

## Continuity of care for older patients in family practice

*How important is it?*

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### ABSTRACT

**OBJECTIVE** To examine the evidence that continuity of primary care is important for older people with chronic diseases.

**DATA SOURCES** MEDLINE, EMBASE and CINAHL were searched from January 1970 to June 2005 for original articles in English that examined the relationship between interpersonal continuity of patient care and health outcomes of people 50 years old and older. Articles found were reviewed and analyzed by both authors to assess the strength of study design and the quality of the evidence provided.

**STUDY SELECTION** We used the search terms "continuity of patient care," "elderly," "primary care," and "outcomes." Criteria from the Canadian Task Force on Preventive Health Care were used to assess the quality of studies; only studies providing levels I to III evidence were included in this review.

**SYNTHESIS** Of 7563 articles found, we chose 99 studies (and 27 other studies cited in them) by studying their abstracts. Assessment of these 126 studies indicated that only 5 were of good quality and relevant to the inquiry. Two of these 5 were randomized controlled trials, and 3 were observational studies.

**CONCLUSION** Although the literature on continuity of care generally suggests that continuity of interpersonal primary care is important and beneficial, specific evidence that it is beneficial for elderly people is scanty. There is a need for well designed studies to investigate this issue.

### EDITOR'S KEY POINTS

- Continuity of care is one of the defining principles of family medicine, almost a "motherhood principle." While its value in adult and pediatric populations has been demonstrated, it is unclear whether its value extends to seniors.
- This systematic review assesses whether continuity of care produces better clinical outcomes among elderly patients.
- Despite a variety of definitions for continuity of care and numerous studies on the subject, only 2 randomized controlled trials and 3 observational studies were found to be of good quality.
- Despite its proven value in the general population, evidence for the benefit of continuity of care for seniors is limited. Further studies could help clarify whether continuity of care actually does improve the health outcomes of elderly people.

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*Continuity of care is of value only to the extent that it has a [beneficial] impact on the outcome of care, the prevention or reduction of physical, mental or social disability, the satisfaction of patients or the cost of care.*

—J.S. Gonnella and M.W. Herman<sup>1</sup>

Continuity of care, the enduring relationship between a patient and a doctor, is one of the defining principles of family medicine.<sup>2,3</sup> In the primary care literature, continuity of care is mainly viewed as the relationship between a single practitioner and a patient that extends beyond specific episodes of illness or disease.<sup>3-7</sup> It is thought to foster improved communication, greater trust, and a sustained sense of responsibility.<sup>8-11</sup>

A recent review<sup>12</sup> identified 3 types of continuity: informational, managerial, and relational. Relational continuity, also known as “interpersonal continuity,” is the type traditionally most valued in primary care.

Two recent systematic reviews have examined whether interpersonal continuity of care produces better outcomes for adult patients. The first, which looked at continuity of care and its relationship to patient satisfaction,<sup>13</sup> discovered 22 original research reports. Nineteen of these 22 studies (which included 4 clinical trials) reported significantly higher satisfaction levels when patients had interpersonal continuity of care. The other review examined the relationship between continuity of care and outcomes and costs of care.<sup>14</sup> It reported that, when patients had continuity of care, 49 of 51 clinical outcomes were unchanged or better, and 31 of 41 cost variables were significantly lower. The authors concluded, “interpersonal continuity seems to be associated with improved preventive care and with lower rates of hospitalization.”<sup>14</sup>

Evidence also shows the benefits of continuity of pediatric care; such care appears to reduce later use of health care services.<sup>15</sup> Children who had a regular source of care incurred lower costs than children who moved among multiple sources of care.<sup>16,17</sup> Mothers were more likely to comply with administration of antibiotics to their children if they trusted their doctors.<sup>18,19</sup> Primary care doctors who saw their pediatric patients regularly were able to diagnose more behavioural problems and to make fewer errors in diagnosis and treatment.<sup>20,21</sup>

Finally, one study showed that, after a reorganization of a pediatric group practice that resulted in less provider continuity, patients made more visits for illness with no corresponding increase of morbidity in the rest of the community.<sup>22</sup>

In the United States, adult patients with higher continuity-of-care scores had lower odds of being hospitalized<sup>23</sup> and had shorter stays in hospital.<sup>24,25</sup> In the United Kingdom, non-continuity of care has been associated with greater use of accident and emergency departments.<sup>26</sup>

Patients in Australian general practices were more likely to have had preventive procedures, such as blood pressure checks; cholesterol screening; cervical cytology; and advice concerning smoking, exercise, and diet, if they had continuity of care.<sup>27</sup> American patients with a usual physician were 3 times as likely as patients who did not have a usual physician to have had a preventive medicine visit during the past year.<sup>28</sup>

Patients and doctors like continuous relationships. Satisfaction scores of patients in the United Kingdom were lower for patients who had seen deputizing doctors rather than their own GPs,<sup>29</sup> and patients who saw trainee GPs in British general practice were not as satisfied as when they saw their usual doctors.<sup>30</sup> Also in the United Kingdom, patients of GPs using personal lists (where patients are assigned to a particular doctor) were more satisfied with their care than patients of GPs using combined lists (where patients could see any member of the physician group).<sup>31,32</sup> In the United States, patients who had been forced to change their primary care providers by health maintenance organizations received poorer care,<sup>33</sup> and physician satisfaction scores correlated highly with whether they were providing continuity of care.<sup>4,34</sup>

In Britain, elderly patients were found to be more likely to value continuity of care than younger and healthier patients were.<sup>35</sup> In Canada, the proportion of the population that is elderly is growing.<sup>36</sup> Nationwide, there are moves to reform primary care into care provided by larger multidisciplinary teams.<sup>37</sup> In such teams, it is uncertain whether continuity of care for older people will be more or less prevalent in the future than it is now. Currently, many people often see only their own family doctors. Does continuity of care matter? Will patient outcomes be worse with less continuity of care?

The objective of this review was to examine the literature on continuity of care and to critically assess whether providing continuity in primary care produces better outcomes for elderly patients.

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## METHODS

MEDLINE, EMBASE, and CINAHL were searched from January 1970 to July 2005 using the search terms “continuity of patient care,” “primary care,” “elderly,” and “outcomes.” Further references were found from citations

**Table 1. Studies of continuity of primary medical care for the elderly**

AUTHOR	STUDY (LEVEL OF EVIDENCE)	SUBJECTS	INTERVENTION AND TYPE OF CONTINUITY	OUTCOME MEASURES	RESULTS
Wasson et al, 1984 <sup>39</sup>	RCT lasting 18 mo (level I)	Men ≥ 55 y	Two groups; continuity of a single doctor	Emergency admissions, length of hospital stays	Continuity group had fewer admissions ( $P=.002$ ) and shorter stays ( $P=.008$ )
Coleman et al, 2001 <sup>40</sup>	RCT lasting 2 y (level I)	People > 60 y with chronic illnesses who visited physicians frequently and belonged to an HMO	Monthly group visits with doctor, nurse, and pharmacist	Emergency room visits	Monthly group visits were associated with fewer visits to emergency rooms ( $P=.005$ )
Raddish et al, 1999 <sup>43</sup>	Database analysis (level III)	Patients of all ages with various illnesses who belonged to an HMO	Continuity of health organization	Outpatient visits, hospital admissions, prescriptions, costs	Continuity associated with reduction in prescriptions ( $P<.001$ ) and outpatient visits ( $P<.001$ )
Huygen et al, 1992 <sup>41</sup>	Patient survey (level III)	Women 50–65 y	Continuity of single doctor	Visits to physicians, symptoms	Patients of physicians in group with higher scores made fewer visits ( $P<.05$ ) and had fewer symptoms ( $P<.01$ )
Weiss and Blustein 1996 <sup>42</sup>	Retrospective survey over 10 y (level III)	People ≥65 y in the Medicare program	Continuity of health organization	Hospitalization, Medicare costs	Longer ties with physician resulted in lower costs (\$300/y lower) and fewer hospitalizations

HMO—health maintenance organization, RCT—randomized controlled trial.

in the papers retrieved. We reviewed the abstracts of all selected articles and the full text of those we deemed relevant. Because it was apparent that many different measures of continuity existed, we included studies that used any measure.

We looked for evidence that continuity of care had an effect on the outcomes of older patients. Criteria for inclusion in our review were that studies were of people 50 years old or older, were done in settings that were providing primary care, and examined patient outcomes. We looked for such outcomes as patient satisfaction, provider satisfaction, rates of compliance with medications and treatment, number of patient visits, rates of hospitalization, rates of emergency visits, rates of problem recognition, rates of unnecessary diagnostic tests, and rates of preventive visits. We assessed the quality of the evidence using the criteria of the Canadian Task Force on Preventive Health Care.<sup>38</sup> We included only studies that provided level I to III evidence.

## SYNTHESIS

The search term “continuity of patient care” produced 7563 articles. Adding the terms “primary care,” “elderly,” and “outcomes” reduced the number of articles to 7515,

1305, and 99, respectively. Both authors reviewed these 99 articles, together with 27 further articles cited in the 99 retrieved. The studies judged most relevant to this review and of acceptable methodologic standard are listed in **Table 1**.<sup>39–43</sup> Only 5 studies<sup>39–43</sup> had settings and methods that provided useful evidence; 2 of these were randomized controlled trials (level I evidence), and 3 were observational studies (1 survey and 2 retrospective reviews providing level III evidence).

A randomized trial<sup>39</sup> of single-provider versus multiple-provider care of 776 men older than 55 years attending outpatient general medical clinics in the United States lasted 18 months. During this period, men in the single-provider continuity group had fewer emergency admissions (20% vs 39%,  $P=.002$ ) and shorter average total stays in hospital (15.5 vs 25.5 days,  $P=.008$ ) than men in the multiple-provider group. Patients in the continuity group were more likely to be able to identify their care providers, and patients who had continuity of care were more satisfied. Although this was a good-quality trial, only 4 of 17 measures were significantly improved by the intervention (continuity). There were no differences between the 2 groups in diagnoses made, medications prescribed, number of visits to the clinic (either scheduled or unscheduled), use of nonstudy sites, time spent with doctors, or number of tests ordered.

Another randomized trial<sup>40</sup> examined the effects of continuity on small groups of patients with chronic illnesses who met monthly with primary care team members. Visits emphasized regular contact with the primary care team and self-management of chronic illness. The study population was 295 patients older than 60 years who had chronic illnesses and were members of a large health maintenance organization in Colorado. Over a 2-year period, the mean number of emergency visits in the intervention group was 0.65 and in the control group was 1.08 ( $P=.005$ ). Only one third of the intervention group needed to visit an emergency department, compared with half of the control group ( $P=.003$ ). In this study, only use of emergency departments declined; rates of primary care visits and hospitalizations remained the same in both groups. This study did not measure any clinical parameters.

The effects of 5 years' continuity of care in Dutch general practice<sup>41</sup> were judged by 1443 female patients aged 50 to 65 years in a cross-sectional study of responses to a questionnaire on well-being. These women were chosen from stratified samples of the lists of 75 doctors. Continuity led to significant improvements in self-rated health status; patients who had experienced greater continuity felt healthier and had fewer symptoms ( $P<.01$ ) and visited GPs less often ( $P<.05$ ). Fifteen clinical measures were used; only 3 of the 15 improved in the continuity group. Patients in the higher continuity group had fewer hysterectomies, less congestive heart failure, and less chronic bronchitis.

A large retrospective analysis<sup>42</sup> of 7362 elderly (older than 65 years) American members of a health maintenance organization who had had 10 or more years of continuity of care found that annual health care costs were more than \$300 lower than costs incurred by comparable patients who had had less than 1 year of care. The savings came from less use of emergency rooms and fewer hospitalizations. Only these 2 of 6 measures improved significantly; the other 4 measures (administration of flu shots, use of mammography, discussion of smoking, and discussion of obesity) did not improve.

These findings were confirmed by another US study<sup>43</sup> that found that 12997 patients of all ages who had received continuity of care in 6 health maintenance organizations used fewer health care resources and incurred lower costs. As continuity increased for chronic conditions, such as arthritis and hypertension, the number of prescriptions, total prescription costs, and the number of outpatient visits fell. Total costs of outpatient treatments, however, did not fall, nor did the number of hospitalizations or total costs to the HMOs.

### DISCUSSION

So far, few well designed experimental studies have focused on continuity of care for the elderly. We found

only 5 studies, of which only 2 were randomized trials. The observational studies, such as the one done in Holland,<sup>41</sup> cannot answer the question of whether continuity makes people more healthy. It is possible that healthier people, more interested in prevention, seek out family doctors who provide continuity of care, while sicker people are more likely to receive acute episodic care. Most completed studies have been cross-sectional and have measured process rather than outcome of care; long-term outcome measures have not been measured. Studies showing that continuity of care is beneficial have mostly been done on children and younger adults; it is not certain whether, and to what extent, their findings can be extrapolated to elderly people. Of the 5 relevant studies we identified, 2 measured continuity with a single doctor,<sup>39,41</sup> 1 with a team,<sup>40</sup> and 2 with the same provider organization,<sup>42,43</sup> so they cannot easily be synthesized.

Continuity of care is both complex and multidimensional, and it appears to be associated with a plethora of untested and sometimes paradoxical beliefs. There are more than 15 measures of continuity of care; the various scales measure different aspects of continuity, so it is very difficult to compare study results.<sup>33,44,45</sup>

The literature abounds with statements that continuity of care is self-evidently beneficial for both patients and doctors: "For patients and their families, the experience of continuity is the perception that providers know what has happened before, that different providers agree on a management plan, and that a provider that knows them ... will care for them in the future. For providers, the experience of continuity relates to their perception that they have sufficient knowledge and information about a patient to best apply their professional competence, and confidence that their care inputs will be recognized and complemented by other health care providers."<sup>12</sup>

Evidence that continuity of care is important for older patients is scanty. One of the few studies on the importance of continuity of care in the universally insured Canadian population concluded that continuity with a single physician was important to patients of all ages; it was positively related to better preventive health and to reduced emergency department use.<sup>46</sup> There is a need for well designed studies that carefully define the type of continuity that is being measured and that are precise about the value of the outcomes measured, especially in older patients. It is unlikely, however, that classic randomized controlled trials will ever be done to examine the effects of primary care reform here in Canada. Canadian patients are not likely to agree to be assigned to a doctor or group practice at random. A better bet would be to learn what we can about the effects of continuity from the "natural experiments" that current changes to primary care delivery will provide in various parts of the country. Before-and-after studies done as

primary care changes might provide more evidence of the effectiveness of continuity.

## CONCLUSION

Although the large body of literature on continuity of care generally suggests that continuity is better than no continuity, most studies have not included elderly patients. The few studies focusing on elderly people use differing methods and are mostly of moderate quality. Although reviews of the effects of continuity of care have generally found it to be beneficial,<sup>12-14</sup> we cannot automatically conclude that older people in Canada will benefit from continuity in the delivery of primary medical care.

### Contributors

Dr Worrall and Mr Knight searched the databases, retrieved articles of value, assessed levels of evidence, synthesized their findings, and prepared this article for publication.

### Competing interests

None declared

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