving for is interpersonal continuity that leads to trust and mutual respect. Any index-based measure, such as the many that have been used to quantify continuity of care, can serve only as a proxy for interpersonal continuity. Continuity of care is ultimately necessary but not sufficient to create an opportunity for clinicians and patients to get to know each other well. As De Maeseneer and colleagues¹⁹ report, continuity is associated with lower health care costs, adding a monetary incentive for health plans to strive to achieve it.

In health services research parlance, the articles in this issue collectively suggest that we have yet to resolve whether continuity of care is a process or an outcome. Is its value only measurable insofar as it is a means to an identifiable end—improved glycosylated hemoglobin levels, decreased unnecessary hospitalizations—or can we state that it is worth achieving in its own right? This distinction is critical. If continuity of care is deemed an outcome, then it can become a benchmark of the quality of care (much as glycosylated hemoglobin is currently). It will cease to become an independent variable and will become a dependent variable in subsequent research. Means of

improving and maintaining it will be developed, implemented, and evaluated.

I think that the preponderance of evidence from articles presented in this issue, as well as previous studies, suggests that it is time to declare continuity of care an outcome and to spur subsequent research in how to better achieve it.^{6,8-10,12,20} Certainly the findings of the studies in this issue of *Annals*, that potentially high-risk patients value continuity and that continuity of care saves health care dollars, begin to make the case for continuity as an outcome worthy of efforts by patients, clinicians, and health care systems to achieve it.

Many important empirical questions remain, however. Should continuity of care be foisted on those for whom it does not matter or who do not want it? Should health plans adopt an arranged marriage approach between patients and clinicians: "You will learn to love each other?" Is it merely that those with no interest in having a regular physician do not know what they are missing, either because they have never had one or because they have not been sick enough to feel they needed the counsel of someone with whom they had a relationship? Does providing summaries of the continuity of care that practices (or plans) achieve affect patient selection of insurers or clinicians, as Consumer Assessment of Health Plan data currently does?²¹⁻²³ I look forward to the answers to these and other related questions, perhaps in the pages of a subsequent issue of *Annals of Family Medicine*.

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References

1. Institute of Medicine. *Defining primary care: an interim report*. Washington, DC; 1994.
2. Bodenheimer T, Lo B, Casalino L. Primary care physicians should be coordinators, not gatekeepers. *JAMA* 1999;281:2045-2049.
3. American Academy of Pediatrics Ad Hoc Task Force on Definition of the Medical Home. The medical home. *Pediatrics* 1992;90:774.
4. Sackett DL, Haynes RB, Guyatt GH, Tugwell P. *Clinical epidemiology: a basic science for clinical medicine*. 2nd ed. Boston, Mass: Little, Brown; 1991:307.
5. Christakis DA, Mell L, Koepsell TD, Zimmerman FJ, Connell FA. Association of lower continuity of care with greater risk of emergency department use and hospitalization in children. *Pediatrics* 2001;107:524-529.
6. Wasson JH, Sauvigne AE, Mogielnicki RP, et al. Continuity of outpatient medical care in elderly men. *JAMA* 1984;252:2413-2417.
7. Roos LL, Roos NP, Gilbert P, Nicol JP. Continuity of care: does it contribute to quality of care? *Med Care* 1980;18:174-184.
8. Mainous AG III, Gill JM. The importance of continuity of care in the likelihood of future hospitalization: is site of care equivalent to a primary clinician? *Am J Public Health* 1998;88:1539-1541.
9. Gill JM, Mainous AG III. The role of provider continuity in preventing hospitalizations. *Arch Fam Med* 1998;7:352-357.

