REVIEW ARTICLES

Towards a theory of continuity of care

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As a principle of healthcare planning, continuity of care is losing ground. It is increasingly being superseded by other principles—notably, accessibility and plurality of provision. Baker[1] has identified the pressures and Hjortdahl[2] writes of continuity 'going out of style'. National Health Service (NHS) walk-in centres provide open-access primary care on sites separate from general practices and staffed by different people. For the first time, it is possible that continuity of care will be phased out of NHS planning. If this happens, what will be the consequences for patients and doctors?

Over many years a research group in Exeter, including all the authors of this paper, has been developing a theory of continuity, based partly on clinical experience and partly on published evidence. The essence of the Exeter theory is that, in primary care, a 'personal doctor' with accumulating knowledge of the patient's history, values, hopes and fears will provide better care than a similarly qualified doctor who lacks such knowledge; and that the benefits of such continuity will include not only greater satisfaction for the patient but also more efficient consultations, better preventive care and lower costs.

When we assess continuity in primary care, the duration of registration with the general practitioner (GP) is only one background factor. A more important consideration is the total time the patient and doctor have been in direct communication; and this will include contacts about third parties, such as a child, or an elderly relative during a home visit. We recognize that continuity can have disadvantages; for example, a fresh eye may see what the familiar eye has missed. In this paper we examine the published evidence for and against continuity in primary care.

METHODS

The remote databases Medline and Embase were searched under the terms 'patient care' and 'continuity' together with 'evaluation' or 'benefit' or 'value'. The search was confined to publications in English. An initial 15 044 references were reduced to 524 by specification of primary care. 88 references were read and checked against inclusion criteria which specified continuity of care and benefit to patients or doctors.

Further references were found from the citations of earlier publications and from the authors' files on the subject, dating back to 1973. Information about continuity of care was sometimes discovered in publications primarily on other subjects. In this review we examine the arguments for and against continuity of care under five headings. Each section begins with a brief note on the perceptions of the Exeter group ('theory'); then follows a summary of the published evidence.

PROPOSITION 1: ADVERSE EFFECTS, OR NO BENEFIT, FOR PATIENTS

Theory

In doctor–patient relationships, repeated contact magnifies the potential for both gain and loss. When an illness has progressed slowly, a doctor who has seen the patient regularly may miss a diagnosis that is obvious to a newcomer. Continuity may also lessen the doctor's objectivity, adversely affecting decisions on investigation, and generating reluctance to avoid confrontation. Paternalism/maternalism can develop, with loss of autonomy, especially in vulnerable patients. A patient may become 'stuck' with a doctor in whom he or she lacks confidence, and adherence to medical advice suffers as a result.

Evidence

Examining outcomes in terms of complications and patient satisfaction in 61 pregnant women, Flynn[3] concluded: 'Provider continuity had no significant effect on either outcome'. Similarly, Rodney *et al.*[4] found satisfaction as good with residents (short-term contacts) as with faculty (permanent staff); it must be said, however, that faculty were not offering as much continuity as might have been expected.

Freeman and Richards[5] found that continuity of care did not lead to patients talking more to their doctor about epilepsy. Moreover, two research groups have concluded that GPs who know their patients well can have special difficulty in strict application of evidence-based care.[6,7]

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The main published data indicating that continuity is disadvantageous to patients is from Hanninen *et al*.[8] In a study of 212 diabetic patients they compared those who had had at least two years' continuity of GP care with those who had had less than two years. The control of HbA1c was significantly worse in the group with continuity. Overland *et al*. likewise raised the possibility of harm in patients with diabetes.[9] They found that patients attending one GP had significantly more diabetic complications than those attending several GPs; their HbA1c concentrations were also higher, though not significantly. Interpretation of these results is complicated by the greater age of those attending a single GP, since complications in diabetes are age related.

A key issue is paternalism/maternalism. This is hard to measure, but Coulter[10] has underlined the importance of information, understanding and choice. In the words of another, 'Doctors advise: patients decide'.[11]

PROPOSITION 2: ADVERSE EFFECTS FOR DOCTORS

Theory

Consulting with patients is not just an intellectual process but an emotional one as well. If the doctor does not receive enough inputs to keep his/her intellectual and emotional batteries charged, fatigue ensues with ultimate burnout.

Patients with insoluble problems can leave the doctor feeling frustrated, and this is made worse by long-term continuity. Eventually, the patient rather than the illness may come to be seen as the issue. When a succession of physical complaints seem incompatible with known diseases, the explanation may be somatization. Interpretation of the psychosocial aspects and the care of these patients demands interpersonal skills that not all doctors possess. Some doctors, indeed, are intrinsically unsuited to relationship-based primary care and might be happier moving to a specialty such as accident and emergency medicine. Finally, virtually all criminals, psychopaths and people with personality disorders use medical services, and continued contact with such individuals can be a negative experience for the doctor.

Evidence

Interviewing 207 Norwegian GPs, Hjortdahl[12] concluded that if standards are 'too ambitious or unrealistic', they often become counterproductive. Not all GPs like or want substantial continuity 'Which GP does not feel a tingle of enthusiasm when they spot an unknown name on their surgery list?'[13]

One of the early reports on adverse effects for doctors came from Balint,[14] who noted the stress generated by long-term efforts to help patients with complex difficulties. O'Dowd[15] coined the term 'heart-sink' for the patient who, after many consultations (i.e. continuity of care), comes to be seen by a general practitioner as a problem.

PROPOSITION 3: GOOD EFFECTS FOR PATIENTS

Theory

Patients who get to know their doctor over time become more willing to disclose potentially embarrassing information. Adolescents, in particular, are likely to be more comfortable with a familiar figure. Continuity enhances the accumulation of knowledge not just about the patients consulting but also about their spouses and families. Thus, empathy develops and patients' values and choices are more readily incorporated into management. Patients who have a regular doctor are more likely to adhere to advice on treatment and prevention. In turn, the doctor feels a stronger sense of commitment, and is more willing to work late or fit in extra appointments. Patient satisfaction is enhanced, and over time the relationship matures into mutual regard.

Evidence

Certain categories of patient are consistently reported as seeking continuity of care and other groups appear not to value it so much. In general, the latter are the reciprocal of the former; thus, those valuing it most are the elderly, the female, and those with chronic problems/diseases, especially the disabled.[16] Breslau[17] concluded: 'A continuous doctor–patient relationship conducive to the expression and resolution of psychological needs, is of special importance when a patient's illness is severe'. The young rate it less than the old.[18] Those valuing it least have been described in the UK as 'usually young adults, free from known long-term health problems'.[19] Pilotto *et al*. analysed which patients were most likely to change doctor (i.e. break continuity) and found that they were of younger age, functioning well physically, of normal body mass index and doing shift work.[20]

McKinley *et al*. measured satisfaction scores and found them significantly lower in patients who had been seen by deputizing doctors than in those seen by practice doctors.[21] According to Shers *et al*., having children and the previous experience of a serious life event were two factors that made patients keener to see their personal doctor.[22]

Interpersonal communication

Experience is clearly a factor. Looking at satisfaction scores, Bradley noted that nearly half the patients who saw a general practice trainee (registrar) reported the consultation 'not relaxed' compared with only one-tenth of those who saw an established GP.[23] When Gabel *et al*. asked patients what they understood by continuity, ease of communication was one of the main factors in what they called 'familiarity

with the physician'.[24] An anecdotal statement from a patient was 'This time I saw a different doctor I explained all my symptoms again which took up to 10 minutes . . . I regret the time it took to be diagnosed . . . The problem with lack of continuity in general practice is that the patient's character is not taken into account'.[25] In a survey of 644 Dutch patients, seeing one's own doctor was thought to ease communication.[22]

Preventive care

There is evidence that continuity favours preventive care. Analysing over 12 000 questionnaires from Australian patients in 133 Australian general practices, Steven *et al*. noted that patients visiting only one practice were significantly more likely to report blood pressure screening in the past year, cholesterol screening in the past 5 years, smoking cessation advice (if appropriate), cervical cytology and advice on the benefits of exercise and diet.[26] Sturmberg *et al*. examined the effect of personal-provider continuity and found that it increased the comprehensiveness of care.[27]

Diagnosis

Continuity of care is associated with better diagnosis. After random allocation, a primary care team which saw the patients regularly was able to diagnose more behavioural problems than a control group.[28] Steinwachs and Yaffe[29] showed that doctors who knew their patients judged them to need care more often than those who did not.

Education

Breslau *et al*. in the USA found that improvement of continuity reduced later use of healthcare.[17] Perhaps this was achieved through health education. When Pereira Gray changed from combined lists to 'personal lists' (with the aim of strengthening doctor–patient continuity)[30] he reported increased education for patients about self-management for minor illness.

Adherence to advice

Prescribed drugs do not work unless taken. Medical advice is widely ignored, even when the patient is a child. In the USA, Charney *et al*. showed that mothers decided whether or not to give penicillin according to how well they trusted the paediatrician who prescribed it.[31] In a British general practice, Ettlinger and Freeman reached similar conclusions.[32] Likewise in chronic diseases there is evidence of better adherence to medical advice with continuity of care. Two studies, for example, have shown benefits in asthma care.[33,34]

O'Connor *et al*. surveyed 1387 patients in an American health maintenance organization, comparing those who had a regular health provider with those who had not.[35] After adjusting for age, sex, education level and ownership of organization they found that patients with a regular provider were more likely to follow a special diet for diabetes, to monitor blood sugar at home, to have foot examinations and cholesterol tests and to have had a recent preventive examination; they were also more likely to be on insulin, to have been immunized against influenza and to have had their retinas examined with pupil dilatation. Since these indices cover a large part of modern care for diabetes, the results of this big population study constitute important evidence in favour of continuity of care.

Patients' evaluations

Numerous surveys have indicated that patients value continuity. One of the earliest was that of Lawson[36] in 1980, and the latest that of Baker *et al*.[37] who, in a two-country study, found that 79% of patients considered that seeing the same doctor every time they had a health problem in primary care was 'important' or 'very important'. A slightly lower proportion, 64%, was found by two other groups, and this was closely matched by the proportion of GPs who took the same view (69%).[38,39]

Personal lists and patient satisfaction

Patient satisfaction is now properly regarded as an important outcome measure of quality, especially in primary care. Continuity is a factor, and Marsh and Kaim-Caudle[40] showed that, even in a big group practice, a National Health Service GP could achieve over 80% continuity of care (percentage of all contacts by registered patients with the same doctor). The term 'personal lists' was coined in Exeter.[30] Roland *et al*. compared patients of GPs using personal lists with those of GPs using combined lists and found greater continuity of care with the former.[41] Other workers reported 49–58% consultation with the registered doctor in group practice compared with 83% in a practice with personal lists.[42] Baker and Streatfield[43] have shown that, in practices with personal lists, patient satisfaction is greater.

Ideally, the value of continuity would be resolved by randomized trials, but long-term studies of this sort are exceptionally difficult. Two short-term studies, in children[44] and in elderly men,[45] have indicated that continuity increases patient satisfaction. Breslau and Mortimer,[46] in the USA, concluded from a questionnaire survey that continuity of care accounted for a large part of the association between source of care and satisfaction. Hjortdahl and Laerum,[47] in Europe, looked specifically at general practice and concluded that the continuity/satisfaction relationship was strong.

Biological outcomes and health status

Whereas Flynn,[3] as noted earlier, found no benefit from continuity in obstetric care, different conclusions were

reached by Shear *et al*.[48] A group of women receiving high continuity of care through family physicians had babies with birthweights 220 g greater than those of women cared for in obstetric clinics. Huygen *et al*. showed that 5 years' continuity of care plus an 'integrated' consulting style led to significant improvements in health status, as judged by responses to a wellbeing questionnaire.[49] Another group found that GP continuity of just 2 years was associated with better quality of life on scores for mental health, health perception, and painlessness than those in patients who had less than 2 years.[8] However, their blood glucose control was worse.

Howie *et al*. coined the term 'enablement' and developed an instrument to measure it.[50] Using this method, another group reported greater enablement when the doctor showed interest in the effect of the health problem on the patient's life.[51] Patients were enabled more when they had a doctor who knows the patient's emotional needs.

Relationships and trust

Without continuity there is no relationship.[7] One way to examine the value of continuity is to see what happens when it is lost. Flocke *et al*. found that patients who had been forced to change primary care physician, by health maintenance organization contract changes, received poorer quality of care.[52] Patients' willingness to accept advice, on medical or surgical treatment, depends greatly on trust—an element strongly associated with continuity.[53,54] Trust is also associated with patient satisfaction; and Baker's group have noted that lack of trust for one doctor affects attitudes to others in the practice.[37] Fugelli[55] sees continuity as a means to generate trust.

Empathy and friendship

Gabel *et al*. found that one of the factors maintaining continuity for patients was 'friendship with the physician'.[24] Mutual empathy breeds compassion.[56] Empathy was stated as a target for primary care by Dixon *et al*.[57] and in the same year the president of the Patients' Association wrote that 'Empathy is what we really need'.[58] Such relationships are deepened by home visits. Nearly one-third of British patients who had received five or more home visits said that they regarded the doctor as 'something of a personal friend'.[59]

PROPOSITION 4: GOOD EFFECTS FOR DOCTORS

Theory

Consultations with familiar patients are shorter than with new ones, and extensive work-ups are less often needed. Problems can often be efficiently managed on the telephone, without the patient having to be seen at all. As mutual trust develops, the doctor feels more valued and gains greater job satisfaction. The management of common disorders such as sore throat may be undemanding, but to understand the patient as a person is a long-term, indeed permanent, intellectual challenge. Doctors with such orientations are less likely to become bored or burnt out. Moreover, the patient who has a good relationship with the doctor is less likely to complain or litigate if something goes wrong.

Evidence

Much has been written on the value to doctors of continuity of care, especially in general practice,[60–62] and the Royal College of General Practitioners in the UK, the Leeuwenhorst Group from Europe, and the Institute of Medicine in the USA all write of the importance of sustained partnership with patients in primary care.[63–65]

On the issue of efficiency, Forman[66] was the first to quantify the time saved by conversing with a known patient on the telephone, rather than having a face-to-face consultation. Another matter highlighted by continuity is a cross-generational pattern of illness. Such relationships in grandparents and grandchildren were examined by Huygen,[67] and Seamark *et al*.[68] later showed how young women tend to follow the reproductive pattern of their mothers.

What of satisfaction, on the doctor's part? Blankfield *et al*. asked residents and faculty (staff doctors) to rate various features of practice, and their satisfaction scores correlated highly with the continuity of care provided.[69]

Hjortdahl[70] surveyed a representative sample of Norwegian GPs and related the doctor's own subjectively evaluated knowledge of the patient to the outcome of the perceived influence of this knowledge on their diagnosis and management. In three out of four consultations where the doctor had previous knowledge this was judged clinically useful and conversely in more than a third of consultations with previously unknown patients this lack of information was perceived to be a hindrance. Accumulated knowledge about the patient was found more helpful in management than in diagnosis and particularly for psychosocial problems. Scandinavian work has established that GPs amass much psychosocial information about their patients and can make use of it clinically. In doing so they come to feel more committed to their patient.[71–73] Most professionals enjoy being competent so this is likely, though not yet proven, to add to their job satisfaction.

PROPOSITION 5: GOOD EFFECTS BEYOND PRIMARY CARE

Theory

If continuity of care in general practice reduces demands on hospital services through more rational referral, this could

represent a major gain for society. In particular there should be fewer attendances at emergency departments and fewer hospital admissions.

Evidence

Accident and emergency departments

In the UK Sweeney *et al*. looked at patients who had *not* received continuity of care[74] and found that non-continuity was associated with greater use of accident and emergency departments and other open-access health facilities. Similar observations have been reported from the USA. Orr[75] showed that the use of hospital emergency departments by children was reduced if they had a regular source of care. Gill *et al*.[76] looked at Medicaid patients and reported an inverse relation between continuity of care by family physicians and the use of emergency departments.

Hospital admissions

For children, access to continuous comprehensive primary care has been linked with lower rates of hospital admission and surgery.[44] For adults, continuity has likewise been linked to lower admission rates and also to shorter stays when admission was necessary. In Medicaid patients, Gill and Mainous[77] found a reduction in admissions for all causes 2 years after high continuity of care had been established with a family physician. The same team then went on to explore whether the effect was associated with a person-to-person relationship or with continuity of care with members of the primary care team. They found that it applied only to the family physician in person.[78]

Costs to the health system

The most costly elements of health services are hospitals, so a reduction in admissions by greater continuity in primary care offers the possibility of substantial savings. Butler *et al*. were able to analyse total costs in the USA system.[79] Children who had a regular source of care incurred costs as much as a quarter less than those children who moved between multiple sources of care. This was confirmed,[80] but with the added point that the finding was true for children on Medicaid—i.e. the most socially deprived.

Lack of continuity increases health service costs, as patients are more likely to change doctors. Safran *et al*. commented, 'Health plans cannot afford to ignore [the fact] that the essence of medical care involves the interaction of one human being with another'.[81] Weiss *et al*. researched a group of elderly Americans who had had 10 or more years' continuous care and concluded that annual costs in this group were over $300 less than in comparable patients who had had one year or less with a usual provider of care.[82]

CONCLUSIONS

The evidence is not universally in favour of continuity of care. All interventions, whether technical (e.g. drugs) or human (e.g. continuity) have adverse effects. Quantitative studies only report effects in groups; what matters is whether the intervention, on average, is helpful rather than the reverse.

From the data examined, we reach five conclusions:

- There is strong evidence that continuity improves the uptake of preventive care, with virtually no publications contradicting this idea
- For chronic disease the evidence on outcomes is less clearcut—especially in diabetes. With continuity, advice on diabetic control may become less strict; however, the biggest and most rigorous study shows improvement in quality of diabetes care
- As medical treatments improve, adherence becomes increasingly important. There is much evidence that continuity enhances adherence to treatment, and little against
- There is good evidence that satisfaction, which is a health outcome, is enhanced by continuity of care. There are also early indications of benefit in terms of health status, but confirmatory work is required
- Patients in general have a desire for continuity of care; however, certain groups, such as the young, and males, seem to value it less. Continuity tends to be less valued when the disorder is perceived as mechanical, more valued in conditions with psychosocial aspects.

From this review we conclude that primary care would be much impoverished by a move away from continuity: the reverse is desirable. The evidence has come from four widely separated geographical areas—Australia, the continent of Europe (mainly the Netherlands and Scandinavia), the UK, and the USA. The findings are generally consistent across health systems, languages, nations, and continents, despite different methodologies. The bulk of it comes from general practice/primary care, where continuity is most achieved. However, continuity of care has been shown to be beneficial in other settings. We can reasonably expect the findings to apply to healthcare professionals in general.

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